
**Interinstitutional files:
2023/0138 (COD)**

Brussels, 25 August 2023

WK 10669/2023 INIT

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MEETING DOCUMENT

From:	General Secretariat of the Council
To:	Working Party of Financial Counsellors

Subject:	Guidance note from Commission services - EXCEL TOOL FOR COMPUTING GENERAL GOVERNMENT DEBT DYNAMICS OF EU MEMBER STATES IN A REFORMED EU GOVERNANCE FRAMEWORK

Delegates will find attached a guidance note from Commission services related to the Excel tool used for computing EU MS GG debt in a reformed governance framework.

The accompanying Excel sheets allow replicating the simulations of the technical trajectories and information based on the Commission 2023 Spring Forecast, and consistently with the Commission's legislative proposal of 26 April. The Commission mentions it will organise a short on-line technical session early September to present in more details these files and answer technical questions on their use. The Commission also intends to circulate the guidance note, together with the note on the illustrative simulations of the technical trajectories shared with the Member States on 25 July, to the Alternates and the European Parliament.

Commission services point that: (i) the note and the replies have not been adopted or endorsed by the Commission; (ii) any views expressed are preliminary views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission, and (iii) the information transmitted is intended only for the entity to which it is addressed and may contain confidential and/or privileged material.

Brussels, 24 August 2023
ECFIN/C2

**EXCEL TOOL FOR COMPUTING GENERAL GOVERNMENT DEBT DYNAMICS
OF EU MEMBER STATES IN A REFORMED EU GOVERNANCE FRAMEWORK:
A GUIDANCE NOTE**

DISCLAIMER

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This note accompanies Excel spreadsheets prepared for each Member State and explains how to use them. These spreadsheets represent a simplified version of the Commission's model used to project general government debt-to-GDP ratios in the context of the Commission's debt sustainability analysis (DSA) risk framework. They are provided to better inform the ongoing negotiations on the reform of the EU economic governance framework. In particular, this note includes explanations on the way the Excel files report information on the benchmark and safeguard included in the Commission's draft legislative proposal of 26 April 2023, as well as on the technical information to be provided to Member States with deficit and debt below the Treaty reference values.

1. INTRODUCTION

The Commission circulated illustrative simulations of the technical trajectories based on the Commission 2023 spring forecast on 25 July 2023 ⁽¹⁾. These trajectories illustrate the fiscal adjustments deriving from the implementation of the Commission reform proposal presented on 26 April 2023. Under the proposal, the Commission will issue a country-specific i) *technical trajectory* for each Member State with a government headline deficit above 3% of GDP and/or public debt above 60% of GDP, and ii) *technical information* for each Member State with a government headline deficit below 3% of GDP and public debt below 60% of GDP. The technical trajectories and technical information are intended to provide guidance for Member States when designing the net expenditure path to be included in their medium-term fiscal-structural plans. The simulations are based on the Commission 2023 spring forecast and are purely illustrative at this stage.

Supporting country-specific Excel spreadsheets are now shared, along with this guidance note. The spreadsheets give complementary detailed information on the computation of the illustrative simulations of both the technical trajectories and the technical information. They are provided for all Member States. These spreadsheets can also be used to compute Member States' debt projections under different macroeconomic and fiscal assumptions, as well as check compliance with the different criteria used to derive the technical trajectories and the technical information. The rest of the note is organised as follows: *Section 2* recalls the general approach used to compute the technical trajectories and technical information. *Section 3* presents in detail the content of the Excel spreadsheets.

⁽¹⁾ "Illustrative simulations of the technical trajectories based on the Commission 2023 spring forecast". These simulations covered i) *technical trajectories* for Member States with a government headline deficit above 3% of GDP and/or public debt above 60% of GDP (EL, IT, FR, ES, BE, PT, FI, AT, CY, HU, SI, DE, HR, SK, MT, PL, RO and BG) and ii) *technical information* for Member States with a government headline deficit below 3% of GDP and public debt below 60% of GDP but with adjustment needs (NL, CZ, LV and LU). The present note also includes an annex showing the *technical information* for Member States with a government headline deficit below 3% of GDP and public debt below 60% of GDP and *without* adjustment needs (IE, LT, SE, DK and EE).

2. COMPUTING THE TECHNICAL TRAJECTORIES AND THE TECHNICAL INFORMATION

2.1. TECHNICAL TRAJECTORIES

To compute the illustrative technical trajectories, the Commission ran debt simulations for different degrees of fiscal adjustment and checked whether the fiscal adjustment ensured compliance with the criteria as laid down in the proposal for Regulation No. 1466/97. For the debt simulations, the Commission used baseline assumptions, deterministic stress tests and stochastic analysis, drawing from its standard Debt Sustainability Analysis (DSA) risk framework. The following criteria were used, in line with the Commission's legislative proposal of 26 April 2023 (Article 6 (a) and (b), Annex I (a) and (b)) and as already envisaged in the Commission orientations of 9 November 2022:

- **Criterion 1:** debt is on a declining path over the medium term (i.e., until T+14, or T+17 in case of extension) under the adjustment scenario and all deterministic stress tests;
- **Criterion 2:** debt declines with a sufficiently high probability (i.e., at least 70%) under stochastic simulations, in line with the threshold used in the Commission's standard DSA risk framework ⁽²⁾;
- **Criterion 3:** deficit is brought (and remains) below 3% of GDP over the medium term (i.e., until T+14, or T+17 in case of extension) under the adjustment scenario;
- Moreover, in case a smaller adjustment than the one implied by **criterion 1** and **criterion 2** is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the adjustment scenario and all deterministic stress tests, while the deficit still complies with **criterion 3**, then that smaller, 'eased-up' adjustment is chosen ⁽³⁾.

In addition to these first criteria, the simulated technical trajectories are designed so as to comply with the benchmark and safeguards included in the Commission's legislative proposal of April 2023. Among them, two are explicitly reported in the Excel files. The first one is the benchmark requiring a minimum annual adjustment of 0.5% of GDP (here defined in terms of change in the structural primary balance) for countries with a deficit above 3% of GDP in the previous year (Annex I (c)). The second one is the safeguard ensuring that debt declines by the end of the planning period, i.e., that the debt ratio is lower in T+4 than in T, *for countries with a debt-to-GDP ratio above 60%* (Article 6 (d), Annex I (e)). The legislative proposal includes two additional safeguards that are not explicitly reported in the simulations. One provision relates to the proportionality of the total fiscal adjustment effort over time (Article 6 (c), Annex I (d)) and is always met in the simulations, by design. The other provision is a 'no-expansion' safeguard (Article 6 (e), Annex I (f)), which can be interpreted with flexibility ('net expenditure growth remains below medium-term output growth, on average, as a rule') ⁽⁴⁾.

⁽²⁾ The stochastic simulations are run from T+5 to T+9 or from T+8 to T+12 in case of extension.

⁽³⁾ This concerns AT, HR, SK, SI, DE, MT, PL and RO. As per the SGP provisions, the debt ratio should not exceed 60% of GDP (or if so, it should be sufficiently diminishing towards this level), but not necessarily decline well below this reference level.

⁽⁴⁾ De facto, the other EGR criteria imply that it is met for almost all countries that need adjusting their fiscal position. Based on the spring forecast 2023, only two countries (EL and CY) with debt above 60% of GDP are

2.2. TECHNICAL INFORMATION

To compute the technical information, the Commission ran simulations for different degrees of fiscal adjustment and checked whether the fiscal adjustment ensured that the headline deficit remained below 3% of GDP over a 10-year period after the end of the adjustment period (in line with Article 7 (2) of the proposed preventive arm regulation). In particular, two cases can be distinguished:

- **Case 1:** some (positive) fiscal adjustment is needed to ensure that the headline deficit remains below 3% of GDP over the medium term (i.e., until T+14, or T+17 in case of extension) under the adjustment scenario. This concerns NL, CZ, LV and LU based on the Commission spring forecast 2023 (see note quoted in footnote (1));
- **Case 2:** some fiscal room for manoeuvre exists, meaning that Member States can reduce their structural primary balance compared with the last forecast value, while ensuring that the headline deficit remains below 3% of GDP over the medium term (i.e., until T+14, or T+17 in case of extension) under the adjustment scenario. This concerns IE, LT, SE, DK and EE. In that case, the technical information takes the form of a *limit* structural primary balance that Member States should not breach to ensure that their headline deficit remains below 3% of GDP (see Annex).

3. OVERVIEW OF THE CONTENT OF THE EXCEL SPREADSHEETS

The Excel spreadsheets present a simplified version of the Commission's model used to project general government debt-to-GDP ratios for EU Member States in the context of the Commission's DSA risk framework. The spreadsheets give detailed information on the computations. They are provided for all Member States – although in a reduced version for those countries for which the Commission only provides technical *information*. The spreadsheets replicate the simulation results under each DSA scenario. These spreadsheets can also be used to compute Member States' debt projections under different macroeconomic and fiscal assumptions, as well as check compliance with the different criteria used to derive the technical trajectories.

Each spreadsheet includes several worksheets divided into *input* worksheets and *output* worksheets (as well as a *Read me*). *Input* worksheets (i.e., grey-coloured and blue-coloured tabs) can be modified, notably to assess the impact of alternative fiscal assumptions compared to the ones used by the Commission or to check the robustness of underlying macroeconomic assumptions. The spreadsheet contains one *output* worksheet per scenario, providing a single path for general government debt. Depending on whether the country receives a technical trajectory or technical information, the number of scenarios – therefore, the number of *output* worksheets – varies, with two scenarios (including the Debt Sustainability Monitor (DSM) baseline and the adjustment scenario) in the case of *technical information*, and five scenarios

found not to need to further tighten their fiscal position, as their sizeable primary surplus already ensures a strong decline of their debt-to-GDP ratio.

(adding the deterministic stress-tests scenarios) in the case of a *technical trajectory*. In the latter case, an additional output worksheet also provides the results of the stochastic analysis.

Due to technical limitations of Excel, the spreadsheets can only imperfectly reproduce the stochastic analysis performed by the DG ECFIN. The stochastic simulations are provided in the Excel spreadsheets mainly for information, and the associated criterion only allows for an approximation of calculations done in our Stata model (see in Section 3 the part describing the worksheet “Stochastic”) ⁽⁵⁾. Hence, it could be that, when extending the horizon of the plan or changing the underlying assumptions, the results point to a somewhat different annual adjustment from the one that would be obtained based on stochastic simulations run in Stata.

Worksheet ‘Criteria results’

The grey-coloured worksheet “Criteria results” contains five or three tables, depending on whether the country receives a technical trajectory or technical information:

1. In the first table, ‘**Adjustment input data**’, the user can set the number of years of adjustment in cell F5 (4 years under ‘no extension’ or 7 years under ‘extension’), and the yearly adjustment pace in cell F7, with steps of 0.05 pp. of GDP. Note that, for countries in which the benchmark is binding over a certain number of years, cell F7 sets the level of the annual adjustment of the residual years when the benchmark is no longer binding ⁽⁶⁾. The user can only change those two cells in order to assess the impact of a different adjustment pace on the fulfillment of the EGR criteria. If a country receives technical information, the table also displays the SPB at the end of the adjustment period (cell F8).
2. The second table, ‘**EGR criteria**’, automatically reports whether the chosen adjustment fulfills the EGR criteria (in cells D11:J16 for countries receiving a technical trajectory, in cells D11:H13 for countries receiving technical information), given the underlying macro-assumptions. When a criterion is complied with, the corresponding cell will return the message ‘ok’, otherwise ‘not met’.
 - a. *For countries with a technical trajectory*: Note that **Criterion 2** (stochastic simulations) is only provided for information (for more details, see the part below describing the worksheet “Stochastic”). The column ‘debt below T+14 (or T+17)’ indicates whether the projected debt is brought (and/or remains)

⁽⁵⁾ DG ECFIN uses the software STATA to perform deterministic and stochastic simulations. Excel is not well-suited for stochastic computations. In the spreadsheet, only the size of the fan chart for a 4-year plan with no extension is provided (see part below describing the worksheet “Stochastic”).

⁽⁶⁾ The adjustment path is automatically adjusted to take into account the benchmark requiring a minimum annual adjustment of 0.5% of GDP if the deficit is above 3% of GDP in the previous year. However, the spreadsheet does not automatically compute the debt path that abides by the debt decline safeguard. For that reason, for the countries for which the latter is binding (FR and BE), a second version of the Excel spreadsheets has been prepared *in case of extension*.

below 60% of GDP under the adjustment scenario and all deterministic stress tests. It is the basis for the ‘easing up’ of the technical trajectories. The table also reports (L11:N16) whether the chosen adjustment ensures that the debt decline safeguard is met (i.e. that debt in T+4 is below debt in T) and whether the minimum adjustment of 0.5 pp. of GDP as a benchmark when deficit is above 3% of GDP is binding or not, and if so, for how many years.

- b. *For countries with technical information:* The table only retains the deficit criterion for the adjustment scenario. It also reports (*for information*) whether debt remains below 60% of GDP in the adjustment scenario by the end of the projection period.
3. The third table, ‘**Annual and average adjustment**’, (*only reported in case of a technical trajectory*), reports the *annual* adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure growth (line 21). The *average* annual adjustment is reported in cells G22 and G23 (average change in SPB over the *plan* period and the *adjustment* period, respectively), and in cells G24 and G25 (average net primary expenditure growth over the *plan* period and the *adjustment* period, respectively). In case of a plan with no extension, both the plan period and the adjustment period last 4 years. In case of a plan with extension, the plan period remains 4 years while the adjustment period lasts 7 years. In this case, if neither the benchmark nor the safeguard is binding, the values in F7, G22 and G23 are the same (as, by design, the adjustment is equally spread over time). However, if the benchmark or the safeguard is binding, the values in F7, G22 and G23 can be different.
4. The fourth table, (*only reported in case of a technical trajectory*), ‘**Adjustment complying with EGR criteria without safeguard/benchmark**’ (in cells D28:H32), summarises the key characteristics of the adjustment path that complies with the criteria without safeguard and benchmark, for a plan with and without extension.
5. The last table, ‘**Technical trajectories**’ (in cells D35:M39), displays the annual change in SPB that is consistent with all the provisions of the Commission legislative proposal of April 2023 (including the benchmark and safeguards). For countries with technical information, the last table ‘**Technical information**’ (in cells D16:H19) displays the SPB at the end of the adjustment period that is consistent with Article 7 (2) of the Commission legislative proposal of April 2023.

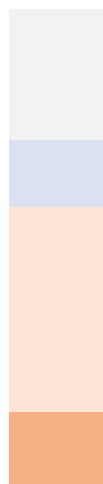
Worksheet “Input data”

The worksheet “Input data” in light blue displays the input data, including fiscal and macro-financial assumptions as well as other additional parameters.

The input data include the following assumptions:

1. Fiscal assumptions: Fiscal assumptions are based on the latest Commission forecast (currently from spring 2023) and the latest Ageing Report (currently 2021 Ageing Report) jointly prepared with the EPC Ageing Working Group (AWG).
2. Macroeconomic assumptions: GDP projections are based on the latest Commission forecast, extended for the next 10 years by the ‘T+10 projections’ (currently from spring 2023) – as per the EU commonly agreed methodology with the EPC Output Gap Working Group (OGWG) - and, beyond this horizon, by the projections of the latest Ageing Report (currently 2021 Ageing Report).
3. Interest rates assumptions: Implicit interest rate assumptions are based on the latest Commission forecast (currently spring 2023). Beyond the short-term forecast horizon (currently 2024), linear convergence assumptions are applied, with key values and parameters provided in the ‘additional parameters’ section of the tab. In particular, country-specific market interest rate projections (both short-term and long-term) in T+10 reflect financial markets’ expectations as of the spring forecast 2023. Common T+30 interest rate projections reflect convergence values agreed with the Ageing Working Group, as per the latest Ageing Report, and as reported in the 2022 DSM.
4. Inflation assumptions: Inflation assumptions are based on the latest Commission forecast (currently spring 2023). Beyond the short-term forecast horizon (currently 2024), linear convergence assumptions are applied, with key values provided in the ‘additional parameters’ section of the tab. In particular, the projections for euro area countries in T+10 reflects financial markets’ expectations as of the spring forecast 2023 ⁽⁷⁾. Beyond this horizon, inflation converges to monetary policy targets, namely 2% for euro area countries, 2.5% for PL and RO and 3% for HU.

Within the spreadsheet, the following colour-coding is used to indicate data sources:

- 
1. Cells in *light grey* indicate values from the Commission 2023 spring forecast (available in the AMECO database) and extended with the ‘T+10’ projections;
 2. Cells in *light blue* indicate values from the 2021 Ageing Report;
 3. Cells in *light orange* provide parameters needed to compute the decomposition of government debt according to its maturity structure (i.e. short-term and long-term debt, maturing, rolled-over and non-maturing debt) by the end of the short-term forecast horizon (currently 2024) - these are fixed shares which the user cannot change;
 4. Cells in *dark orange* indicate targets based on financial market expectations.

⁽⁷⁾ For non-euro area Member States with a different inflation target than the ECB (i.e., HU, PL and RO), it is assumed that half of the spread vis-à-vis euro area inflation observed in T+2 remains by T+10. More details are provided in the 2021 Fiscal Sustainability Report (see Box I.2.1).

This colour-coding also holds in the other worksheets of the Excel spreadsheet.

Non-coloured (blank) parameters in cells C44:C59 were calibrated based on different data sources (Eurostat, ECB) and papers. The data sources used by the Commission are provided in corresponding cells of column E.

The last part of the worksheet "Input data" (cells C73:G76) provides the parameters measuring the size of the cone in the fan chart that results from the stochastic simulations carried out in Stata. These parameters are kept constant.

Worksheets with no-fiscal-policy-change baseline and deterministic projections (four scenarios)

The green-coloured worksheets contain deterministic projections designed in line with the note on the illustrative simulations of the technical trajectories. Each deterministic scenario provides a single path for general government debt until 2038 (no extension) or 2041 (with extension) under the budgetary, macroeconomic and financial assumptions set in each respective worksheet. **Computations are done automatically (please make sure that Excel is in “Automatic” computation mode, i.e., in the File menu, Option tab, click on “Formulas”, “Calculation Options” and “Automatic”).** The colour-coding used to indicate the source of the data is the same as in the “Input data” worksheet described above.

Debt projections can be found in line 56 of each scenario tab except for the “Adverse (r-g)”, for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is reported in line 78. The average net expenditure growth over the adjustment period is computed in cell D80 of the sheet "Adjustment scenario" (for countries with a technical trajectory).

A. No-fiscal-policy-change (NFPC) baseline identical to the DSM

The first green worksheet “Baseline NFPC (DSM)” shows the key assumptions, debt projections and debt decomposition in case there would be no fiscal adjustment beyond the short-term forecast. In other words, the projection results in this sheet are based on a *no-fiscal-policy-change* assumption. The approach is identical to the one used in the baseline scenario of DG ECFIN’s Debt Sustainability Monitor, and the results are based on the spring forecast 2023.

B. Other deterministic projections

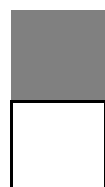
The remaining green-coloured worksheets present the deterministic projections based on an adjustment scenario and, for Member States with a technical trajectory, three stress-tests scenarios (i.e. financial stress, lower SPB, and adverse ‘r-g’ scenarios).

Within each green-coloured worksheet, the values associated with the structural primary balance (SPB) can take three colours. Each colour corresponds to a specific period of the projections:



1. *Light grey* indicates Commission 2023 spring forecast numbers (available in the AMECO database);
2. *Mild grey* indicates the period during which the SPB adjusts linearly according to the path set in sheet “**Criteria results**”;
3. *Dark grey* indicates the period during which the SPB (before shock in the case of the lower SPB scenario) remains constant.

In the worksheets associated with the stress-test scenarios (i.e., financial stress, lower SPB, and adverse ‘r-g’ scenarios) the initial shocks are indicated as follows:



4. Except for the SPB, all variables that are shocked turn very *dark grey* when the shock hits;
5. *The cells get thick black borders* when the SPB is shocked (this is only relevant for the lower SPB scenario).

B.1 Adjustment scenario (as set in worksheet “Criteria results”)

The second green-coloured worksheet presents the projections results for the “Adjustment scenario”. During the adjustment period (currently from 2025 to 2028, or 2031 in case of extension), a linear fiscal adjustment is assumed. Beyond the adjustment period, a *no-fiscal-policy-change* assumption is applied, with primary expenditure being only modified by changes in the cost of ageing as projected in the latest Ageing Report, and primary revenue assumed to be (broadly) stable as a share of GDP.

B.2 Financial stress scenario

The third green-coloured worksheet presents the projection results for the “Financial stress” scenario. In this scenario, in 2029 (or in 2032 in case of extension), interest rates are assumed to temporarily increase by at least 1 percentage point (a risk premium is added for high-debt countries, calibrated based on Pamies et al. (2021) ⁽⁸⁾, see also the European Commission’s 2021 Fiscal Sustainability Report).

B.3 Lower SPB scenario

The fourth green-coloured worksheet presents the projections results for the “lower SPB” scenario. In this scenario, as from 2029 (or 2032 in case of extension), the SPB is assumed to be

⁽⁸⁾ Pamies, S., Carnot, N. and Patarau, A. (2021), “Do fundamentals explain differences between Euro Area sovereign interest rates?”, European Economy – Discussion Paper, No 141, June.

permanently reduced by 0.5 percentage point of GDP (corresponding to half of the historical standard deviation of the SPB over all EU countries). ⁽⁹⁾

B.4 Adverse 'r-g' scenario

The fifth and final green-coloured worksheet presents the projections results for the “Adverse (r-g)” scenario. In this scenario, as from 2029 (or 2032 in case of extension), the interest-growth rate differential is assumed to be permanently increased by 1 percentage point over the projection horizon.

Worksheet “Stochastic”

The orange-coloured worksheet presents the stochastic projections around the adjustment scenario.

Stochastic simulations account for wide-ranging uncertainty. Unlike deterministic projections, the outcome of stochastic simulations is not a single debt path under a specific scenario, but a distribution of debt paths resulting from a wide set of shocks. Drawing from the Commission’s standard DSA framework, 2 000 shocks affecting governments’ budgetary positions, economic growth, interest rates and exchange rates are run around the baseline. These shocks are generated based on the historical distribution of shocks of each country (see 2022 Debt Sustainability Monitor).

The stochastic simulations are provided mainly for information, as the criterion in the Excel spreadsheet only allows for an approximation of what is done in our Stata model. Indeed, in this Excel worksheet, the size of the cone of the fan chart, which corresponds to a 4-year plan with no extension, is assumed to be constant irrespective of the adjustment. In our Stata model, it is a non-linear function of the level of debt (which, in turn, depends on the amount of fiscal adjustment). Indeed, shocks (in particular interest rate shocks) have different impacts according to the level of debt ratio. For the same reason, the probability that debt declines over a window of five years after the end of the adjustment period is not recomputed when the annual adjustment is modified in “Criteria results”.

⁽⁹⁾ This scenario assumes a uniform shock, in line with the IMF (2013) approach (see IMF (2013), “Staff guidance note for public debt sustainability analysis for market-access countries”, May).

ANNEX

The *technical information* provides the minimum structural primary balance necessary to ensure that the headline deficit is maintained below the 3% of GDP reference value without any additional policy measures over a 10-year period after the end of the adjustment period. Note that the SPB at the end of the adjustment period may be lower than the SPB at the beginning of the plan, indicating that the Member State has some fiscal room for manoeuvre. It is the case, in particular for LT, EE, IE, SE and DK (see Table A1).

Table A1: Technical information for Member States with some fiscal room for manoeuvre with respect to the 3% of GDP threshold based on the Commission spring forecast 2023
(SPB at the end of the adjustment period, % of GDP)

	Technical information		
	SPB 2024	No extension 2028	Extension 2031
EE	-0.7	-1.9	-1.8
LT	0.3	-0.9	-1.1
SE	1.3	-1.7	-1.5
IE	1.6	-0.4	-0.1
DK	2.6	-1.2	-1.2



European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	MT
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.45

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

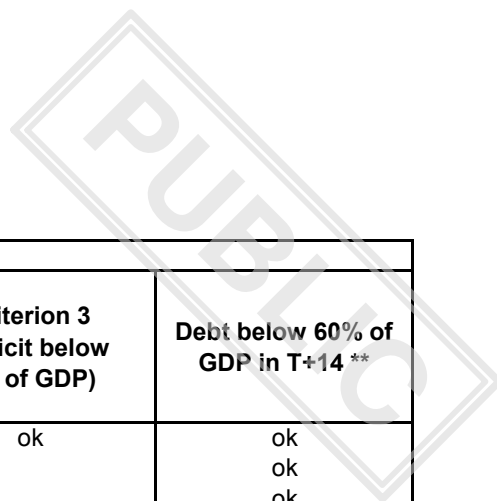
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
Not met	ok	ok	ok
Not met			ok
Not met			ok
Not met			ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.50	0.50	0.50	0.50
5.6	5.4	5.4	5.3
0.50			
0.50			
5.4			
5.4			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.45	0.35
66.6	66.7

ment of 0.5 pp. of GDP as a benchmark nor for the deficit below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.50	0.50	0.50	0.50
0.50	0.50	0.50	0.50

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	4

|

chmark)		
2029	2030	2031
0.05	0.05	0.05

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	MT
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	55.1	53.4
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	0.8	-1.4
Stock-flow adjustment (total)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
of which: Public pensions expenditure	7.5	7.3
Health care expenditure	5.6	5.4
Long-term care expenditure	1.2	1.2
Education & unemployment benefits expenditure	4.2	4.2
Taxes on pensions	0.0	0.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	11.8	6.9
Level	11.8	
<i>Potential GDP</i>		
Growth rate	3.2	5.9
Level	12.0	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.4	2.0
Inflation (SF 2023)		
GDP deflator (national currency)	1.9	5.2

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.4
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.2
Share of long-term debt in total government debt	0.8
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	37.4

Share of outstanding debt in total debt in 2024	0.7
Share of rolled over long-term debt in 2024	0.0
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.9
Long-term nominal interest rate in 2025	3.8
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-5.4	-7.6
Difference between debt level in 50th and 30th percentile of the distribution	-2.3	-3.3
Difference between debt level in 70th and 50th percentile of the distribution	2.6	3.5
Difference between debt level in 90th and 50th percentile of the distribution	6.4	8.9

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
54.8	56.1								
-3.4	-2.4								
0.0	0.0								
0.4	0.5								
0.4	0.5								
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8	17.9
7.3	7.2	7.1	6.9	6.8	6.7	6.6	6.6	6.5	6.4
5.5	5.5	5.6	5.7	5.7	5.8	5.8	5.9	6.0	6.0
1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5
4.2	4.1	4.1	4.1	4.0	4.0	4.0	3.9	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
3.9	4.1	4.4	4.3	4.3	3.8	3.8	3.7	3.6	3.5
4.5	4.4	3.9	3.8	3.8	3.8	3.8	3.7	3.6	3.5
2.5	2.9								
4.2	3.1								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
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T+3	T+4	T+5
-8.9	-10.2	-11.2
-3.9	-4.3	-4.7
4.1	4.8	5.4
10.6	12.0	14.3

2033	2034	2035	2036	2037	2038	2039	2040	2041

17.9	18.0	18.0	18.1	18.2	18.3	18.4	18.5	18.6
6.4	6.4	6.4	6.4	6.5	6.5	6.6	6.6	6.7
6.1	6.1	6.2	6.2	6.3	6.3	6.3	6.4	6.4
1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.8
3.9	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

3.3	3.1	2.8	2.7	2.5	2.3	2.2	2.1	2.1

3.3	3.1	2.8	2.7	2.5	2.4	2.2	2.1	2.1

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	11.8	12.6
Growth rate	11.8	6.9
<i>Potential GDP (real)</i>		
Level	12.0	12.7
<i>Output gap</i>		
Output gap	-1.4	-0.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	13.9	12.5
Interest rate		
Nominal implicit interest rate on debt	2.4	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	1.9	5.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.48	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.9

Debt projections

	2021	2022
Gross debt	55.1	53.4
<i>Change in debt (-1+2+3)</i>		-1.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-4.8
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.1
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-3.4
(2.3) Inflation effect	-2.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-5.8
Structural balance	-5.5
Net expenditure growth	7.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.1	53.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.4	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

13.1	13.6	14.2	14.9	15.5	16.1	16.7	17.3	17.9
3.9	4.1	4.4	4.3	4.3	3.8	3.8	3.7	3.6

13.3	13.8	14.4	14.9	15.5	16.1	16.7	17.3	17.9

-1.1	-1.4	-0.9	-0.5	0.0	0.0	0.0	0.0	0.0

8.3	7.3	7.5	7.3	7.3	6.8	6.7	6.5	6.4

2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6
		3.8	3.9	4.0	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	4.1	4.4	4.3	4.3	3.8	3.8	3.7	3.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.5	56.7	56.7	56.9	57.3	57.7	58.2
1.4	1.3	0.5	0.2	0.0	0.3	0.3	0.4	0.5
-3.9	-3.1	-2.8	-2.4	-2.2	-2.1	-2.1	-2.1	-2.0
-3.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.9	-2.2	-2.4	-2.2	-2.2	-1.9	-1.8	-1.6	-1.5
1.2	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9

2032	2033	2034	2035	2036	2037	2038
-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.9	17.9	18.0	18.0	18.1	18.2	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

18.5	19.2	19.7	20.3	20.8	21.4	21.9
3.5	3.3	3.1	2.8	2.7	2.5	2.3

18.5	19.2	19.7	20.3	20.8	21.4	21.9

0.0	0.0	0.0	0.0	0.0	0.0	0.0

6.2	6.0	5.7	5.5	5.2	5.0	4.9

3.6	3.7	3.8	3.8	3.8	3.9	3.9
4.4	4.4	4.4	4.4	4.3	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.5	3.3	3.1	2.8	2.7	2.5	2.3

2032	2033	2034	2035	2036	2037	2038
58.9	59.7	60.8	62.1	63.6	65.3	67.2
0.7	0.9	1.1	1.3	1.5	1.7	1.9
-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	-2.5
-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.3	-0.2	-0.2	-0.1	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.4	-1.3	-1.1	-0.9	-0.8	-0.7	-0.6
2.0	2.1	2.1	2.2	2.3	2.3	2.4

-1.9	-1.8	-1.7	-1.6	-1.6	-1.5	-1.5
-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.1	-4.2	-4.3	-4.4	-4.6	-4.8	-4.9
-4.1	-4.2	-4.3	-4.4	-4.6	-4.8	-4.9
6.1	5.9	5.6	5.4	5.2	5.0	4.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
58.9	59.7	60.8	62.1	63.6	65.3	67.2
42.9	43.5	44.3	45.2	46.2	47.5	48.8
3.4	3.5	3.5	3.6	3.7	3.8	3.9
8.5	8.6	8.7	8.9	9.1	9.3	9.6
3.4	3.5	3.7	3.8	3.9	4.0	4.2
0.6	0.6	0.7	0.7	0.7	0.7	0.7
0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.85	0.85	0.85	0.85	0.85	0.85	0.85
3.6	3.7	3.8	3.8	3.8	3.9	3.9
3.8	3.8	3.9	4.0	4.0	4.1	4.1
3.6	3.7	3.8	3.8	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.9	59.7	60.8	62.1	63.6	65.3	67.2
3.6	3.7	3.8	3.8	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	11.8	12.6
Growth rate	11.8	6.9
<i>Potential GDP (real)</i>		
Level	12.0	12.7
<i>Output gap</i>		
Output gap	-1.4	-0.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	13.9	12.5
Interest rates		
Nominal implicit interest rate on debt	2.4	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.48

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.9

Debt projections

	2021	2022
Gross debt	55.1	53.4
<i>Change in debt (-1+2+3)</i>		-1.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-4.8
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.1
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-3.4
(2.3) Inflation effect	-2.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-5.8
Structural balance	-5.5
Net expenditure growth	7.3
Average net primary expenditure growth	5.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.1	53.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.16	0.16
Share of long-term debt in total government debt	0.84	0.84
IIR	2.4	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.45)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.35)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

13.1	13.6	14.2	14.7	15.3	15.9	16.6	17.2	17.9
3.9	4.1	4.0	3.9	3.8	3.9	4.2	4.1	4.0

13.3	13.8	14.4	14.9	15.5	16.1	16.7	17.3	17.9

-1.1	-1.4	-1.3	-1.2	-1.2	-1.1	-0.8	-0.4	0.0

8.3	7.3	7.1	6.9	6.9	6.8	7.1	6.9	6.8

2.5	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
		3.8	3.9	4.0	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-0.8	-0.8	-0.8	-0.4	0.0
3.9	4.1	4.0	3.9	3.9	3.4	3.8	3.7	3.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.7	52.5	51.2
1.4	1.3	0.3	-0.1	-0.5	-0.9	-1.2	-1.3	-1.3
-3.9	-3.1	-2.5	-2.0	-1.4	-0.9	-0.7	-0.5	-0.3
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.6	0.6	0.6	0.5	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.9	-2.2	-2.2	-2.0	-1.9	-1.9	-1.9	-1.8	-1.6
1.2	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7

-1.9	-2.1	-2.1	-2.0	-2.0	-2.0	-2.1	-2.0	-1.9
-2.2	-1.6	-1.6	-1.6	-1.6	-1.5	-1.5	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-5.1	-4.5	-4.1	-3.6	-3.1	-2.6	-2.4	-2.2	-2.0
-4.6	-3.9	-3.5	-3.0	-2.6	-2.1	-2.1	-2.0	-2.0
5.5	4.9	5.6	5.4	5.4	5.3	6.6	6.4	6.3

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.7	52.5	51.2
	40.7	41.6	41.9	41.8	41.3	40.4	39.5	38.6
	2.4	2.6	2.7	2.8	2.9	2.9	2.9	3.0
	8.0	8.2	8.2	8.2	8.1	8.0	7.8	7.6
	4.2	3.5	3.1	2.6	2.2	2.1	1.9	1.7
	0.8	0.6	0.5	0.5	0.4	0.4	0.3	0.3
0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15
0.84	0.84	0.84	0.84	0.84	0.84	0.85	0.85	0.85
2.5	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6
		3.0	3.1	3.2	3.3	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



54.8	56.1	56.4	56.4	56.0	55.3	54.2	53.2	52.1
2.5	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

54.8	56.1	56.5	56.6	56.4	55.9	55.2	54.2	53.1
2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.9	17.9	18.0	18.0	18.1	18.2	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

18.5	19.2	19.7	20.3	20.8	21.4	21.9
3.5	3.3	3.1	2.8	2.7	2.5	2.3
18.5	19.2	19.7	20.3	20.8	21.4	21.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.2	6.0	5.7	5.5	5.2	5.0	4.9
3.6	3.6	3.7	3.7	3.8	3.8	3.8
4.4	4.4	4.4	4.4	4.3	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.5	3.3	3.1	2.8	2.7	2.5	2.3

2032	2033	2034	2035	2036	2037	2038
50.3	49.5	49.0	48.8	48.7	48.8	49.1
-0.9	-0.7	-0.5	-0.3	-0.1	0.1	0.3
-0.3	-0.4	-0.4	-0.5	-0.6	-0.7	-0.8
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.1	0.1	0.2	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-1.1	-0.9	-0.8	-0.7	-0.6	-0.5
1.7	1.7	1.7	1.7	1.7	1.8	1.8

-1.7	-1.6	-1.4	-1.3	-1.2	-1.2	-1.1
-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	-2.5
-2.1	-2.1	-2.2	-2.3	-2.3	-2.4	-2.5
6.1	5.9	5.6	5.4	5.2	5.0	4.8

0	0	0	0	0	1	1

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
50.3	49.5	49.0	48.8	48.7	48.8	49.1
37.7	37.1	36.7	36.4	36.3	36.3	36.3
3.0	3.0	2.9	2.9	2.9	2.9	3.0
7.5	7.3	7.2	7.2	7.1	7.1	7.2
1.8	1.8	1.9	1.9	2.0	2.1	2.2
0.3	0.3	0.3	0.3	0.4	0.4	0.4
0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.85	0.85	0.85	0.85	0.85	0.85	0.85
3.6	3.6	3.7	3.7	3.8	3.8	3.8
3.7	3.8	3.8	3.9	3.9	4.0	4.0
3.6	3.6	3.7	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

51.3	50.8	50.5	50.4	50.5	50.8	51.2
3.6	3.7	3.7	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

51.9	50.7	49.7	49.0	48.6	48.3	48.2
3.6	3.7	3.7	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	11.8	12.6
Growth rate	11.8	6.9
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Level	12.0	12.7
<i>Output gap</i>		
Output gap	-1.4	-0.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	13.9	12.5
Interest rates		
Nominal implicit interest rate on debt	2.4	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.2
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Fiscal multiplier	0.75
Elasticity budget balance	0.48

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.9

Debt projections

	2021	2022
Gross debt	55.1	53.4
<i>Change in debt (-1+2+3)</i>		-1.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-4.8
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.1
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-3.4
(2.3) Inflation effect	-2.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.1	53.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.16	0.16
Share of long-term debt in total government debt	0.84	0.84
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.45)

Debt	55.1	53.4
IIR	2.4	2.0
IRR difference STATA - Excel		

Extension (annual adjustment of 0.35)

Debt	55.1	53.4
IIR	2.4	2.0
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

13.1	13.6	14.2	14.7	15.3	15.9	16.6	17.2	17.9
3.9	4.1	4.0	3.9	3.8	3.9	4.2	4.1	4.0

13.3	13.8	14.4	14.9	15.5	16.1	16.7	17.3	17.9

-1.1	-1.4	-1.3	-1.2	-1.2	-1.1	-0.8	-0.4	0.0

8.3	7.3	7.1	6.9	6.9	6.8	7.1	6.9	6.8

2.5	2.9	3.0	3.1	3.2	3.3	3.6	3.5	3.6
		3.8	3.9	4.0	4.0	5.1	4.2	4.3
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-0.8	-0.8	-0.8	-0.4	0.0
3.9	4.1	4.0	3.9	3.9	3.4	3.8	3.7	3.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.9	52.6	51.4
1.4	1.3	0.3	-0.1	-0.5	-0.9	-1.1	-1.2	-1.3
-3.9	-3.1	-2.5	-2.0	-1.4	-0.9	-0.7	-0.5	-0.3
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.6	0.6	0.6	0.5	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.9	-2.2	-2.2	-2.0	-1.9	-1.9	-1.8	-1.7	-1.6
1.2	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.8

-1.9	-2.1	-2.1	-2.0	-2.0	-2.0	-2.1	-2.0	-2.0
-2.2	-1.6	-1.6	-1.6	-1.6	-1.5	-1.5	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.9	52.6	51.4
	40.7	41.6	41.9	41.8	41.3	40.4	39.6	38.7
	2.4	2.6	2.7	2.8	2.9	2.9	3.0	3.0
	8.0	8.2	8.2	8.2	8.1	8.0	7.8	7.6
	4.2	3.5	3.1	2.6	2.2	2.2	1.9	1.8
	0.8	0.6	0.5	0.5	0.4	0.4	0.3	0.3
0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15
0.84	0.84	0.84	0.84	0.84	0.84	0.85	0.85	0.85

	2.9	3.0	3.1	3.2	3.3	3.6	3.5	3.6
	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7
		3.0	3.1	3.2	3.3	3.6	3.5	3.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

54.8	56.1	56.4	56.4	56.0	55.3	54.4	53.3	52.3
2.5	2.9	3.0	3.1	3.2	3.3	3.6	3.5	3.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

54.8	56.1	56.5	56.6	56.4	55.9	55.2	54.2	53.1
2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.9	17.9	18.0	18.0	18.1	18.2	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

18.5	19.2	19.7	20.3	20.8	21.4	21.9
3.5	3.3	3.1	2.8	2.7	2.5	2.3
18.5	19.2	19.7	20.3	20.8	21.4	21.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.2	6.0	5.7	5.5	5.2	5.0	4.9
3.7	3.7	3.7	3.8	3.8	3.8	3.9
4.4	4.4	4.4	4.4	4.3	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.5	3.3	3.1	2.8	2.7	2.5	2.3

2032	2033	2034	2035	2036	2037	2038
50.5	49.8	49.3	49.1	49.0	49.1	49.4
-0.9	-0.7	-0.5	-0.3	-0.1	0.1	0.3
-0.3	-0.4	-0.4	-0.5	-0.6	-0.7	-0.8
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.1	0.1	0.2	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-1.1	-0.9	-0.8	-0.7	-0.6	-0.5
1.8	1.8	1.8	1.8	1.8	1.8	1.8

-1.7	-1.6	-1.4	-1.3	-1.2	-1.2	-1.1
-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
50.5	49.8	49.3	49.1	49.0	49.1	49.4
37.9	37.3	36.9	36.6	36.5	36.5	36.7
3.0	3.0	2.9	2.9	2.9	2.9	2.9
7.5	7.4	7.3	7.2	7.2	7.2	7.2
1.8	1.8	1.9	1.9	2.0	2.1	2.2
0.3	0.3	0.3	0.3	0.4	0.4	0.4
0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.85	0.85	0.85	0.85	0.85	0.85	0.85
3.7	3.7	3.7	3.8	3.8	3.8	3.9
3.8	3.8	3.9	3.9	4.0	4.0	4.1
3.7	3.7	3.7	3.8	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



51.6	51.0	50.7	50.7	50.8	51.1	51.6
3.7	3.7	3.8	3.8	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.0	50.9	49.9	49.2	48.8	48.6	48.5
3.8	3.7	3.8	3.8	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	11.8	12.6
Growth rate	11.8	6.9
<i>Potential GDP (real)</i>		
Level	12.0	12.7
<i>Output gap</i>		
Output gap	-1.4	-0.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	13.9	12.5
Interest rates		
Nominal implicit interest rate on debt	2.4	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.48	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.9

Debt projections

	2021	2022
Gross debt	55.1	53.4
<i>Change in debt (-1+2+3)</i>		-1.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-4.8
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.1
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-3.4
(2.3) Inflation effect	-2.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.1	53.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.2	0.2
Share of long-term debt in total government debt	0.8	0.8
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.45)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.35)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.6	-0.9	-0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

13.1	13.6	14.2	14.7	15.3	15.9	16.6	17.3	17.9
3.9	4.1	4.0	3.9	3.8	3.9	4.3	4.1	3.6
13.3	13.8	14.4	14.9	15.5	16.1	16.7	17.3	17.9
-1.1	-1.4	-1.3	-1.2	-1.2	-1.1	-0.6	-0.2	-0.1
8.3	7.3	7.1	6.9	6.9	6.8	7.3	6.9	6.4
2.5	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
		3.8	3.9	4.0	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.9	-0.8	-0.8	-0.8	-0.4	-0.1
3.9	4.1	4.0	3.9	3.9	3.4	3.9	3.9	3.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.8	53.0	52.4
1.4	1.3	0.3	-0.1	-0.5	-0.9	-1.1	-0.8	-0.6
-3.9	-3.1	-2.5	-2.0	-1.4	-0.9	-0.9	-0.9	-0.9
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.6	-0.9	-0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.6	0.6	0.6	0.5	0.3	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.9	-2.2	-2.2	-2.0	-1.9	-1.9	-2.0	-1.8	-1.5
1.2	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.7

-1.9	-2.1	-2.1	-2.0	-2.0	-2.0	-2.2	-2.0	-1.8
-2.2	-1.6	-1.6	-1.6	-1.6	-1.5	-1.5	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	53.8	53.0	52.4
	40.7	41.6	41.9	41.8	41.3	40.4	39.6	39.1
	2.4	2.6	2.7	2.8	2.9	2.9	2.9	3.0
	8.0	8.2	8.2	8.2	8.1	7.9	7.8	7.7
	4.2	3.5	3.1	2.6	2.2	2.2	2.2	2.2
	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6
		3.0	3.1	3.2	3.3	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

54.8	56.1	56.4	56.4	56.0	55.3	54.3	53.6	53.3
2.5	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

54.8	56.1	56.5	56.6	56.4	55.9	55.2	54.2	53.1
2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.9	17.9	18.0	18.0	18.1	18.2	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

18.5	19.2	19.7	20.3	20.8	21.4	21.9
3.6	3.4	3.1	2.8	2.7	2.5	2.3
18.5	19.2	19.7	20.3	20.8	21.4	21.9
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
6.3	6.0	5.7	5.5	5.2	5.0	4.9
3.6	3.7	3.7	3.8	3.8	3.8	3.8
4.4	4.4	4.4	4.4	4.3	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.5	3.3	3.1	2.8	2.7	2.5	2.3

2032	2033	2034	2035	2036	2037	2038
51.9	51.7	51.6	51.8	52.2	52.8	53.5
-0.5	-0.3	0.0	0.2	0.4	0.6	0.8
-0.9	-0.9	-0.9	-1.0	-1.1	-1.2	-1.3
-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.1	0.1	0.2	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-1.2	-1.0	-0.8	-0.7	-0.6	-0.5
1.8	1.8	1.8	1.8	1.9	1.9	1.9

-1.8	-1.6	-1.5	-1.4	-1.3	-1.2	-1.2
-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
51.9	51.7	51.6	51.8	52.2	52.8	53.5
38.6	38.4	38.3	38.3	38.6	38.9	39.4
3.1	3.1	3.1	3.1	3.1	3.1	3.1
7.6	7.6	7.5	7.5	7.6	7.6	7.7
2.2	2.3	2.3	2.4	2.5	2.6	2.7
0.4	0.4	0.4	0.4	0.5	0.5	0.5
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8
3.6	3.7	3.7	3.8	3.8	3.8	3.8
3.7	3.8	3.9	3.9	4.0	4.0	4.0
3.6	3.7	3.7	3.8	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



53.0	52.9	53.0	53.4	54.0	54.7	55.7
3.6	3.7	3.7	3.8	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
51.9	51.2	50.8	50.6	50.6	50.8	51.2
3.6	3.7	3.7	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.0	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.5	18.2
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	11.8	12.6
Growth rate (including feedback and output-gap closure effect)	11.8	6.9
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	12.0	12.7
<i>Output gap</i>		
Output gap	-1.4	-0.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	13.9	12.5
Interest rates and inflation		
Nominal implicit interest rate on debt	2.4	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.48	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.9

Debt projections

	2021	2022
Gross debt	55.1	53.4
<i>Change in debt (-1+2+3)</i>		-1.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-4.8
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.1

(2.1) Interest expenditure	1.0
(2.2) Growth effect	-3.4
(2.3) Inflation effect	-2.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.1	53.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.2	0.2
Share of long-term debt in total government debt	0.8	0.8
IIR	2.4	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.45)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.35)

Debt	55.1	53.4
IIR	2.4	2.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.2	18.2	18.2	18.0	18.0	17.9	17.9	17.8	17.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

13.1	13.6	14.2	14.7	15.3	15.9	16.5	17.1	17.7
3.9	4.1	4.0	3.9	3.8	3.9	3.7	3.6	3.5
						3.3	3.2	3.1

13.3	13.8	14.4	14.9	15.5	16.1	16.6	17.1	17.7

-1.1	-1.4	-1.3	-1.2	-1.2	-1.1	-0.8	-0.4	0.0

8.3	7.3	7.1	6.9	6.9	6.8	6.6	6.4	6.2

2.5	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7
		3.8	3.9	4.0	4.0	4.6	4.7	4.8
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	3.1	3.0	2.9	2.9	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-0.8	-0.8	-0.8	-0.4	0.0
3.9	4.1	4.0	3.9	3.9	3.4	3.3	3.2	3.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	54.1	53.1	52.2
1.4	1.3	0.3	-0.1	-0.5	-0.9	-0.9	-0.9	-1.0
-3.9	-3.1	-2.5	-2.0	-1.4	-0.9	-0.7	-0.5	-0.3
-3.4	-2.4	-1.9	-1.4	-0.9	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.6	0.6	0.6	0.5	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.9	-2.2	-2.2	-2.0	-1.9	-1.9	-1.6	-1.4	-1.3

1.2	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9
-1.9	-2.1	-2.1	-2.0	-2.0	-2.0	-1.9	-1.8	-1.7
-2.2	-1.6	-1.6	-1.6	-1.6	-1.5	-1.5	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
54.8	56.1	56.4	56.4	55.9	54.9	54.1	53.1	52.2
	40.7	41.6	41.9	41.8	41.3	40.6	40.0	39.2
	2.4	2.6	2.7	2.8	2.9	2.9	3.0	3.0
	8.0	8.2	8.2	8.2	8.1	8.0	7.9	7.7
	4.2	3.5	3.1	2.6	2.2	2.1	2.0	1.8
	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
2.5	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7
	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7
		3.0	3.1	3.2	3.3	3.5	3.6	3.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

54.8	56.1	56.4	56.4	56.0	55.3	54.6	53.8	53.1
2.5	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.8	56.1	56.5	56.6	56.4	55.9	55.2	54.2	53.1
2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.9	17.9	18.0	18.0	18.1	18.2	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

18.2	18.7	19.2	19.6	20.0	20.4	20.8
3.0	2.8	2.6	2.3	2.2	2.0	1.8
3.0	2.8	2.6	2.3	2.2	2.0	1.8

18.2	18.7	19.2	19.6	20.0	20.4	20.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.7	5.5	5.2	4.9	4.7	4.5	4.3
3.8	3.9	4.0	4.1	4.1	4.2	4.2
4.9	4.9	4.9	4.9	4.8	4.8	4.8
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	2.8	2.6	2.3	2.2	2.0	1.8

2032	2033	2034	2035	2036	2037	2038
51.6	51.2	51.1	51.2	51.5	52.0	52.7
-0.6	-0.4	-0.1	0.1	0.3	0.5	0.7
-0.3	-0.4	-0.4	-0.5	-0.6	-0.7	-0.8
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.1	0.1	0.2	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.6	-0.4	-0.3	-0.2	-0.1

1.9	1.9	1.9	2.0	2.0	2.1	2.1
-1.5	-1.4	-1.2	-1.1	-1.1	-1.0	-0.9
-1.3	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
51.6	51.2	51.1	51.2	51.5	52.0	52.7
38.6	38.3	38.1	38.1	38.3	38.6	39.0
3.1	3.1	3.0	3.0	3.1	3.1	3.1
7.6	7.6	7.5	7.5	7.5	7.6	7.7
1.9	2.0	2.0	2.1	2.2	2.3	2.4
0.3	0.3	0.4	0.4	0.4	0.4	0.4
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8
3.8	3.9	4.0	4.1	4.1	4.2	4.2
3.9	4.0	4.1	4.2	4.3	4.3	4.4
3.8	3.9	4.0	4.1	4.1	4.2	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



52.7	52.5	52.5	52.8	53.3	54.0	54.9
3.8	3.9	4.0	4.1	4.1	4.2	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.2	51.4	50.7	50.3	50.2	50.3	50.6
3.7	3.8	3.9	4.0	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

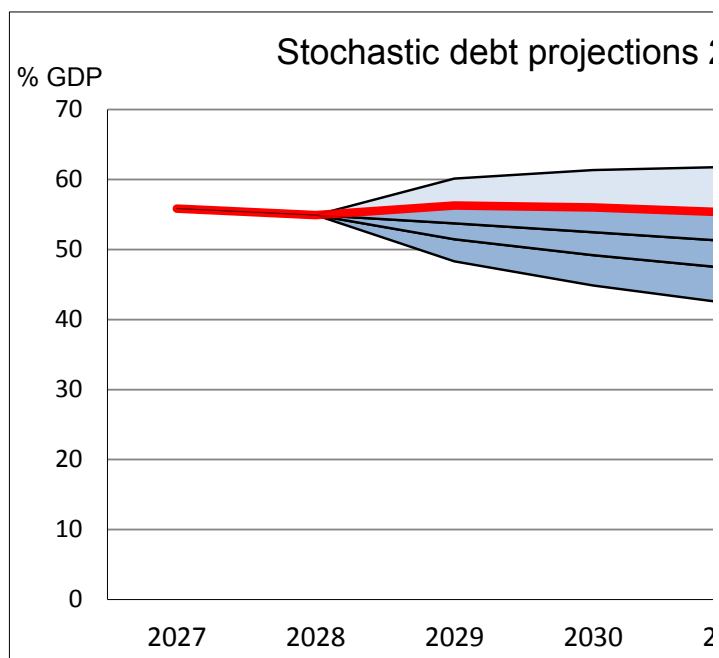
Country	MT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	55.1	53.4	54.8	56.1
Distribution of debt paths				
p10	55.1	53.4	54.8	56.1
p30	55.1	53.4	54.8	56.1
p50 - Adjustment scenario	55.1	53.4	54.8	56.1
p70	55.1	53.4	54.8	56.1
p90	55.1	53.4	54.8	56.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	55.9	54.9	48.3	44.9
p30_p10	0.0	0.0	3.1	4.3
p50_p30	0.0	0.0	2.3	3.3
p70_p50	0.0	0.0	2.6	3.5
p90_p70	0.0	0.0	3.8	5.4
p10	55.9	54.9	48.3	44.9
p30	55.9	54.9	51.5	49.2
p50	55.9	54.9	53.7	52.5
p70	55.9	54.9	56.3	56.0
p90	55.9	54.9	60.1	61.4

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
56.4	56.4	55.9	54.9	53.7	52.5	51.2	50.3	49.5	49.0

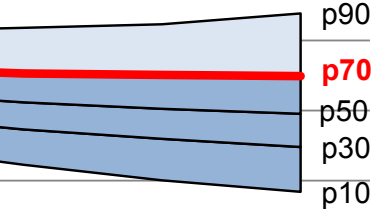
56.4	56.4	55.9	54.9	48.3	44.9	42.3	40.0	38.4	
56.4	56.4	55.9	54.9	51.5	49.2	47.3	46.0	44.8	
56.4	56.4	55.9	54.9	53.7	52.5	51.2	50.3	49.5	
56.4	56.4	55.9	54.9	56.3	56.0	55.3	55.1	54.9	
56.4	56.4	55.9	54.9	60.1	61.4	61.8	62.3	63.9	

2031	2032	2033
42.3	40.0	38.4
5.0	5.9	6.4
3.9	4.3	4.7
4.1	4.8	5.4
6.5	7.2	9.0
42.3	40.0	38.4
47.3	46.0	44.8
51.2	50.3	49.5
55.3	55.1	54.9
61.8	62.3	63.9



2035	2036	2037	2038	2039	2040	2041
48.8	48.7	48.8	49.1	49.5	50.2	51.0

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

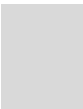
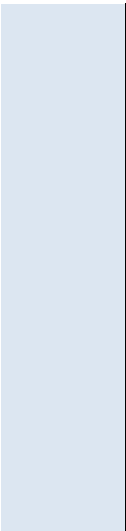
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".



Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	LV
# years of adjustment	4
Annual adjustment (change in SPB)	0.05
SPB at the end of the adjustment	-1.6

Adjustment scenario

years of adjustment
 SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is the same as the SPB at the beginning of the plan, indicating that the Member State has achieved a sustainable adjustment.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -1.6	7 -1.4

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LV
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	43.7	40.8
Structural primary balance ('+' means 'surplus')	-6.2	-3.7
One-off and other temporary measures	0.1	0.0
Stock-flow adjustments (without exchange rate effect)	-1.2	-1.2
Stock-flow adjustment (total)	-1.2	-1.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.6
of which: Public pensions expenditure	7.7	7.6
Health care expenditure	5.3	4.8
Long-term care expenditure	0.5	0.5
Education & unemployment benefits expenditure	3.6	3.6
Taxes on pensions	0.0	0.0
Property income	0.7	0.7
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	4.3	2.8
Level	24.4	
<i>Potential GDP</i>		
Growth rate	3.0	1.7
Level	24.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.3	1.2
Inflation (SF 2023)		
GDP deflator (national currency)	6.5	13.1

Additional parameters

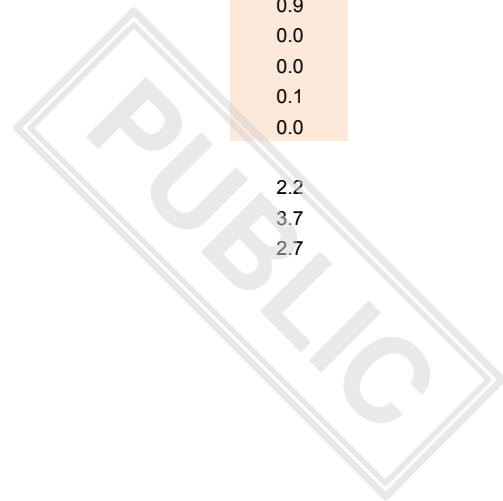
Fiscal multiplier	0.75
Budget balance elasticity	0.4
Long-term nominal interest rate (T+10 target)	3.6
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	38.5

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.9
0.0
0.0
0.1
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

2.2
3.7
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
39.7	40.5								
-2.9	-1.8								
0.0	0.0								
-1.0	0.2								
-1.0	0.2								
16.4	16.3	16.3	16.4	16.4	16.3	16.3	16.3	16.3	16.2
7.4	7.2	7.1	7.1	7.1	7.0	7.0	6.9	6.9	6.9
4.8	4.9	4.9	4.9	4.9	4.9	5.0	5.0	5.0	5.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.4	2.8	2.2	1.6	1.4	1.4	1.4	1.4	1.4	1.5
1.9	2.1	2.1	1.5	1.3	1.4	1.4	1.4	1.4	1.5
1.6	2.2								
8.9	2.7								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-20.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-20.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
16.2	16.2	16.1	16.1	16.0	15.9	15.8	15.8	15.7
6.8	6.8	6.8	6.8	6.7	6.7	6.6	6.6	6.5
5.0	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2
0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
3.8	3.7	3.7	3.6	3.6	3.5	3.5	3.5	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.4	1.4	1.3	1.2	1.1	1.1	1.0	1.0	0.9
1.4	1.4	1.4	1.2	1.1	1.1	1.0	1.0	0.9

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	LV
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.2	-3.7
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	-1.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.6
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	24.4	25.1
Growth rate	4.3	2.8
<i>Potential GDP (real)</i>		
Level	24.8	25.3
<i>Output gap</i>		
Output gap	-1.6	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.1	16.2
Interest rate		
Nominal implicit interest rate on debt	1.3	1.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.0
Inflation and exchange rate		
GDP deflator (national currency)	6.5	13.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.38	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.8

Debt projections

	2021	2022
Gross debt	43.7	40.8
<i>Change in debt (-1+2+3)</i>		-2.9
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.9
(1.1) Structural primary balance (before ageing cost)		-3.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.6
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.0
(2.3) Inflation effect	-5.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.2
(3.1) Base	-1.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-4.4
Structural balance	-4.2
Net expenditure growth	8.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	43.7	40.8
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.3	1.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	43.7	40.8
IIR	1.3	1.2
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.4	16.3	16.3	16.4	16.4	16.3	16.3	16.3	16.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

25.5	26.2	26.8	27.2	27.6	27.9	28.3	28.7	29.1
1.4	2.8	2.2	1.6	1.4	1.4	1.4	1.4	1.4

25.7	26.3	26.8	27.2	27.6	27.9	28.3	28.7	29.1

-1.0	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0

10.5	5.6	5.0	4.3	4.2	4.1	4.1	4.1	4.1

1.6	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
		3.7	3.7	3.7	3.7	3.7	3.6	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

8.9	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	2.8	2.2	1.6	1.4	1.4	1.4	1.4	1.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
39.7	40.5	41.4	42.6	43.8	45.1	46.4	47.7	49.0
-1.1	0.8	0.9	1.2	1.3	1.3	1.3	1.3	1.3
-3.2	-1.9	-1.9	-1.9	-1.9	-1.8	-1.8	-1.8	-1.8
-2.9	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.3	-1.0	-0.7	-0.6	-0.5	-0.5	-0.5	-0.4
0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4

2032	2033	2034	2035	2036	2037	2038
-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.2	16.2	16.2	16.1	16.1	16.0	15.9
0.7	0.7	0.7	0.7	0.7	0.7	0.7

29.6	30.0	30.4	30.8	31.2	31.5	31.9
1.5	1.4	1.4	1.3	1.2	1.1	1.1
29.6	30.0	30.4	30.8	31.2	31.5	31.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1	4.1	4.0	3.9	3.8	3.6	3.5
3.2	3.2	3.3	3.3	3.4	3.4	3.5
3.6	3.6	3.6	3.7	3.7	3.7	3.7
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.4	1.3	1.2	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
50.3	51.6	52.9	54.3	55.6	57.0	58.4
1.3	1.3	1.3	1.3	1.4	1.4	1.4
-1.7	-1.7	-1.7	-1.6	-1.6	-1.5	-1.4
-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.4	-0.4	-0.3	-0.2	-0.1	0.0
1.5	1.6	1.6	1.7	1.8	1.8	1.9

-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6
-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.2	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
-3.2	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
4.1	4.0	4.0	3.9	3.7	3.6	3.5



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
50.3	51.6	52.9	54.3	55.6	57.0	58.4
41.9	43.0	44.2	45.4	46.6	47.8	49.1
3.9	4.0	4.1	4.2	4.3	4.5	4.6
1.2	1.3	1.3	1.3	1.4	1.4	1.4
3.1	3.2	3.2	3.3	3.2	3.2	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.2	3.2	3.3	3.3	3.4	3.4	3.5
3.2	3.2	3.3	3.3	3.4	3.4	3.5
3.2	3.2	3.3	3.3	3.4	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.3	51.6	52.9	54.3	55.6	57.0	58.4
3.2	3.2	3.3	3.3	3.4	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LV
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-6.2	-3.7
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	-1.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.6
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	24.4	25.1
Growth rate	4.3	2.8
<i>Potential GDP (real)</i>		
Level	24.8	25.3
<i>Output gap</i>		
Output gap	-1.6	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.1	16.2
Interest rates		
Nominal implicit interest rate on debt	1.3	1.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.0
Inflation and exchange rate		
GDP deflator (National currency)	6.5	13.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.38

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.8

Debt projections

	2021	2022
Gross debt	43.7	40.8
<i>Change in debt (-1+2+3)</i>		-2.9
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.9
(1.1) Structural primary balance (before ageing cost)		-3.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.6
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.0
(2.3) Inflation effect	-5.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.2
(3.1) Base	-1.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-4.4
Structural balance	-4.2
Net expenditure growth	8.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	43.7	40.8
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.03	0.03
Share of long-term debt in total government debt	0.97	0.97
IIR	1.3	1.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0.05)

Debt	43.7	40.8
IIR	1.3	1.2
IIR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	43.7	40.8
IIR	1.3	1.2
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.9	-1.8	-1.7	-1.7	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.4	16.3	16.3	16.4	16.4	16.3	16.3	16.3	16.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

25.5	26.2	26.7	27.1	27.5	27.9	28.3	28.7	29.1
1.4	2.8	2.1	1.5	1.4	1.4	1.5	1.4	1.4

25.7	26.3	26.8	27.2	27.6	27.9	28.3	28.7	29.1

-1.0	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	0.0

10.5	5.6	4.9	4.3	4.1	4.1	4.2	4.2	4.1

1.6	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
		3.7	3.7	3.7	3.7	3.7	3.6	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

8.9	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.1	0.0	0.0
1.4	2.8	2.1	1.5	1.4	1.4	1.4	1.4	1.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
39.7	40.5	41.3	42.4	43.5	44.6	45.6	46.6	47.7
-1.1	0.8	0.8	1.1	1.1	1.1	1.0	1.0	1.0
-3.2	-1.9	-1.8	-1.7	-1.7	-1.6	-1.6	-1.5	-1.5
-2.9	-1.8	-1.7	-1.7	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.3	-1.0	-0.7	-0.6	-0.6	-0.5	-0.5	-0.5
0.6	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4

-0.5	-1.1	-0.8	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
-3.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.8	-2.7	-2.7	-2.8	-2.8	-2.8	-2.8	-2.9	-2.9
-3.5	-2.6	-2.6	-2.7	-2.7	-2.7	-2.8	-2.8	-2.9
8.6	2.0	4.7	4.0	3.9	4.0	4.1	4.1	4.0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
39.7	40.5	41.3	42.4	43.5	44.6	45.6	46.6	47.7
	34.7	35.4	36.2	37.1	37.9	38.6	39.3	40.1
	2.0	2.2	2.4	2.6	2.8	3.1	3.3	3.6
	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2
	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.8
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

1.6	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
		2.4	2.6	2.7	2.8	2.9	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

39.7	40.5	41.3	42.4	43.5	44.6	45.6	46.6	47.7
1.6	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

39.7	40.5	41.3	42.4	43.5	44.6	45.6	46.6	47.7
1.6	2.2	2.4	2.6	2.7	2.8	2.9	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.2	16.2	16.2	16.1	16.1	16.0	15.9
0.7	0.7	0.7	0.7	0.7	0.7	0.7

29.6	30.0	30.4	30.8	31.2	31.5	31.9
1.5	1.4	1.4	1.3	1.2	1.1	1.1
29.6	30.0	30.4	30.8	31.2	31.5	31.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1	4.1	4.0	3.9	3.8	3.6	3.5
3.2	3.2	3.3	3.3	3.4	3.4	3.4
3.6	3.6	3.6	3.7	3.7	3.7	3.7
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.4	1.3	1.2	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
48.7	49.7	50.8	51.9	53.0	54.1	55.2
1.0	1.0	1.1	1.1	1.1	1.1	1.1
-1.5	-1.4	-1.4	-1.4	-1.3	-1.2	-1.2
-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	-0.2	-0.2	-0.3	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.4	-0.3	-0.3	-0.2	-0.1	0.0
1.4	1.5	1.6	1.6	1.7	1.7	1.8

-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.5
-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.9	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
-2.9	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
4.1	4.0	4.0	3.9	3.7	3.6	3.5



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
48.7	49.7	50.8	51.9	53.0	54.1	55.2
40.8	41.7	42.6	43.5	44.5	45.6	47.0
3.8	3.9	4.0	4.1	4.2	4.3	3.9
1.2	1.2	1.2	1.3	1.3	1.3	1.4
2.8	2.9	2.9	2.9	2.9	2.9	2.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.2	3.2	3.3	3.3	3.4	3.4	3.4
3.2	3.2	3.3	3.3	3.4	3.4	3.5
3.2	3.2	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



48.7	49.7	50.8	51.9	53.0	54.1	55.2
3.2	3.2	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0

48.6	49.6	50.5	51.5	52.6	53.6	54.6
3.2	3.2	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0

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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to all the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

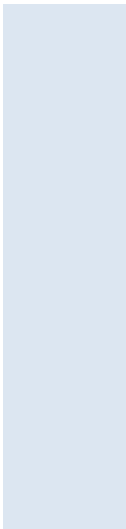
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour-coded sheets.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria results**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	LU
# years of adjustment	4
Annual adjustment (change in SPB)	0.10
SPB at the end of the adjustment	-0.1

Adjustment scenario

years of adjustment
 SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without adjustment after the end of the adjustment period. Note that the SPB at the end of the adjustment period is lower than the SPB at the beginning of the plan, indicating that the Member State is not fully adjusted.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -0.1	7 -0.1

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LU
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	24.5	24.6
Structural primary balance ('+' means 'surplus')	0.9	0.7
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	3.3	2.1
Stock-flow adjustment (total)	3.3	2.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
of which: Public pensions expenditure	10.0	10.0
Health care expenditure	3.7	3.7
Long-term care expenditure	1.1	1.0
Education & unemployment benefits expenditure	2.9	2.8
Taxes on pensions	1.5	1.5
Property income	1.2	1.2
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	5.1	1.5
Level	54.2	
<i>Potential GDP</i>		
Growth rate	1.9	2.2
Level	54.2	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	0.7	0.7
Inflation (SF 2023)		
GDP deflator (national currency)	6.2	6.4

Additional parameters

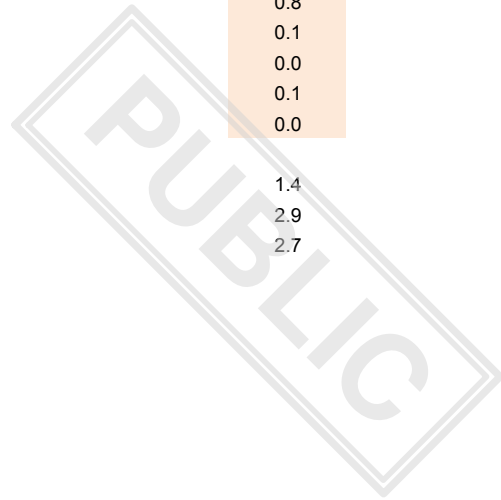
Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	3.3
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	43.1

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.0
0.1
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.4
2.9
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
25.9	27.0								
-0.8	-0.5								
0.0	0.0								
1.2	1.1								
1.2	1.1								
15.9	16.0	16.1	16.3	16.5	16.7	16.9	17.1	17.3	17.5
10.0	10.1	10.3	10.5	10.8	11.0	11.2	11.4	11.6	11.8
3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.9
1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.8
1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1.6	2.4	2.8	2.9	3.0	2.1	1.8	1.6	1.5	1.5
2.3	2.3	2.3	2.4	2.5	2.1	1.8	1.6	1.5	1.5
1.2	1.4								
5.5	3.4								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041

17.6	17.8	18.0	18.1	18.3	18.4	18.6	18.8	19.0
12.0	12.1	12.3	12.4	12.6	12.7	12.9	13.0	13.2
3.9	3.9	4.0	4.0	4.0	4.0	4.1	4.1	4.1
1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4
2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3
1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

1.7	1.9	2.1	2.2	2.2	2.2	2.1	2.1	2.0

1.7	1.9	2.1	2.2	2.2	2.2	2.1	2.1	2.0

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	LU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	0.9	0.7
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	3.3	2.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
Property income	1.2	1.2
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	54.2	55.0
Growth rate	5.1	1.5
<i>Potential GDP (real)</i>		
Level	54.2	55.4
<i>Output gap</i>		
Output gap	-0.1	-0.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.6	8.1
Interest rate		
Nominal implicit interest rate on debt	0.7	0.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (national currency)	6.2	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.46	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.5

Debt projections

	2021	2022
Gross debt	24.5	24.6
<i>Change in debt (-1+2+3)</i>		0.1
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.3
(1.1) Structural primary balance (before ageing cost)		0.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-1.7
(2.1) Interest expenditure		0.2

(2.2) Growth effect	-0.4
(2.3) Inflation effect	-1.5
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.1
(3.1) Base	2.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.2
Structural balance	0.5
Net expenditure growth	9.2

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	24.5	24.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	0.7	0.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	24.5	24.6
IIR	0.7	0.7
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.9	16.0	16.1	16.3	16.5	16.7	16.9	17.1	17.3
1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

55.9	57.2	58.8	60.5	62.3	63.6	64.7	65.8	66.8
1.6	2.4	2.8	2.9	3.0	2.1	1.8	1.6	1.5

56.7	58.0	59.4	60.8	62.3	63.6	64.7	65.8	66.8

-1.5	-1.4	-0.9	-0.5	0.0	0.0	0.0	0.0	0.0

7.1	5.9	6.2	6.3	6.2	5.2	4.8	4.5	4.3

1.2	1.4	1.7	1.9	2.1	2.3	2.4	2.5	2.6
		2.9	3.0	3.0	3.1	3.1	3.2	3.2
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.4	2.8	2.9	3.0	2.1	1.8	1.6	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.9	27.0	26.9	26.8	26.7	27.1	27.9	28.9	30.2
1.3	1.1	-0.1	-0.1	-0.1	0.4	0.8	1.0	1.3
-1.5	-1.1	-1.0	-1.0	-1.0	-1.2	-1.4	-1.6	-1.8
-0.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.3	0.5	0.7	0.9	1.1	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.4	-1.1	-1.1	-1.1	-1.0	-0.7	-0.6	-0.5	-0.5
0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7

2032	2033	2034	2035	2036	2037	2038
-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5	17.6	17.8	18.0	18.1	18.3	18.4
1.1	1.1	1.1	1.1	1.1	1.1	1.1

67.8	68.9	70.2	71.7	73.2	74.8	76.5
1.5	1.7	1.9	2.1	2.2	2.2	2.2
67.8	68.9	70.2	71.7	73.2	74.8	76.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1	4.3	4.5	4.7	4.7	4.8	4.7
2.7	2.8	2.9	3.0	3.0	3.1	3.1
3.3	3.3	3.3	3.4	3.4	3.4	3.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.7	1.9	2.1	2.2	2.2	2.2

2032	2033	2034	2035	2036	2037	2038
31.8	33.4	35.2	37.1	39.1	41.2	43.6
1.5	1.7	1.8	1.9	2.0	2.2	2.4
-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-3.0
-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.6	1.8	1.9	2.1	2.3	2.4
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6
0.8	0.9	0.9	1.0	1.1	1.1	1.2

-0.4	-0.5	-0.6	-0.7	-0.8	-0.8	-0.9
-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.7	-3.0	-3.2	-3.5	-3.7	-3.9	-4.2
-2.7	-3.0	-3.2	-3.5	-3.7	-3.9	-4.2
4.1	4.3	4.5	4.6	4.7	4.7	4.6



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
31.8	33.4	35.2	37.1	39.1	41.2	43.6
26.2	27.5	28.9	30.3	31.9	33.7	35.6
2.0	2.1	2.2	2.3	2.5	2.6	2.7
0.8	0.9	0.9	0.9	1.0	1.0	1.1
2.7	2.9	3.1	3.4	3.6	3.8	4.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
2.7	2.8	2.9	3.0	3.0	3.1	3.1
2.7	2.8	2.9	3.0	3.0	3.1	3.2
2.7	2.8	2.9	3.0	3.0	3.1	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



31.8	33.4	35.2	37.1	39.1	41.2	43.6
2.7	2.8	2.9	3.0	3.0	3.1	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	0.9	0.7
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	3.3	2.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
Property income	1.2	1.2
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	54.2	55.0
Growth rate	5.1	1.5
<i>Potential GDP (real)</i>		
Level	54.2	55.4
<i>Output gap</i>		
Output gap	-0.1	-0.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.6	8.1
Interest rates		
Nominal implicit interest rate on debt	0.7	0.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.2	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.46

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.5

Debt projections

	2021	2022
Gross debt	24.5	24.6
<i>Change in debt (-1+2+3)</i>		<i>0.1</i>
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.3
(1.1) Structural primary balance (before ageing cost)		0.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-1.7
(2.1) Interest expenditure		0.2

(2.2) Growth effect	-0.4
(2.3) Inflation effect	-1.5
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.1
(3.1) Base	2.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.2
Structural balance	0.5
Net expenditure growth	9.2

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	24.5	24.6
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.03	0.03
Share of long-term debt in total government debt	0.97	0.97
IIR	0.7	0.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0.1)

Debt	24.5	24.6
IIR	0.7	0.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	24.5	24.6
IIR	0.7	0.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.8	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.9	16.0	16.1	16.3	16.5	16.7	16.9	17.1	17.3
1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

55.9	57.2	58.8	60.3	62.0	63.3	64.5	65.7	66.8
1.6	2.4	2.7	2.7	2.7	2.2	1.9	1.8	1.7

56.7	58.0	59.4	60.8	62.3	63.6	64.7	65.8	66.8

-1.5	-1.4	-1.0	-0.7	-0.6	-0.5	-0.3	-0.2	0.0

7.1	5.9	6.1	6.0	5.9	5.3	4.9	4.6	4.4

1.2	1.4	1.7	1.9	2.1	2.2	2.3	2.4	2.5
		2.9	3.0	3.0	3.1	3.1	3.2	3.2
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.7	-0.5	-0.4	-0.3	-0.2	0.0
1.6	2.4	2.7	2.8	2.9	2.0	1.8	1.6	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.9	27.0	26.7	26.2	25.7	25.2	25.0	25.0	25.2
1.3	1.1	-0.3	-0.4	-0.5	-0.5	-0.2	0.0	0.2
-1.5	-1.1	-0.8	-0.6	-0.4	-0.3	-0.4	-0.5	-0.7
-0.8	-0.5	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.5	0.3	0.3	0.2	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.4	-1.1	-1.1	-1.0	-1.0	-0.7	-0.6	-0.5	-0.5
0.3	0.3	0.4	0.5	0.5	0.5	0.6	0.6	0.6

-0.4	-0.6	-0.7	-0.7	-0.7	-0.5	-0.5	-0.4	-0.4
-1.3	-0.9	-0.9	-0.8	-0.8	-0.8	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.7	-1.5	-1.3	-1.1	-0.9	-0.8	-1.0	-1.1	-1.3
-1.1	-0.8	-0.8	-0.7	-0.7	-0.6	-0.8	-1.1	-1.3
11.2	5.0	5.4	5.5	5.4	4.9	4.7	4.4	4.3

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.9	27.0	26.7	26.2	25.7	25.2	25.0	25.0	25.2
	20.9	21.9	21.8	21.6	21.5	21.3	21.3	21.5
	2.9	2.8	2.7	2.5	2.3	2.1	1.9	1.8
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	2.5	1.2	1.1	0.9	0.8	0.9	1.1	1.2
	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

1.2	1.4	1.7	1.9	2.1	2.2	2.3	2.4	2.5
	1.4	1.7	1.9	2.1	2.2	2.3	2.4	2.5
		1.7	1.9	2.1	2.2	2.3	2.4	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

25.9	27.0	26.7	26.2	25.7	25.2	25.0	25.0	25.2
1.2	1.4	1.7	1.9	2.1	2.2	2.3	2.4	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

25.9	27.0	26.7	26.3	25.9	25.6	25.3	25.1	24.8
1.2	1.4	1.7	1.9	2.1	2.2	2.3	2.4	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5	17.6	17.8	18.0	18.1	18.3	18.4
1.1	1.1	1.1	1.1	1.1	1.1	1.1

67.8	68.9	70.2	71.7	73.2	74.8	76.5
1.5	1.7	1.9	2.1	2.2	2.2	2.2
67.8	68.9	70.2	71.7	73.2	74.8	76.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.1	4.3	4.5	4.7	4.7	4.8	4.7
2.6	2.7	2.8	2.9	2.9	3.0	3.1
3.3	3.3	3.3	3.4	3.4	3.4	3.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.7	1.9	2.1	2.2	2.2	2.2

2032	2033	2034	2035	2036	2037	2038
25.7	26.3	27.1	27.9	29.0	30.2	31.5
0.5	0.6	0.8	0.9	1.0	1.2	1.4
-0.8	-1.0	-1.2	-1.4	-1.5	-1.7	-1.9
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.9	1.1	1.3	1.4	1.6	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5
0.6	0.7	0.7	0.7	0.8	0.8	0.9

-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.6
-0.6	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7
-1.5	-1.7	-1.9	-2.1	-2.3	-2.5	-2.7
4.1	4.3	4.5	4.6	4.7	4.7	4.6



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
25.7	26.3	27.1	27.9	29.0	30.2	31.5
21.9	22.2	22.7	23.3	24.1	25.0	25.8
1.7	1.7	1.7	1.8	1.9	1.9	2.2
0.7	0.7	0.7	0.7	0.8	0.8	0.8
1.4	1.6	1.8	2.0	2.2	2.4	2.7
0.0	0.0	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
2.6	2.7	2.8	2.9	2.9	3.0	3.1
2.6	2.7	2.8	2.9	2.9	3.0	3.1
2.6	2.7	2.8	2.9	2.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



25.7	26.3	27.1	27.9	29.0	30.2	31.5
2.6	2.7	2.8	2.9	2.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.8	24.9	25.1	25.4	26.0	26.6	27.5
2.6	2.7	2.8	2.8	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

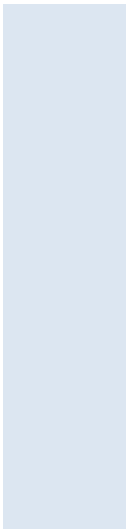
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour-coded sheets.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the adjustment scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	LT
# years of adjustment	4
Annual adjustment (change in SPB)	0.00
SPB at the end of the adjustment	0.3

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without adjustment after the end of the adjustment period. Note that the SPB at the end of the adjustment period is 0.3, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -0.9	7 -1.1

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LT
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	43.7	38.4
Structural primary balance ('+' means 'surplus')	-1.1	-0.1
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	1.5	1.1
Stock-flow adjustment (total)	1.5	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
of which: Public pensions expenditure	7.8	7.8
Health care expenditure	4.3	4.2
Long-term care expenditure	1.0	1.0
Education & unemployment benefits expenditure	2.9	2.9
Taxes on pensions	0.0	0.0
Property income	0.4	0.4
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.0	1.9
Level	41.6	
<i>Potential GDP</i>		
Growth rate	4.5	3.5
Level	41.2	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.1	1.0
Inflation (SF 2023)		
GDP deflator (national currency)	6.3	16.8

Additional parameters

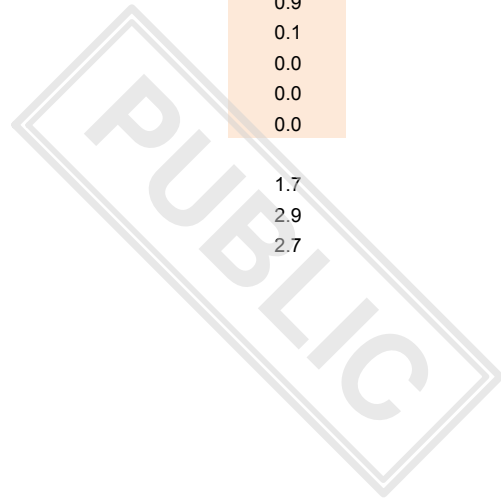
Fiscal multiplier	0.75
Budget balance elasticity	0.4
Long-term nominal interest rate (T+10 target)	2.9
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	36.5

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.9
0.1
0.0
0.0
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.7
2.9
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
37.1	36.6								
-0.2	0.3								
0.0	0.0								
0.8	0.2								
0.8	0.2								
15.8	15.7	15.8	15.9	16.1	16.2	16.4	16.5	16.6	16.7
7.6	7.5	7.5	7.6	7.7	7.8	7.8	7.9	8.0	8.1
4.2	4.3	4.3	4.3	4.3	4.3	4.4	4.4	4.4	4.4
1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2
2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	2.7	3.6	3.1	2.9	1.7	1.6	1.5	1.4	1.5
2.9	2.6	2.6	2.1	2.0	1.7	1.6	1.5	1.4	1.5
1.4	1.7								
10.4	3.1								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
16.8	16.9	17.0	17.0	17.1	17.1	17.2	17.2	17.2
8.1	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.4
4.4	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6
1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.4
3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
1.4	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0
1.4	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	LT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-0.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.5	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	41.6	42.4
Growth rate	6.0	1.9
<i>Potential GDP (real)</i>		
Level	41.2	42.6
<i>Output gap</i>		
Output gap	1.1	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.7	19.0
Interest rate		
Nominal implicit interest rate on debt	1.1	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	6.3	16.8
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.40

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.9

Debt projections

	2021	2022
Gross debt	43.7	38.4
<i>Change in debt (-1+2+3)</i>		-5.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		-0.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.6
(2.1) Interest expenditure		0.4

(2.2) Growth effect	-0.7
(2.3) Inflation effect	-6.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.1
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.6
Structural balance	-0.4
Net expenditure growth	17.4

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	43.7	38.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.1	1.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.8

Per memo - STATA results

Debt	43.7	38.4
IIR	1.1	1.0
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.8	15.7	15.8	15.9	16.1	16.2	16.4	16.5	16.6
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

42.6	43.8	45.3	46.7	48.1	48.9	49.7	50.4	51.2
0.5	2.7	3.6	3.1	2.9	1.7	1.6	1.5	1.4

43.8	45.0	46.2	47.1	48.1	48.9	49.7	50.4	51.2

-2.7	-2.6	-1.8	-0.9	0.0	0.0	0.0	0.0	0.0

11.0	5.9	6.7	6.1	5.9	4.6	4.4	4.3	4.2

1.4	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.4
		2.9	2.9	2.9	2.9	2.9	2.9	2.9
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.4	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	2.7	3.6	3.1	2.9	1.7	1.6	1.5	1.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
37.1	36.6	35.5	34.4	33.3	32.8	32.5	32.5	32.6
-1.3	-0.5	-1.1	-1.1	-1.1	-0.5	-0.3	-0.1	0.1
-1.3	-0.7	-0.5	-0.3	-0.1	-0.3	-0.4	-0.5	-0.7
-0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.4	0.6	0.7	0.8	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.4	-1.6	-1.4	-1.2	-0.8	-0.7	-0.6	-0.5
0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.8	16.9	17.0	17.0	17.1	17.1
0.4	0.4	0.4	0.4	0.4	0.4	0.4

51.9	52.6	53.3	54.0	54.6	55.2	55.7
1.5	1.4	1.3	1.2	1.1	1.0	1.0
51.9	52.6	53.3	54.0	54.6	55.2	55.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.0	3.9	3.8	3.7	3.5	3.5
2.5	2.6	2.6	2.7	2.8	2.8	2.9
2.9	3.0	3.0	3.1	3.1	3.2	3.2
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.3	1.2	1.1	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
32.8	33.2	33.7	34.3	35.1	35.9	36.9
0.2	0.4	0.5	0.6	0.8	0.9	0.9
-0.8	-0.9	-0.9	-1.0	-1.1	-1.1	-1.1
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.3	1.4	1.4	1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.5	-0.4	-0.4	-0.3	-0.2	-0.2
0.8	0.8	0.8	0.9	0.9	1.0	1.0

-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.5	-1.7	-1.8	-1.9	-2.0	-2.1	-2.1
-1.5	-1.7	-1.8	-1.9	-2.0	-2.1	-2.1
4.1	4.0	3.9	3.8	3.6	3.5	3.5



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
32.8	33.2	33.7	34.3	35.1	35.9	36.9
28.2	28.5	28.9	29.3	29.9	30.6	31.4
2.9	2.9	2.9	3.0	3.0	3.1	3.2
0.1	0.1	0.1	0.2	0.2	0.2	0.2
1.5	1.7	1.8	1.8	2.0	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.5	2.6	2.6	2.7	2.8	2.8	2.9
2.5	2.6	2.6	2.7	2.8	2.8	2.9
2.5	2.6	2.6	2.7	2.8	2.8	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



32.8	33.2	33.7	34.3	35.1	35.9	36.9
2.5	2.6	2.6	2.7	2.8	2.8	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	LT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-0.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.5	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	16.1	15.9
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	41.6	42.4
Growth rate	6.0	1.9
<i>Potential GDP (real)</i>		
Level	41.2	42.6
<i>Output gap</i>		
Output gap	1.1	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.7	19.0
Interest rates		
Nominal implicit interest rate on debt	1.1	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.3	16.8
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.40

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.9

Debt projections

	2021	2022
Gross debt	43.7	38.4
<i>Change in debt (-1+2+3)</i>		-5.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		-0.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.6
(2.1) Interest expenditure		0.4

(2.2) Growth effect	-0.7
(2.3) Inflation effect	-6.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.1
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.6
Structural balance	-0.4
Net expenditure growth	17.4

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	43.7	38.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.00	0.00
Share of long-term debt in total government debt	1.00	1.00
IIR	1.1	1.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.8

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0)

Debt	43.7	38.4
IIR	1.1	1.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	43.7	38.4
IIR	1.1	1.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.8	15.7	15.8	15.9	16.1	16.2	16.4	16.5	16.6
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

42.6	43.8	45.3	46.7	48.1	48.9	49.7	50.4	51.2
0.5	2.7	3.6	3.1	2.9	1.7	1.6	1.5	1.4

43.8	45.0	46.2	47.1	48.1	48.9	49.7	50.4	51.2

-2.7	-2.6	-1.8	-0.9	0.0	0.0	0.0	0.0	0.0

11.0	5.9	6.7	6.1	5.9	4.6	4.4	4.3	4.2

1.4	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.4
		2.9	2.9	2.9	2.9	2.9	2.9	2.9
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.4	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	2.7	3.6	3.1	2.9	1.7	1.6	1.5	1.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
37.1	36.6	35.3	34.0	32.5	31.4	30.6	30.0	29.5
-1.3	-0.5	-1.2	-1.3	-1.5	-1.1	-0.8	-0.6	-0.4
-1.3	-0.7	-0.4	0.0	0.3	0.3	0.2	0.0	-0.1
-0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.4	-1.6	-1.4	-1.2	-0.8	-0.7	-0.6	-0.5
0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7

-0.2	-1.0	-1.2	-1.0	-0.9	-0.5	-0.5	-0.4	-0.4
-3.6	-1.1	-1.1	-1.0	-1.0	-0.9	-0.9	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.7	-1.4	-1.0	-0.7	-0.4	-0.4	-0.5	-0.6	-0.8
-0.6	-0.3	-0.3	-0.4	-0.4	-0.4	-0.5	-0.6	-0.8
13.5	4.4	5.6	5.1	4.9	4.6	4.4	4.3	4.1



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
37.1	36.6	35.3	34.0	32.5	31.4	30.6	30.0	29.5
	31.6	30.9	30.0	29.0	28.0	27.2	26.5	26.0
	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.7
	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
	1.5	1.0	0.7	0.4	0.4	0.5	0.6	0.8
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

1.4	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.4
	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.4
		1.9	2.0	2.1	2.2	2.3	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



37.1	36.6	35.3	34.0	32.5	31.4	30.6	30.0	29.5
1.4	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

37.1	36.6	35.3	34.0	32.5	31.4	30.5	29.6	28.8
1.4	1.7	1.9	2.0	2.1	2.2	2.3	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.8	16.9	17.0	17.0	17.1	17.1
0.4	0.4	0.4	0.4	0.4	0.4	0.4

51.9	52.6	53.3	54.0	54.6	55.2	55.7
1.5	1.4	1.3	1.2	1.1	1.0	1.0
51.9	52.6	53.3	54.0	54.6	55.2	55.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.0	3.9	3.8	3.7	3.5	3.5
2.5	2.5	2.6	2.7	2.7	2.8	2.8
2.9	3.0	3.0	3.1	3.1	3.2	3.2
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.3	1.2	1.1	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
29.2	29.1	29.1	29.1	29.3	29.6	30.0
-0.3	-0.2	0.0	0.1	0.2	0.3	0.4
-0.2	-0.3	-0.3	-0.4	-0.5	-0.5	-0.6
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.7	0.7	0.8	0.8	0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2
0.7	0.7	0.7	0.7	0.8	0.8	0.8

-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3
-0.8	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.9	-1.0	-1.1	-1.1	-1.2	-1.3	-1.4
-0.9	-1.0	-1.1	-1.1	-1.2	-1.3	-1.4
4.1	4.0	3.9	3.8	3.6	3.5	3.5



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
29.2	29.1	29.1	29.1	29.3	29.6	30.0
25.6	25.4	25.3	25.3	25.4	25.6	26.3
2.6	2.6	2.6	2.6	2.6	2.6	2.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	1.0	1.1	1.1	1.2	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.5	2.5	2.6	2.7	2.7	2.8	2.8
2.5	2.5	2.6	2.6	2.7	2.8	2.8
2.5	2.5	2.6	2.7	2.7	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



29.2	29.1	29.1	29.1	29.3	29.6	30.0
2.5	2.5	2.6	2.7	2.7	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

28.1	27.6	27.2	26.9	26.8	26.7	26.7
2.5	2.5	2.6	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity to its maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	IT
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.90

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

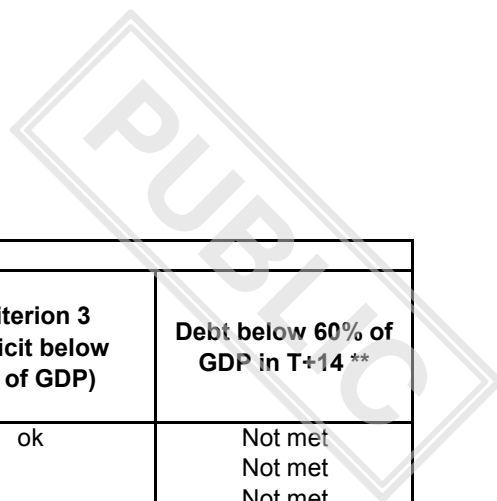
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit and debt, with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.90	0.90	0.90	0.90
1.7	1.7	1.6	1.5
0.90			
0.90			
1.6			
1.6			

the adjustment period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.90	0.50
70.9	71.2

adjustment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.90	0.90	0.90	0.90
0.50	0.50	0.50	0.50

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.50	0.50	0.50

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IT
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	149.9	144.4
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock-flow adjustments (without exchange rate effect)	-3.1	-3.9
Stock-flow adjustment (total)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
of which: Public pensions expenditure	16.4	16.3
Health care expenditure	6.4	6.3
Long-term care expenditure	1.8	1.7
Education & unemployment benefits expenditure	3.4	3.4
Taxes on pensions	3.1	3.1
Property income	0.9	0.9
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	7.0	3.7
Level	1583.8	
<i>Potential GDP</i>		
Growth rate	0.1	0.9
Level	1615.4	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.5	3.1
Inflation (SF 2023)		
GDP deflator (national currency)	0.6	3.0

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.6
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	46.8

Share of outstanding debt in total debt in 2024
 Share of rolled over long-term debt in 2024
 Share of rolled over short-term debt in 2024
 Share of new long-term debt in 2024
 Share of new short-term debt in 2024

0.7
 0.1
 0.1
 0.0
 0.0

Long-term nominal implicit interest rate in 2024
 Long-term nominal interest rate in 2025
 Short-term nominal interest rate in 2025

3.1
 4.3
 2.7

Stochastic projections: ranges around adjustment scenario

Difference between debt level in 50th and 10th percentile of the distribution
 Difference between debt level in 50th and 30th percentile of the distribution
 Difference between debt level in 70th and 50th percentile of the distribution
 Difference between debt level in 90th and 50th percentile of the distribution

T+1	T+2
-8.5	-12.1
-3.6	-5.0
4.1	5.3
10.4	14.5

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
140.4	140.3								
-1.4	-0.3								
0.3	0.1								
1.2	1.4								
1.2	1.4								
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7	26.0
16.2	16.1	16.2	16.4	16.6	16.8	17.0	17.3	17.5	17.7
6.3	6.3	6.3	6.4	6.4	6.5	6.5	6.5	6.6	6.6
1.7	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
3.4	3.3	3.3	3.2	3.2	3.2	3.2	3.1	3.1	3.1
3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.3	3.3	3.4
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.2	1.1	0.6	0.5	0.4	0.7	0.6	0.5	0.4	0.4
0.8	0.9	1.0	0.9	0.9	0.7	0.6	0.5	0.4	0.4
2.9	3.1								
5.9	2.7								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EL, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-14.4	-16.2	-17.6
-5.9	-6.4	-7.6
6.8	8.7	9.9
17.3	20.7	24.0

2033	2034	2035	2036	2037	2038	2039	2040	2041

26.1	26.2	26.3	26.4	26.4	26.5	26.5	26.6	26.6
17.8	17.9	17.9	18.0	17.9	17.9	17.8	17.8	17.8
6.7	6.7	6.7	6.8	6.8	6.9	6.9	6.9	7.0
2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2
3.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

0.5	0.7	0.9	1.0	1.1	1.1	1.2	1.1	1.1

0.5	0.7	0.9	1.0	1.1	1.1	1.2	1.1	1.1

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	IT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock flow adjustments (without exchange rate effect)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
Property income	0.9	0.9
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1583.8	1642.0
Growth rate	7.0	3.7
<i>Potential GDP (real)</i>		
Level	1615.4	1630.5
<i>Output gap</i>		
Output gap	-2.0	0.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.6	6.8
Interest rate		
Nominal implicit interest rate on debt	2.5	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	0.6	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.54	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.7

Debt projections

	2021	2022
Gross debt	149.9	144.4
<i>Change in debt (-1+2+3)</i>		-5.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.6
(1.1) Structural primary balance (before ageing cost)		-4.3
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.2
(2.1) Interest expenditure		4.4

(2.2) Growth effect	-5.2
(2.3) Inflation effect	-4.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-3.9
(3.1) Base	-3.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-8.0
Structural balance	-8.6
Net expenditure growth	2.8

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	149.9	144.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.5	3.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	1.0

Per memo - STATA results

Debt	149.9	144.4
IIR	2.5	3.1
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1661.8	1679.9	1689.4	1697.6	1704.5	1717.3	1728.3	1737.6	1745.1
1.2	1.1	0.6	0.5	0.4	0.7	0.6	0.5	0.4

1643.7	1658.0	1674.7	1690.1	1704.5	1717.3	1728.3	1737.6	1745.1

1.1	1.3	0.9	0.4	0.0	0.0	0.0	0.0	0.0

7.2	3.8	3.2	3.1	3.1	3.4	3.3	3.2	3.1

2.9	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.8
		4.3	4.4	4.4	4.5	4.5	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.9	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.1	0.6	0.5	0.4	0.7	0.6	0.5	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.2	140.8	142.1	143.4	145.1	147.4	150.1
-4.0	-0.1	-0.1	0.6	1.3	1.2	1.7	2.3	2.8
-0.5	0.5	0.0	-0.4	-0.8	-1.0	-1.2	-1.5	-1.7
-1.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0
-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.3	0.4	0.7	0.9	1.1	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.7	-1.0	0.0	0.2	0.5	0.2	0.5	0.8	1.1
4.0	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5

2032	2033	2034	2035	2036	2037	2038
-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	26.1	26.2	26.3	26.4	26.4	26.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9

1751.5	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
0.4	0.5	0.7	0.9	1.0	1.1	1.1
1751.5	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	3.2	3.3	3.5	3.5	3.6	3.6
3.9	4.0	4.0	4.1	4.1	4.1	4.1
4.6	4.6	4.6	4.5	4.5	4.5	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.0	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
153.4	156.6	159.9	163.1	166.3	169.4	172.7
3.2	3.3	3.3	3.2	3.2	3.1	3.3
-1.9	-2.0	-2.2	-2.2	-2.3	-2.4	-2.4
-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.7	1.8	1.9	2.0	2.0	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.3	1.2	1.1	0.9	0.9	0.8	0.8
5.7	5.9	6.1	6.3	6.4	6.6	6.7

-0.5	-0.8	-1.1	-1.4	-1.6	-1.8	-1.8
-3.9	-3.9	-3.9	-4.0	-4.0	-4.0	-4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-7.6	-8.0	-8.3	-8.5	-8.8	-9.0	-9.2
-7.6	-8.0	-8.3	-8.5	-8.8	-9.0	-9.2
3.0	3.2	3.3	3.4	3.5	3.6	3.6



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
153.3	156.6	159.9	163.1	166.3	169.4	172.7
112.5	114.8	117.1	119.3	121.6	123.9	126.3
12.5	12.7	13.0	13.2	13.5	13.7	14.0
20.7	21.1	21.6	22.0	22.4	22.8	23.2
6.5	6.8	7.1	7.3	7.5	7.7	7.9
1.1	1.1	1.2	1.2	1.2	1.3	1.3
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86
3.9	4.0	4.0	4.1	4.1	4.1	4.1
4.1	4.2	4.2	4.3	4.3	4.3	4.3
3.9	4.0	4.0	4.1	4.1	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



153.4	156.6	159.9	163.1	166.3	169.4	172.7
3.9	4.0	4.0	4.1	4.1	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock flow adjustments (without exchange rate effect)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
Property income	0.9	0.9
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1583.8	1642.0
Growth rate	7.0	3.7
<i>Potential GDP (real)</i>		
Level	1615.4	1630.5
<i>Output gap</i>		
Output gap	-2.0	0.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.6	6.8
Interest rates		
Nominal implicit interest rate on debt	2.5	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	0.6	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.54

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.7

Debt projections

	2021	2022
Gross debt	149.9	144.4
<i>Change in debt (-1+2+3)</i>		-5.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.6
(1.1) Structural primary balance (before ageing cost)		-4.3
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.2
(2.1) Interest expenditure		4.4

(2.2) Growth effect	-5.2
(2.3) Inflation effect	-4.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-3.9
(3.1) Base	-3.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-8.0
Structural balance	-8.6
Net expenditure growth	2.8
Average net primary expenditure growth	1.6
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	149.9	144.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.14	0.14
Share of long-term debt in total government debt	0.86	0.86
IIR	2.5	3.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.9)

Debt	149.9	144.4
IIR	2.5	3.1
IIR difference STATA - Excel		

Extension (annual adjustment of 0.5)

Debt	149.9	144.4
IIR	2.5	3.1
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1661.8	1679.9	1678.1	1681.1	1687.1	1694.2	1712.8	1729.8	1745.1
1.2	1.1	-0.1	0.2	0.4	0.4	1.1	1.0	0.9
1643.7	1658.0	1674.7	1690.1	1704.5	1717.3	1728.3	1737.6	1745.1
1.1	1.3	0.2	-0.5	-1.0	-1.3	-0.9	-0.4	0.0
7.2	3.8	2.5	2.8	3.0	3.1	3.8	3.7	3.5
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		4.3	4.4	4.4	4.5	4.5	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.9	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.1	-0.4	-0.7	-0.9	-0.4	0.0
1.2	1.1	-0.1	-0.2	-0.3	0.1	0.6	0.5	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	134.0	131.5	129.2
-4.0	-0.1	0.2	-0.5	-1.3	-1.9	-2.8	-2.5	-2.3
-0.5	0.5	0.7	1.2	1.8	2.5	2.6	2.6	2.6
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.1	0.3	0.6	0.7	0.5	0.2	0.0
-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.7	-1.0	0.9	0.7	0.6	0.6	-0.2	0.1	0.3
4.0	4.1	4.4	4.5	4.7	4.8	4.8	4.8	4.8

-1.6	-1.5	0.1	-0.2	-0.5	-0.6	-1.4	-1.3	-1.1
-8.0	-3.6	-3.6	-3.6	-3.6	-3.6	-3.5	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.5	-3.7	-3.7	-3.4	-2.8	-2.2	-2.2	-2.2	-2.2
-5.3	-4.5	-3.8	-3.1	-2.3	-1.5	-1.7	-2.0	-2.2
0.5	1.3	1.7	1.7	1.6	1.5	3.3	3.2	3.1

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	134.0	131.5	129.2
	104.6	105.8	105.6	105.0	104.0	101.9	99.9	98.1
	11.4	11.5	11.5	11.5	11.4	11.2	11.0	10.9
	19.3	19.5	19.5	19.4	19.2	18.8	18.4	18.1
	4.3	3.2	2.9	2.4	1.9	1.9	1.9	1.9
	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.3
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86

2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
	3.1	3.3	3.4	3.5	3.6	3.7	3.8	3.9
		3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



140.4	140.3	140.5	140.0	138.7	136.8	134.0	131.5	129.2
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

140.4	140.3	140.3	140.1	139.5	138.7	137.6	136.3	134.7
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	26.1	26.2	26.3	26.4	26.4	26.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9

1751.5	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
0.4	0.5	0.7	0.9	1.0	1.1	1.1
1751.5	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	3.2	3.3	3.5	3.5	3.6	3.6
3.9	3.9	4.0	4.0	4.0	4.0	4.1
4.6	4.6	4.6	4.5	4.5	4.5	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.0	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
127.9	126.5	125.2	123.8	122.4	121.0	119.6
-1.3	-1.3	-1.3	-1.4	-1.4	-1.5	-1.3
2.4	2.3	2.1	2.1	2.0	1.9	1.9
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	0.9	0.8	0.7	0.6	0.5	0.5
4.8	4.9	4.9	4.8	4.8	4.8	4.7

-0.5	-0.7	-0.9	-1.1	-1.2	-1.3	-1.3
-3.3	-3.3	-3.2	-3.1	-3.0	-3.0	-2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.4	-2.6	-2.7	-2.8	-2.9	-2.8	-2.9
-2.4	-2.6	-2.7	-2.8	-2.9	-2.8	-2.9
3.0	3.2	3.3	3.4	3.5	3.6	3.6

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
127.9	126.5	125.2	123.8	122.4	121.0	119.6
96.8	95.7	94.6	93.4	92.3	91.2	92.4
10.7	10.6	10.5	10.4	10.2	10.1	7.7
17.9	17.6	17.4	17.2	17.0	16.8	16.6
2.1	2.2	2.4	2.4	2.4	2.4	2.5
0.3	0.4	0.4	0.4	0.4	0.4	0.4
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86
3.9	3.9	4.0	4.0	4.0	4.0	4.1
4.0	4.1	4.1	4.2	4.2	4.3	4.3
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

127.9	126.5	125.2	123.8	122.4	121.0	119.6
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

132.7	130.6	128.4	126.5	124.5	122.5	120.6
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	IT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock flow adjustments (without exchange rate effect)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
Property income	0.9	0.9
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1583.8	1642.0
Growth rate	7.0	3.7
<i>Potential GDP (real)</i>		
Level	1615.4	1630.5
<i>Output gap</i>		
Output gap	-2.0	0.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.6	6.8
Interest rates		
Nominal implicit interest rate on debt	2.5	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	0.6	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.54

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.7

Debt projections

	2021	2022
Gross debt	149.9	144.4
<i>Change in debt (-1+2+3)</i>		-5.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.6
(1.1) Structural primary balance (before ageing cost)		-4.3
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.2
(2.1) Interest expenditure		4.4

(2.2) Growth effect	-5.2
(2.3) Inflation effect	-4.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-3.9
(3.1) Base	-3.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	149.9	144.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.14	0.14
Share of long-term debt in total government debt	0.86	0.86
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.9)

Debt	149.9	144.4
IIR	2.5	3.1
IRR difference STATA - Excel		

Extension (annual adjustment of 0.5)

Debt	149.9	144.4
IIR	2.5	3.1
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1661.8	1679.9	1678.1	1681.1	1687.1	1694.2	1712.8	1729.8	1745.1
1.2	1.1	-0.1	0.2	0.4	0.4	1.1	1.0	0.9

1643.7	1658.0	1674.7	1690.1	1704.5	1717.3	1728.3	1737.6	1745.1

1.1	1.3	0.2	-0.5	-1.0	-1.3	-0.9	-0.4	0.0

7.2	3.8	2.5	2.8	3.0	3.1	3.8	3.7	3.5

2.9	3.1	3.2	3.3	3.4	3.5	4.5	4.0	4.1
		4.3	4.4	4.4	4.5	8.3	4.5	4.6
		2.7	2.8	2.8	2.9	6.7	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.9	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.1	-0.4	-0.7	-0.9	-0.4	0.0
1.2	1.1	-0.1	-0.2	-0.3	0.1	0.6	0.5	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	135.2	133.2	131.2
-4.0	-0.1	0.2	-0.5	-1.3	-1.9	-1.6	-2.1	-1.9
-0.5	0.5	0.7	1.2	1.8	2.5	2.6	2.6	2.6
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.1	0.3	0.6	0.7	0.5	0.2	0.0
-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.7	-1.0	0.9	0.7	0.6	0.6	1.0	0.5	0.7
4.0	4.1	4.4	4.5	4.7	4.8	6.0	5.3	5.3

-1.6	-1.5	0.1	-0.2	-0.5	-0.6	-1.4	-1.3	-1.1
-8.0	-3.6	-3.6	-3.6	-3.6	-3.6	-3.5	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	135.2	133.2	131.2
	104.6	105.8	105.6	105.0	104.0	101.9	100.8	99.3
	11.4	11.5	11.5	11.5	11.4	11.2	11.1	11.0
	19.3	19.5	19.5	19.4	19.2	18.8	18.6	18.3
	4.3	3.2	2.9	2.4	1.9	2.9	2.3	2.3
	0.7	0.5	0.5	0.4	0.3	0.5	0.4	0.4
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86

	3.1	3.2	3.3	3.4	3.5	4.5	4.0	4.1
	3.1	3.3	3.4	3.5	3.6	4.2	4.2	4.3
		3.2	3.3	3.4	3.5	4.5	4.0	4.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

140.4	140.3	140.5	140.0	138.7	136.8	135.2	133.2	131.2
2.9	3.1	3.2	3.3	3.4	3.5	4.5	4.0	4.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

140.4	140.3	140.3	140.1	139.5	138.7	137.6	136.3	134.7
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	26.1	26.2	26.3	26.4	26.4	26.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9

1751.5 1761.0 1773.7 1789.4 1807.5 1827.9 1848.6
0.4 0.5 0.7 0.9 1.0 1.1 1.1

1751.5 1761.0 1773.7 1789.4 1807.5 1827.9 1848.6

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.0 3.2 3.3 3.5 3.5 3.6 3.6

4.1	4.1	4.2	4.2	4.2	4.2	4.2
4.6	4.6	4.6	4.5	4.5	4.5	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.4 0.5 0.7 0.9 1.0 1.1 1.1

2032	2033	2034	2035	2036	2037	2038
130.2	129.2	128.2	127.0	125.8	124.6	123.4
-1.0	-1.0	-1.0	-1.2	-1.2	-1.3	-1.2
2.4	2.3	2.1	2.1	2.0	1.9	1.9
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	1.2	1.1	0.9	0.8	0.7	0.7
5.3	5.2	5.2	5.2	5.1	5.1	5.0

-0.5	-0.7	-0.9	-1.1	-1.2	-1.4	-1.4
-3.4	-3.3	-3.2	-3.2	-3.1	-3.0	-3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
130.2	129.2	128.2	127.0	125.8	124.6	123.4
98.3	97.5	96.6	95.6	94.7	93.7	92.8
10.9	10.8	10.7	10.6	10.5	10.4	10.3
18.1	18.0	17.8	17.6	17.5	17.3	17.1
2.4	2.6	2.7	2.7	2.7	2.7	2.7
0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86
4.1	4.1	4.2	4.2	4.2	4.2	4.2
4.3	4.3	4.4	4.4	4.4	4.4	4.4
4.1	4.1	4.2	4.2	4.2	4.2	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



130.2	129.2	128.2	127.0	125.8	124.6	123.4
4.1	4.1	4.2	4.2	4.2	4.2	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
133.9	132.2	130.3	128.7	127.1	125.4	123.7
4.8	4.3	4.3	4.3	4.3	4.2	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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PUBLIC

Country	IT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock flow adjustments (without exchange rate effect)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
Property income	0.9	0.9
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1583.8	1642.0
Growth rate	7.0	3.7
<i>Potential GDP (real)</i>		
Level	1615.4	1630.5
<i>Output gap</i>		
Output gap	-2.0	0.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.6	6.8
Interest rates		
Nominal implicit interest rate on debt	2.5	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	0.6	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.54	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.7

Debt projections

	2021	2022
Gross debt	149.9	144.4
<i>Change in debt (-1+2+3)</i>		-5.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.6
(1.1) Structural primary balance (before ageing cost)		-4.3
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.2
(2.1) Interest expenditure		4.4

(2.2) Growth effect	-5.2
(2.3) Inflation effect	-4.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-3.9
(3.1) Base	-3.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	149.9	144.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.9)

Debt	149.9	144.4
IIR	2.5	3.1
IRR difference STATA - Excel		

Extension (annual adjustment of 0.5)

Debt	149.9	144.4
IIR	2.5	3.1
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-0.3	0.6	1.5	2.4	3.3	3.0	2.8	2.8
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1661.8	1679.9	1678.1	1681.1	1687.1	1694.2	1716.0	1732.6	1741.7
1.2	1.1	-0.1	0.2	0.4	0.4	1.3	1.0	0.5
1643.7	1658.0	1674.7	1690.1	1704.5	1717.3	1728.3	1737.6	1745.1
1.1	1.3	0.2	-0.5	-1.0	-1.3	-0.7	-0.3	-0.2
7.2	3.8	2.5	2.8	3.0	3.1	4.0	3.6	3.2
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		4.3	4.4	4.4	4.5	4.5	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.9	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	0.1	-0.4	-0.7	-0.9	-0.5	-0.2
1.2	1.1	-0.1	-0.2	-0.3	0.1	0.8	0.7	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	133.9	131.9	130.6
-4.0	-0.1	0.2	-0.5	-1.3	-1.9	-2.9	-2.1	-1.2
-0.5	0.5	0.7	1.2	1.8	2.5	2.4	2.2	2.0
-1.4	-0.3	0.6	1.5	2.4	3.3	3.0	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.1	0.3	0.6	0.7	0.4	0.2	0.1
-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.7	-1.0	0.9	0.7	0.6	0.6	-0.5	0.1	0.8
4.0	4.1	4.4	4.5	4.7	4.8	4.8	4.8	4.8

-1.6	-1.5	0.1	-0.2	-0.5	-0.6	-1.7	-1.2	-0.7
-8.0	-3.6	-3.6	-3.6	-3.6	-3.6	-3.5	-3.4	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	133.9	131.9	130.6
	104.6	105.8	105.6	105.0	104.0	101.7	99.8	98.7
	11.4	11.5	11.5	11.5	11.4	11.2	11.0	10.9
	19.3	19.5	19.5	19.4	19.2	18.7	18.4	18.2
	4.3	3.2	2.9	2.4	1.9	2.0	2.3	2.4
	0.7	0.5	0.5	0.4	0.3	0.3	0.4	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
	3.1	3.3	3.4	3.5	3.6	3.7	3.8	3.9
		3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

140.4	140.3	140.5	140.0	138.7	136.8	133.9	131.9	130.6
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

140.4	140.3	140.3	140.1	139.5	138.7	137.6	136.3	134.7
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.8	2.8	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	26.1	26.2	26.3	26.4	26.4	26.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9

1749.8	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
0.5	0.6	0.7	0.9	1.0	1.1	1.1
1751.5	1761.0	1773.7	1789.4	1807.5	1827.9	1848.6
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.3	3.3	3.5	3.5	3.6	3.6
3.9	3.9	4.0	4.0	4.0	4.0	4.1
4.6	4.6	4.6	4.5	4.5	4.5	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.0	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
129.7	128.8	128.0	127.1	126.3	125.3	124.5
-0.9	-0.9	-0.8	-0.9	-0.9	-0.9	-0.8
1.9	1.8	1.6	1.6	1.5	1.4	1.4
2.8	2.8	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	0.8	0.8	0.7	0.6	0.5	0.6
4.9	4.9	4.9	5.0	4.9	4.9	4.9

-0.6	-0.8	-0.9	-1.1	-1.2	-1.4	-1.4
-3.4	-3.3	-3.2	-3.2	-3.1	-3.1	-3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
129.7	128.8	128.0	127.1	126.3	125.3	124.5
97.8	97.0	96.3	95.5	94.8	94.1	93.4
10.8	10.8	10.7	10.6	10.5	10.4	10.4
18.0	17.9	17.7	17.6	17.5	17.3	17.2
2.6	2.7	2.9	2.9	3.0	3.0	3.0
0.4	0.4	0.5	0.5	0.5	0.5	0.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.9	3.9	4.0	4.0	4.0	4.0	4.1
4.0	4.1	4.1	4.2	4.2	4.3	4.3
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



129.7	128.8	128.0	127.1	126.3	125.3	124.5
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.6	130.9	129.6	128.1	126.7	125.2	123.8
3.9	3.9	4.0	4.0	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.8	-4.3
One-off and other temporary measures	0.4	0.3
Stock flow adjustments (without exchange rate effect)	-3.1	-3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.9	24.7
Property income	0.9	0.9
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1583.8	1642.0
Growth rate (including feedback and output-gap closure effect)	7.0	3.7
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	1615.4	1630.5
<i>Output gap</i>		
Output gap	-2.0	0.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.6	6.8
Interest rates and inflation		
Nominal implicit interest rate on debt	2.5	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	0.6	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.54	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.7

Debt projections

	2021	2022
Gross debt	149.9	144.4
<i>Change in debt (-1+2+3)</i>		-5.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.6
(1.1) Structural primary balance (before ageing cost)		-4.3
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-5.2

(2.1) Interest expenditure	4.4
(2.2) Growth effect	-5.2
(2.3) Inflation effect	-4.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-3.9
(3.1) Base	-3.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	149.9	144.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	2.5	3.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.9)

Debt	149.9	144.4
IIR	2.5	3.1
IIR difference STATA - Excel		

Extension (annual adjustment of 0.5)

Debt	149.9	144.4
IIR	2.5	3.1
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.4	24.5	24.7	24.9	25.1	25.3	25.6	25.7
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1661.8	1679.9	1678.1	1681.1	1687.1	1694.2	1704.3	1712.7	1719.2
1.2	1.1	-0.1	0.2	0.4	0.4	0.6	0.5	0.4
						0.1	0.0	-0.1

1643.7	1658.0	1674.7	1690.1	1704.5	1717.3	1719.7	1720.4	1719.2

1.1	1.3	0.2	-0.5	-1.0	-1.3	-0.9	-0.4	0.0

7.2	3.8	2.5	2.8	3.0	3.1	3.3	3.1	3.0

2.9	3.1	3.2	3.3	3.4	3.5	3.7	3.9	4.0
		4.3	4.4	4.4	4.5	5.0	5.0	5.1
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.9	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.1	-0.4	-0.7	-0.9	-0.4	0.0
1.2	1.1	-0.1	-0.2	-0.3	0.1	0.1	0.0	-0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	134.9	133.3	131.9
-4.0	-0.1	0.2	-0.5	-1.3	-1.9	-1.9	-1.6	-1.4
-0.5	0.5	0.7	1.2	1.8	2.5	2.6	2.6	2.6
-1.4	-0.3	0.6	1.5	2.4	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.1	0.3	0.6	0.7	0.5	0.2	0.0
-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.7	-1.0	0.9	0.7	0.6	0.6	0.6	0.9	1.2

4.0	4.1	4.4	4.5	4.7	4.8	5.0	5.1	5.2
-1.6	-1.5	0.1	-0.2	-0.5	-0.6	-0.8	-0.6	-0.5
-8.0	-3.6	-3.6	-3.6	-3.6	-3.6	-3.5	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
140.4	140.3	140.5	140.0	138.7	136.8	134.9	133.3	131.9
	104.6	105.8	105.6	105.0	104.0	102.4	101.0	99.9
	11.4	11.5	11.5	11.5	11.4	11.3	11.1	11.0
	19.3	19.5	19.5	19.4	19.2	18.9	18.6	18.4
	4.3	3.2	2.9	2.4	1.9	2.0	2.1	2.2
	0.7	0.5	0.5	0.4	0.3	0.3	0.4	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.9	3.1	3.2	3.3	3.4	3.5	3.7	3.9	4.0
	3.1	3.3	3.4	3.5	3.6	3.8	3.9	4.1
		3.2	3.3	3.4	3.5	3.7	3.9	4.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



140.4	140.3	140.5	140.0	138.7	136.8	134.9	133.3	131.9
2.9	3.1	3.2	3.3	3.4	3.5	3.7	3.9	4.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.4	140.3	140.3	140.1	139.5	138.7	137.6	136.3	134.7
2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.0	26.1	26.2	26.3	26.4	26.4	26.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9

1716.9	1717.7	1721.4	1728.1	1736.9	1747.8	1758.9
-0.1	0.0	0.2	0.4	0.5	0.6	0.6
-0.1	0.0	0.2	0.4	0.5	0.6	0.6

1716.9	1717.7	1721.4	1728.1	1736.9	1747.8	1758.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	2.7	2.8	2.9	3.0	3.1	3.1
4.1	4.2	4.3	4.3	4.4	4.4	4.4
5.1	5.1	5.1	5.0	5.0	5.0	4.9
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.2	0.4	0.5	0.6	0.6

2032	2033	2034	2035	2036	2037	2038
131.5	131.2	131.0	130.7	130.4	130.1	130.0
-0.3	-0.3	-0.2	-0.3	-0.3	-0.3	-0.2
2.4	2.3	2.1	2.1	2.0	1.9	1.9
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.1	2.0	1.9	1.8	1.7	1.6	1.7

5.3	5.4	5.4	5.5	5.5	5.6	5.6
0.2	-0.1	-0.3	-0.5	-0.6	-0.8	-0.8
-3.4	-3.3	-3.3	-3.2	-3.2	-3.2	-3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
131.5	131.2	131.0	130.7	130.4	130.1	130.0
99.3	98.9	98.6	98.2	97.9	97.7	97.5
11.0	11.0	10.9	10.9	10.9	10.8	10.8
18.3	18.2	18.2	18.1	18.1	18.0	18.0
2.5	2.7	2.9	3.0	3.1	3.1	3.2
0.4	0.4	0.5	0.5	0.5	0.5	0.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
4.1	4.2	4.3	4.3	4.4	4.4	4.4
4.2	4.3	4.4	4.5	4.5	4.6	4.6
4.1	4.2	4.3	4.3	4.4	4.4	4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



131.5	131.2	131.0	130.7	130.4	130.1	130.0
4.1	4.2	4.3	4.3	4.4	4.4	4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
133.6	132.4	131.0	130.1	129.2	128.2	127.4
4.0	4.1	4.2	4.2	4.3	4.3	4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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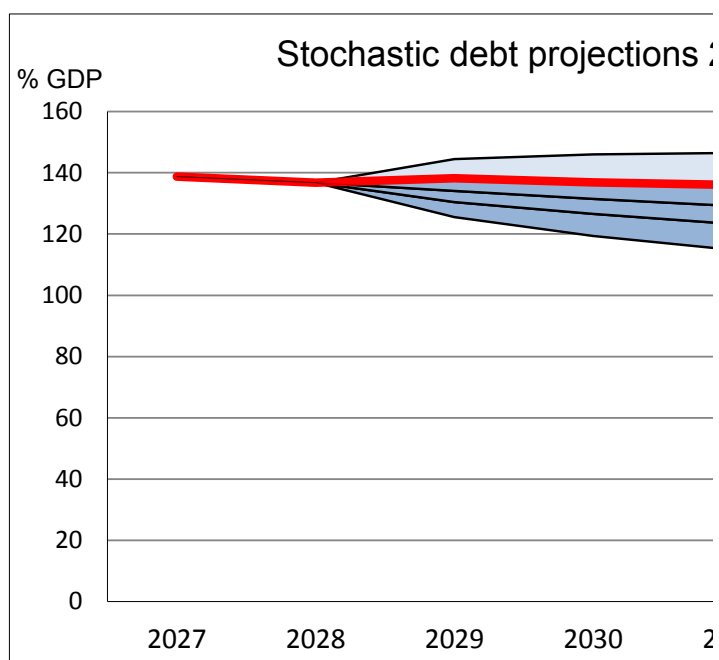
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

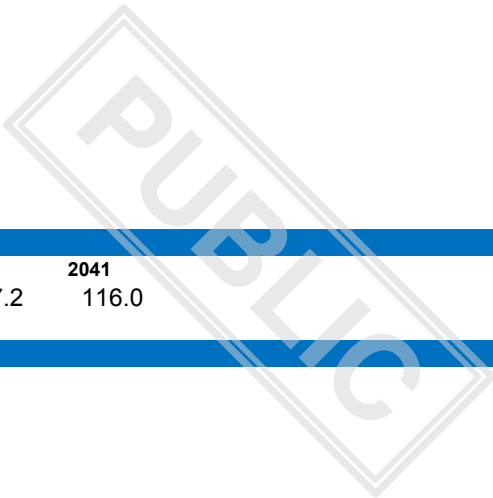
Country	IT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	149.9	144.4	140.4	140.3
Distribution of debt paths				
p10	149.9	144.4	140.4	140.3
p30	149.9	144.4	140.4	140.3
p50 - Adjustment scenario	149.9	144.4	140.4	140.3
p70	149.9	144.4	140.4	140.3
p90	149.9	144.4	140.4	140.3
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	138.7	136.8	125.6	119.4
p30_p10	0.0	0.0	4.9	7.2
p50_p30	0.0	0.0	3.6	5.0
p70_p50	0.0	0.0	4.1	5.3
p90_p70	0.0	0.0	6.2	9.2
p10	138.7	136.8	125.6	119.4
p30	138.7	136.8	130.5	126.6
p50	138.7	136.8	134.0	131.5
p70	138.7	136.8	138.2	136.9
p90	138.7	136.8	144.4	146.0

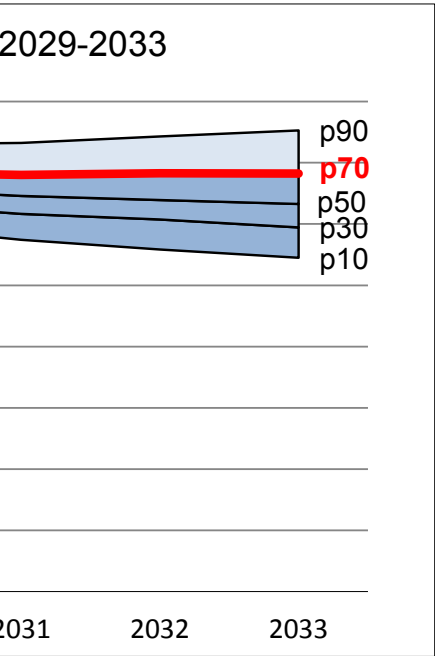
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
140.5	140.0	138.7	136.8	134.0	131.5	129.2	127.9	126.5	125.2
140.5	140.0	138.7	136.8	125.6	119.4	114.8	111.7	109.0	
140.5	140.0	138.7	136.8	130.5	126.6	123.3	121.5	118.9	
140.5	140.0	138.7	136.8	134.0	131.5	129.2	127.9	126.5	
140.5	140.0	138.7	136.8	138.2	136.9	136.0	136.6	136.4	
140.5	140.0	138.7	136.8	144.4	146.0	146.5	148.6	150.6	

2031	2032	2033
114.8	111.7	109.0
8.4	9.8	9.9
5.9	6.4	7.6
6.8	8.7	9.9
10.4	12.0	14.1
114.8	111.7	109.0
123.3	121.5	118.9
129.2	127.9	126.5
136.0	136.6	136.4
146.5	148.6	150.6





2035	2036	2037	2038	2039	2040	2041
123.8	122.4	121.0	119.6	118.3	117.2	116.0





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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to all the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

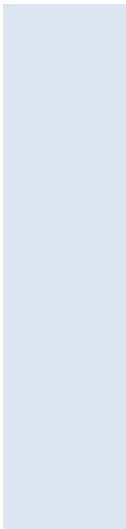
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour-coded sheets.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the adjustment scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option tab, "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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PUBLIC

Adjustment input data	
Country	IE
# years of adjustment	4
Annual adjustment (change in SPB)	0.00
SPB at the end of the adjustment	1.6

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without adjustment after the end of the adjustment period. Note that the SPB at the end of the adjustment period is 1.6, indicating that the Member State is not in a position to maintain the structural primary balance below the 3% of GDP reference value without adjustment after the end of the adjustment period.



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EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -0.4	7 -0.1

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	55.4	44.7
Structural primary balance ('+' means 'surplus')	-1.0	-0.2
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	2.7	-0.7
Stock-flow adjustment (total)	2.7	-0.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	14.0	13.9
of which: Public pensions expenditure	5.1	5.1
Health care expenditure	4.2	4.1
Long-term care expenditure	1.4	1.4
Education & unemployment benefits expenditure	3.3	3.3
Taxes on pensions	0.0	0.0
Property income	0.1	0.1
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	13.6	12.0
Level	353.9	
<i>Potential GDP</i>		
Growth rate	6.4	7.3
Level	353.0	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.5	1.4
Inflation (SF 2023)		
GDP deflator (national currency)	0.7	5.3

Additional parameters

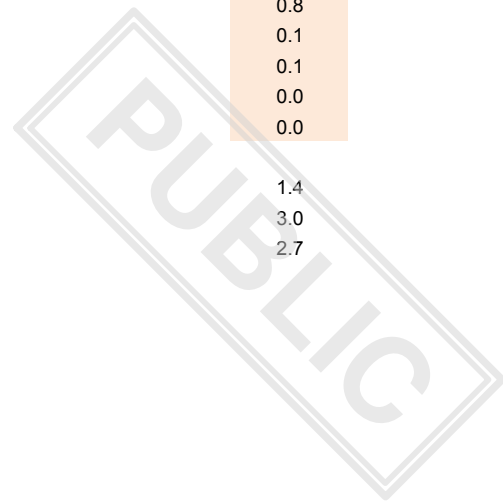
Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	3.7
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	18.8

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.1
0.0
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.4
3.0
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
40.4	38.3								
0.5	1.6								
0.0	0.0								
1.6	2.9								
1.6	2.9								
14.0	14.1	14.3	14.5	14.6	14.8	15.0	15.2	15.3	15.5
5.2	5.2	5.3	5.4	5.5	5.6	5.7	5.9	6.0	6.1
4.2	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.5	4.5
1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.5	5.0	4.8	4.3	4.0	4.3	3.8	3.2	2.6	1.8
6.8	6.0	5.5	5.1	4.8	4.3	3.8	3.2	2.6	1.8
1.5	1.5								
4.6	2.5								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
15.6	15.7	15.9	16.1	16.2	16.4	16.6	16.7	16.9
6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0
4.5	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8
1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.0
3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7
1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7

onomy, Economic Papers, No. 543.
pean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.0	-0.2
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	2.7	-0.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	14.0	13.9
Property income	0.1	0.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	353.9	396.3
Growth rate	13.6	12.0
<i>Potential GDP (real)</i>		
Level	353.0	378.9
<i>Output gap</i>		
Output gap	0.3	4.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.3	17.9
Interest rate		
Nominal implicit interest rate on debt	1.5	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (national currency)	0.7	5.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		12.0

Debt projections

	2021	2022
Gross debt	55.4	44.7
<i>Change in debt (-1+2+3)</i>		-10.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		2.2
(1.1) Structural primary balance (before ageing cost)		-0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-5.6
(2.3) Inflation effect	-2.8
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.7
(3.1) Base	-0.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	1.6
Structural balance	-0.8
Net expenditure growth	8.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.4	44.7
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.5	1.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	55.4	44.7
IIR	1.5	1.4
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	14.1	14.3	14.5	14.6	14.8	15.0	15.2	15.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

418.2	439.0	459.8	479.5	498.6	519.9	539.4	556.6	570.9
5.5	5.0	4.8	4.3	4.0	4.3	3.8	3.2	2.6

404.8	429.2	452.9	475.9	498.6	519.9	539.4	556.6	570.9

3.3	2.3	1.5	0.8	0.0	0.0	0.0	0.0	0.0

10.3	7.6	7.4	6.9	6.6	7.0	6.4	5.9	5.3

1.5	1.5	1.7	1.7	1.8	1.9	2.1	2.2	2.3
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.6	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.5	5.0	4.8	4.3	4.0	4.3	3.8	3.2	2.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
40.4	38.3	34.0	30.7	28.2	26.0	24.2	22.8	21.7
-4.3	-2.2	-4.3	-3.3	-2.5	-2.2	-1.8	-1.4	-1.0
2.3	2.8	2.2	1.7	1.1	0.9	0.7	0.6	0.4
0.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.7	-1.2	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.2	0.3	0.5	0.7	0.9	1.1	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.6	-2.3	-2.0	-1.6	-1.4	-1.3	-1.1	-0.8	-0.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.5	15.6	15.7	15.9	16.1	16.2	16.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1

581.3	591.9	602.7	613.8	624.9	636.3	647.5
1.8	1.8	1.8	1.8	1.8	1.8	1.8
581.3	591.9	602.7	613.8	624.9	636.3	647.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.5	4.5	4.5	4.4	4.4	4.3	4.3
2.5	2.6	2.7	2.8	2.9	3.0	3.1
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.8	1.8	1.8	1.8	1.8	1.8	1.8

2032	2033	2034	2035	2036	2037	2038
21.1	20.6	20.3	20.1	20.2	20.4	20.9
-0.7	-0.5	-0.3	-0.1	0.1	0.2	0.4
0.2	0.1	0.0	-0.2	-0.3	-0.5	-0.7
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	1.5	1.6	1.8	1.9	2.1	2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2
0.5	0.5	0.5	0.5	0.6	0.6	0.6

-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3
-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.3	-0.4	-0.6	-0.7	-0.9	-1.1	-1.3
-0.3	-0.4	-0.6	-0.7	-0.9	-1.1	-1.3
4.5	4.4	4.4	4.4	4.3	4.3	4.2



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
21.1	20.6	20.3	20.1	20.2	20.4	20.9
17.4	16.8	16.8	16.5	16.5	16.5	16.6
2.0	2.0	1.5	1.6	1.4	1.4	1.4
1.4	1.4	1.4	1.4	1.4	1.5	1.6
0.2	0.4	0.5	0.6	0.8	0.9	1.1
0.0	0.1	0.1	0.1	0.1	0.2	0.2
0.07	0.07	0.07	0.07	0.08	0.08	0.09
0.93	0.93	0.93	0.93	0.92	0.92	0.91
2.5	2.6	2.7	2.8	2.9	3.0	3.1
2.4	2.6	2.7	2.8	2.9	3.0	3.1
2.5	2.6	2.7	2.8	2.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



21.1	20.6	20.3	20.1	20.2	20.4	20.9
2.5	2.6	2.7	2.8	2.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	IE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.0	-0.2
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	2.7	-0.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	14.0	13.9
Property income	0.1	0.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	353.9	396.3
Growth rate	13.6	12.0
<i>Potential GDP (real)</i>		
Level	353.0	378.9
<i>Output gap</i>		
Output gap	0.3	4.6
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.3	17.9
Interest rates		
Nominal implicit interest rate on debt	1.5	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	0.7	5.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.52

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		12.0

Debt projections

	2021	2022
Gross debt	55.4	44.7
<i>Change in debt (-1+2+3)</i>		-10.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		2.2
(1.1) Structural primary balance (before ageing cost)		-0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-5.6
(2.3) Inflation effect	-2.8
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.7
(3.1) Base	-0.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	1.6
Structural balance	-0.8
Net expenditure growth	8.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	55.4	44.7
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.15	0.13
Share of long-term debt in total government debt	0.85	0.87
IIR	1.5	1.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0)

Debt	55.4	44.7
IIR	1.5	1.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	55.4	44.7
IIR	1.5	1.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14.0	14.1	14.3	14.5	14.6	14.8	15.0	15.2	15.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

418.2	439.0	459.8	479.5	498.6	519.9	539.4	556.6	570.9
5.5	5.0	4.8	4.3	4.0	4.3	3.8	3.2	2.6

404.8	429.2	452.9	475.9	498.6	519.9	539.4	556.6	570.9

3.3	2.3	1.5	0.8	0.0	0.0	0.0	0.0	0.0

10.3	7.6	7.4	6.9	6.6	7.0	6.4	5.9	5.3

1.5	1.5	1.7	1.7	1.8	1.9	2.0	2.1	2.2
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.6	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.5	5.0	4.8	4.3	4.0	4.3	3.8	3.2	2.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
40.4	38.3	33.8	30.2	27.2	24.3	21.8	19.8	18.1
-4.3	-2.2	-4.4	-3.6	-3.0	-2.9	-2.5	-2.1	-1.7
2.3	2.8	2.4	2.0	1.6	1.6	1.4	1.3	1.1
0.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.7	-1.2	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.6	-2.3	-2.0	-1.6	-1.4	-1.3	-1.0	-0.8	-0.6
0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4

-2.2	-1.9	-1.7	-1.4	-1.1	-1.1	-0.9	-0.7	-0.5
-2.0	-1.0	-0.9	-0.8	-0.8	-0.7	-0.6	-0.6	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.7	2.2	1.8	1.5	1.1	1.1	1.0	0.8	0.7
-0.1	1.0	1.0	1.1	1.1	1.1	1.0	0.8	0.7
7.7	2.9	8.1	7.6	7.3	6.8	6.3	5.8	5.2

	0	0	0	0	0	0	0
	1	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
40.4	38.3	33.8	30.2	27.2	24.3	21.8	19.8	18.1
	30.2	28.3	25.8	23.9	21.7	19.8	18.2	16.5
	2.7	2.1	2.0	1.6	1.5	1.4	1.1	1.3
	4.7	3.4	2.4	1.7	1.1	0.7	0.4	0.3
	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.13	0.13	0.10	0.08	0.06	0.04	0.03	0.02	0.02
0.87	0.87	0.90	0.92	0.94	0.96	0.97	0.98	0.98

1.5	1.5	1.7	1.7	1.8	1.9	2.0	2.1	2.2
	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
		1.7	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0

40.4	38.3	33.8	30.2	27.2	24.3	21.8	19.8	18.1
1.5	1.5	1.7	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

40.4	38.3	33.8	30.2	27.2	24.3	21.7	19.3	17.1
1.5	1.5	1.7	1.7	1.8	1.9	2.0	2.1	2.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.5	15.6	15.7	15.9	16.1	16.2	16.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1

581.3	591.9	602.7	613.8	624.9	636.3	647.5
1.8	1.8	1.8	1.8	1.8	1.8	1.8
581.3	591.9	602.7	613.8	624.9	636.3	647.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.5	4.5	4.5	4.4	4.4	4.3	4.3
2.3	2.4	2.5	2.6	2.7	2.7	2.8
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.8	1.8	1.8	1.8	1.8	1.8	1.8

2032	2033	2034	2035	2036	2037	2038
16.7	15.6	14.6	13.8	13.2	12.8	12.6
-1.4	-1.1	-1.0	-0.8	-0.6	-0.4	-0.2
1.0	0.8	0.7	0.5	0.4	0.2	0.0
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.8	0.9	1.1	1.2	1.4	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
0.4	0.4	0.4	0.4	0.4	0.3	0.3

-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
-0.5	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.6	0.4	0.3	0.2	0.0	-0.1	-0.3
0.6	0.4	0.3	0.2	0.0	-0.1	-0.3
4.5	4.4	4.4	4.4	4.3	4.3	4.2



0	0	0	0	0	1	1
1	1	1	1	1	0	0

2032	2033	2034	2035	2036	2037	2038
16.7	15.6	14.6	13.8	13.2	12.8	12.6
15.3	14.1	13.6	12.7	12.1	11.6	11.3
1.3	1.3	1.0	1.0	1.0	1.0	0.9
0.2	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.1	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.99	0.99	0.99	0.99	0.99	0.99	0.99
2.3	2.4	2.5	2.6	2.7	2.7	2.8
2.3	2.4	2.5	2.6	2.7	2.7	2.8
2.3	2.4	2.5	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



16.7	15.6	14.6	13.8	13.2	12.8	12.6
2.3	2.4	2.5	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.3	13.6	12.1	10.9	9.8	8.9	8.2
2.2	2.3	2.3	2.3	2.4	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	HU
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.60

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

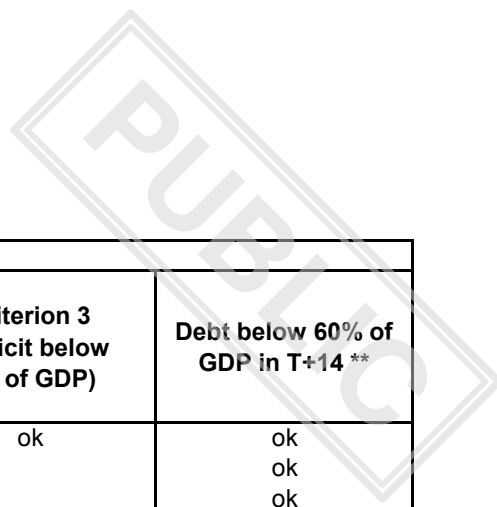
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	ok ok ok ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the smallest adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.60	0.60	0.60	0.60
4.5	4.3	4.2	4.2
0.60			
0.60			
4.3			
4.3			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.60	0.40
70.2	70.4

ment of 0.5 pp. of GDP as a benchmark nor for the below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
0.60	0.60	0.60	0.60
0.50	0.50	0.50	0.50

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.15	0.15	0.15

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HU
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	76.6	73.3
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock-flow adjustments (without exchange rate effect)	0.0	1.1
Stock-flow adjustment (total)	0.0	3.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
of which: Public pensions expenditure	8.6	8.6
Health care expenditure	5.0	4.9
Long-term care expenditure	0.6	0.6
Education & unemployment benefits expenditure	3.3	3.3
Taxes on pensions	0.0	0.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	7.2	4.6
Level	133.1	
<i>Potential GDP</i>		
Growth rate	3.7	3.4
Level	134.2	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	3.2	4.4
Inflation (SF 2023)		
GDP deflator (national currency)	6.4	15.3

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	7.0
Short-term nominal interest rate (T+10 target)	7.0
Long-term nominal interest rate (T+30 target)	5.0
Short-term nominal interest rate (T+30 target)	2.5
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	3.1
GDP deflator (national currency) (T+30 target)	3.0
Share of primary expenditure in GDP in 2024	41.8

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	5.5
Long-term nominal interest rate in 2025	7.9
Short-term nominal interest rate in 2025	15.3

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-10.3	-14.6
Difference between debt level in 50th and 30th percentile of the distribution	-5.1	-6.3
Difference between debt level in 70th and 50th percentile of the distribution	4.0	5.9
Difference between debt level in 90th and 50th percentile of the distribution	10.9	15.3

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
70.7	71.1								
0.6	0.5								
0.0	0.0								
3.0	0.6								
2.2	0.4								
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2	17.2
8.7	8.7	8.6	8.5	8.4	8.4	8.3	8.3	8.4	8.4
4.9	4.9	5.0	5.0	5.0	5.1	5.1	5.1	5.1	5.2
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
3.2	3.2	3.2	3.1	3.1	3.1	3.0	3.0	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.5	2.8	2.9	2.7	2.7	2.3	2.2	2.2	2.0	2.0
2.5	2.5	2.5	2.3	2.3	2.3	2.2	2.2	2.0	2.0
6.0	6.4								
13.0	3.5								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-17.4	-20.0	-22.0
-7.6	-9.0	-9.5
7.2	8.8	9.5
19.5	22.6	25.2

2033	2034	2035	2036	2037	2038	2039	2040	2041
17.4	17.5	17.7	17.9	18.1	18.3	18.6	18.9	19.2
8.5	8.6	8.8	8.9	9.1	9.2	9.4	9.7	9.9
5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.4
0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8
3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1.9	1.9	1.9	1.8	1.8	1.7	1.5	1.4	1.4
1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.4	1.4

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	HU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	0.0	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	133.1	139.2
Growth rate	7.2	4.6
<i>Potential GDP (real)</i>		
Level	134.2	138.8
<i>Output gap</i>		
Output gap	-0.8	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.1	20.6
Interest rate		
Nominal implicit interest rate on debt	3.2	4.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	6.4	15.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.45	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.6

Debt projections

	2021	2022
Gross debt	76.6	73.3
<i>Change in debt (-1+2+3)</i>		-3.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.5
(1.1) Structural primary balance (before ageing cost)		-3.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.2
(2.1) Interest expenditure		2.8

(2.2) Growth effect	-2.9
(2.3) Inflation effect	-10.2
(2.4) Exchange rate effect linked to the interest rate	0.1
(3) Stock flow adjustments (3.1 + 3.2)	3.4
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	2.3
Other budgetary variables	
Headline balance	-6.2
Structural balance	-6.4
Net expenditure growth	16.7

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	76.6	73.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	3.2	4.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	76.6	73.3
IIR	3.2	4.4
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

139.9	143.9	148.1	152.2	156.3	159.9	163.5	167.1	170.5
0.5	2.8	2.9	2.7	2.7	2.3	2.2	2.2	2.0

142.2	145.7	149.4	152.8	156.3	159.9	163.5	167.1	170.5

-1.6	-1.2	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0

13.6	6.4	6.5	6.2	6.1	5.7	5.5	5.4	5.2

6.0	6.4	6.6	6.7	6.8	6.9	6.9	6.9	6.8
		7.9	7.8	7.7	7.5	7.4	7.3	7.2
		15.3	14.1	12.9	11.7	10.5	9.4	8.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

13.0	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	2.8	2.9	2.7	2.7	2.3	2.2	2.2	2.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.9	70.6	70.6	70.7	70.9	71.3
-2.6	0.4	-0.1	-0.1	-0.3	0.0	0.1	0.2	0.4
-0.1	-0.1	0.2	0.5	0.7	0.8	0.8	0.8	0.7
0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-0.3	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	0.0	0.1	0.3	0.5	0.8	0.9	1.0	1.1
3.9	4.3	4.4	4.5	4.6	4.6	4.6	4.6	4.6

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.2	17.4	17.5	17.7	17.9	18.1	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

173.9	177.2	180.6	184.1	187.4	190.7	193.9
2.0	1.9	1.9	1.9	1.8	1.8	1.7
173.9	177.2	180.6	184.1	187.4	190.7	193.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.1	5.1	5.0	5.0	4.9	4.9	4.8
6.8	6.8	6.8	6.7	6.7	6.7	6.6
7.0	6.9	6.8	6.7	6.6	6.5	6.4
7.0	6.8	6.5	6.3	6.1	5.9	5.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.1	3.1	3.1	3.1	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.9	1.9	1.8	1.8	1.7

2032	2033	2034	2035	2036	2037	2038
71.8	72.5	73.3	74.4	75.7	77.3	79.1
0.5	0.7	0.9	1.1	1.3	1.6	1.8
0.6	0.5	0.3	0.1	-0.1	-0.3	-0.5
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.1	0.1	0.3	0.5	0.7	0.9
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.2	1.3	1.3	1.3
4.6	4.6	4.7	4.7	4.8	4.8	4.9

-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.2
-2.1	-2.1	-2.1	-2.2	-2.2	-2.2	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.0	-4.1	-4.3	-4.6	-4.8	-5.1	-5.3
-4.0	-4.1	-4.3	-4.6	-4.8	-5.1	-5.3
5.0	5.0	5.0	4.9	4.9	4.8	4.7



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
71.6	72.3	73.1	74.2	75.5	77.0	78.8
56.4	56.8	57.4	58.1	59.0	60.1	61.3
5.6	5.6	5.6	5.7	5.8	5.9	6.0
5.7	5.7	5.8	5.8	5.9	6.0	6.2
3.6	3.8	4.0	4.2	4.4	4.6	4.9
0.3	0.3	0.4	0.4	0.4	0.4	0.4
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
6.8	6.8	6.8	6.7	6.7	6.7	6.6
6.8	6.8	6.8	6.8	6.8	6.7	6.7
6.8	6.8	6.8	6.7	6.7	6.7	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



71.8	72.5	73.3	74.4	75.7	77.3	79.1
6.8	6.8	6.8	6.7	6.7	6.7	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	0.0	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	133.1	139.2
Growth rate	7.2	4.6
<i>Potential GDP (real)</i>		
Level	134.2	138.8
<i>Output gap</i>		
Output gap	-0.8	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.1	20.6
Interest rates		
Nominal implicit interest rate on debt	3.2	4.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.4	15.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.45

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.6

Debt projections

	2021	2022
Gross debt	76.6	73.3
<i>Change in debt (-1+2+3)</i>		-3.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.5
(1.1) Structural primary balance (before ageing cost)		-3.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.2
(2.1) Interest expenditure		2.8

(2.2) Growth effect	-2.9
(2.3) Inflation effect	-10.2
(2.4) Exchange rate effect linked to the interest rate	0.1
(3) Stock flow adjustments (3.1 + 3.2)	3.4
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	2.3
Other budgetary variables	
Headline balance	-6.2
Structural balance	-6.4
Net expenditure growth	16.7
Average net primary expenditure growth	4.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	76.6	73.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR	3.2	4.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	76.6	73.3
IIR	3.2	4.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	76.6	73.3
IIR	3.2	4.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

139.9	143.9	147.5	150.9	154.3	157.9	162.1	166.4	170.5
0.5	2.8	2.5	2.3	2.3	2.3	2.7	2.6	2.5

142.2	145.7	149.4	152.8	156.3	159.9	163.5	167.1	170.5

-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-0.9	-0.4	0.0

13.6	6.4	6.0	5.8	5.7	5.7	6.0	5.9	5.7

6.0	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
		7.9	7.8	7.7	7.5	7.4	7.3	7.2
		15.3	14.1	12.9	11.7	10.5	9.4	8.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

13.0	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-0.8	-0.9	-0.9	-0.4	0.0
0.5	2.8	2.5	2.3	2.3	1.9	2.2	2.2	2.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.1	64.1	61.9
-2.6	0.4	-0.1	-0.4	-0.9	-1.5	-2.0	-2.1	-2.2
-0.1	-0.1	0.5	1.1	1.7	2.3	2.5	2.7	2.8
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.6	0.6	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	0.0	0.4	0.6	0.7	0.8	0.5	0.6	0.7
3.9	4.3	4.4	4.5	4.5	4.5	4.4	4.3	4.1

-0.4	-1.9	-1.7	-1.5	-1.5	-1.5	-1.7	-1.6	-1.5
-8.4	-2.4	-2.4	-2.3	-2.3	-2.2	-2.1	-2.0	-1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.0	-4.4	-3.9	-3.4	-2.9	-2.2	-1.9	-1.6	-1.3
-3.2	-3.8	-3.4	-2.8	-2.3	-1.6	-1.5	-1.4	-1.3
5.4	6.3	4.5	4.3	4.2	4.2	5.5	5.3	5.2

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.1	64.1	61.9
	56.7	57.2	57.1	56.6	55.7	54.1	52.5	50.7
	4.0	4.2	4.4	4.6	4.7	4.8	4.8	4.8
	5.5	5.6	5.6	5.6	5.5	5.4	5.2	5.1
	4.5	3.6	3.1	2.6	2.0	1.7	1.5	1.2
	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
6.0	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
	5.5	5.8	6.1	6.2	6.4	6.5	6.6	6.6
		6.6	6.7	6.8	6.8	6.8	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



70.7	71.1	71.0	70.6	69.6	68.1	66.1	64.1	61.9
6.0	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

70.7	71.1	71.0	70.8	70.3	69.4	68.2	66.7	64.8
6.0	6.4	6.6	6.7	6.8	6.9	6.9	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.2	17.4	17.5	17.7	17.9	18.1	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

173.9	177.2	180.6	184.1	187.4	190.7	193.9
2.0	1.9	1.9	1.9	1.8	1.8	1.7
173.9	177.2	180.6	184.1	187.4	190.7	193.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.1	5.1	5.0	5.0	4.9	4.9	4.8
6.7	6.7	6.7	6.7	6.7	6.6	6.6
7.0	6.9	6.8	6.7	6.6	6.5	6.4
7.0	6.8	6.5	6.3	6.1	5.9	5.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.1	3.1	3.1	3.1	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.9	1.9	1.8	1.8	1.7

2032	2033	2034	2035	2036	2037	2038
60.2	58.5	57.0	55.7	54.6	53.7	53.0
-1.8	-1.6	-1.5	-1.3	-1.1	-0.9	-0.7
2.7	2.6	2.4	2.2	2.0	1.8	1.6
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.8	1.0	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	0.9	0.9	0.9	0.9	0.9
4.0	3.8	3.7	3.6	3.5	3.5	3.4

-1.2	-1.1	-1.1	-1.0	-1.0	-0.9	-0.9
-1.8	-1.8	-1.7	-1.7	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.2	-1.3	-1.3	-1.4	-1.5	-1.6	-1.8
-1.2	-1.3	-1.3	-1.4	-1.5	-1.6	-1.8
5.0	5.0	5.0	4.9	4.9	4.8	4.7

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
60.2	58.5	57.0	55.7	54.6	53.7	53.0
49.2	47.8	46.5	45.3	44.3	43.5	43.3
4.8	4.7	4.6	4.5	4.4	4.3	3.6
4.9	4.8	4.7	4.5	4.4	4.4	4.3
1.1	1.2	1.2	1.3	1.4	1.5	1.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
6.7	6.7	6.7	6.7	6.7	6.6	6.6
6.7	6.7	6.7	6.7	6.7	6.7	6.7
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

60.2	58.5	57.0	55.7	54.6	53.7	53.0
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

62.7	60.6	58.5	56.8	55.3	53.9	52.8
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	HU
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	0.0	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	133.1	139.2
Growth rate	7.2	4.6
<i>Potential GDP (real)</i>		
Level	134.2	138.8
<i>Output gap</i>		
Output gap	-0.8	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.1	20.6
Interest rates		
Nominal implicit interest rate on debt	3.2	4.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.4	15.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.45

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.6

Debt projections

	2021	2022
Gross debt	76.6	73.3
<i>Change in debt (-1+2+3)</i>		-3.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.5
(1.1) Structural primary balance (before ageing cost)		-3.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.2
(2.1) Interest expenditure		2.8

(2.2) Growth effect	-2.9
(2.3) Inflation effect	-10.2
(2.4) Exchange rate effect linked to the interest rate	0.1
(3) Stock flow adjustments (3.1 + 3.2)	3.4
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	2.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	76.6	73.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	76.6	73.3
IIR	3.2	4.4
IRR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	76.6	73.3
IIR	3.2	4.4
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

139.9	143.9	147.5	150.9	154.3	157.9	162.1	166.4	170.5
0.5	2.8	2.5	2.3	2.3	2.3	2.7	2.6	2.5

142.2	145.7	149.4	152.8	156.3	159.9	163.5	167.1	170.5

-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-0.9	-0.4	0.0

13.6	6.4	6.0	5.8	5.7	5.7	6.0	5.9	5.7

6.0	6.4	6.6	6.7	6.8	6.8	7.0	6.9	6.9
		7.9	7.8	7.7	7.5	8.4	7.3	7.2
		15.3	14.1	12.9	11.7	11.5	9.4	8.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

13.0	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-0.8	-0.9	-0.9	-0.4	0.0
0.5	2.8	2.5	2.3	2.3	1.9	2.2	2.2	2.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.3	64.2	62.1
-2.6	0.4	-0.1	-0.4	-0.9	-1.5	-1.8	-2.0	-2.1
-0.1	-0.1	0.5	1.1	1.7	2.3	2.5	2.7	2.8
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.6	0.6	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	0.0	0.4	0.6	0.7	0.8	0.7	0.7	0.7
3.9	4.3	4.4	4.5	4.5	4.5	4.5	4.3	4.2

-0.4	-1.9	-1.7	-1.5	-1.5	-1.5	-1.7	-1.6	-1.5
-8.4	-2.4	-2.4	-2.3	-2.3	-2.2	-2.1	-2.0	-1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.3	64.2	62.1
	56.7	57.2	57.1	56.6	55.7	54.1	52.6	50.9
	4.0	4.2	4.4	4.6	4.7	4.8	4.8	4.8
	5.5	5.6	5.6	5.6	5.5	5.4	5.2	5.1
	4.5	3.6	3.1	2.6	2.0	1.8	1.5	1.2
	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92

	6.4	6.6	6.7	6.8	6.8	7.0	6.9	6.9
	5.5	5.8	6.1	6.2	6.4	6.6	6.7	6.7
		6.6	6.7	6.8	6.8	7.0	6.9	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

70.7	71.1	71.0	70.6	69.6	68.1	66.3	64.2	62.1
6.0	6.4	6.6	6.7	6.8	6.8	7.0	6.9	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

70.7	71.1	71.0	70.8	70.3	69.4	68.2	66.7	64.8
6.0	6.4	6.6	6.7	6.8	6.9	6.9	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.2	17.4	17.5	17.7	17.9	18.1	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

173.9 177.2 180.6 184.1 187.4 190.7 193.9
2.0 1.9 1.9 1.9 1.8 1.8 1.7

173.9 177.2 180.6 184.1 187.4 190.7 193.9

0.0 0.0 0.0 0.0 0.0 0.0 0.0

5.1 5.1 5.0 5.0 4.9 4.9 4.8

6.8	6.8	6.8	6.7	6.7	6.7	6.6
7.0	6.9	6.8	6.7	6.6	6.5	6.4
7.0	6.8	6.5	6.3	6.1	5.9	5.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.1	3.1	3.1	3.1	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
2.0 1.9 1.9 1.9 1.8 1.8 1.7

2032	2033	2034	2035	2036	2037	2038
60.4	58.8	57.4	56.1	55.0	54.2	53.5
-1.7	-1.6	-1.4	-1.3	-1.1	-0.9	-0.7
2.7	2.6	2.4	2.2	2.0	1.8	1.6
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.8	1.0	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	0.9	0.9
4.0	3.9	3.8	3.7	3.6	3.5	3.4

-1.2	-1.1	-1.1	-1.0	-1.0	-0.9	-0.9
-1.8	-1.8	-1.7	-1.7	-1.7	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
60.4	58.8	57.4	56.1	55.0	54.2	53.5
49.3	48.0	46.7	45.6	44.6	43.8	43.1
4.9	4.7	4.6	4.5	4.4	4.3	4.2
4.9	4.8	4.7	4.6	4.5	4.4	4.3
1.2	1.2	1.3	1.3	1.4	1.5	1.6
0.1	0.1	0.1	0.1	0.1	0.1	0.2
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92

6.8	6.8	6.8	6.7	6.7	6.7	6.6
6.8	6.8	6.8	6.8	6.8	6.7	6.7
6.8	6.8	6.8	6.7	6.7	6.7	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



60.4	58.8	57.4	56.1	55.0	54.2	53.5
6.8	6.8	6.8	6.7	6.7	6.7	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

62.8	60.8	58.8	57.1	55.6	54.3	53.1
6.9	6.8	6.8	6.8	6.7	6.7	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	HU
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	0.0	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	133.1	139.2
Growth rate	7.2	4.6
<i>Potential GDP (real)</i>		
Level	134.2	138.8
<i>Output gap</i>		
Output gap	-0.8	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.1	20.6
Interest rates		
Nominal implicit interest rate on debt	3.2	4.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.4	15.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.45	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.6

Debt projections

	2021	2022
Gross debt	76.6	73.3
<i>Change in debt (-1+2+3)</i>		-3.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.5
(1.1) Structural primary balance (before ageing cost)		-3.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.2
(2.1) Interest expenditure		2.8

(2.2) Growth effect	-2.9
(2.3) Inflation effect	-10.2
(2.4) Exchange rate effect linked to the interest rate	0.1
(3) Stock flow adjustments (3.1 + 3.2)	3.4
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	2.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	76.6	73.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	76.6	73.3
IIR	3.2	4.4
IRR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	76.6	73.3
IIR	3.2	4.4
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.6	0.5	1.1	1.7	2.3	2.9	2.6	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

139.9	143.9	147.5	150.9	154.3	157.9	162.4	166.6	170.2
0.5	2.8	2.5	2.3	2.3	2.3	2.9	2.6	2.1

142.2	145.7	149.4	152.8	156.3	159.9	163.5	167.1	170.5

-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-0.7	-0.3	-0.2

13.6	6.4	6.0	5.8	5.7	5.7	6.2	5.8	5.3

6.0	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
		7.9	7.8	7.7	7.5	7.4	7.3	7.2
		15.3	14.1	12.9	11.7	10.5	9.4	8.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

13.0	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.8	-0.8	-0.9	-0.9	-0.5	-0.2
0.5	2.8	2.5	2.3	2.3	1.9	2.4	2.4	2.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.2	64.6	63.2
-2.6	0.4	-0.1	-0.4	-0.9	-1.5	-1.9	-1.6	-1.3
-0.1	-0.1	0.5	1.1	1.7	2.3	2.3	2.2	2.2
0.6	0.5	1.1	1.7	2.3	2.9	2.6	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.6	0.6	0.6	0.6	0.3	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	0.0	0.4	0.6	0.7	0.8	0.4	0.6	0.9
3.9	4.3	4.4	4.5	4.5	4.5	4.4	4.3	4.2

-0.4	-1.9	-1.7	-1.5	-1.5	-1.5	-1.8	-1.6	-1.3
-8.4	-2.4	-2.4	-2.3	-2.3	-2.2	-2.1	-2.0	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.2	64.6	63.2
	56.7	57.2	57.1	56.6	55.7	54.0	52.5	51.3
	4.0	4.2	4.4	4.6	4.7	4.7	4.8	4.9
	5.5	5.6	5.6	5.6	5.5	5.4	5.2	5.1
	4.5	3.6	3.1	2.6	2.0	1.9	1.8	1.8
	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
	5.5	5.8	6.1	6.2	6.4	6.5	6.6	6.7
		6.6	6.7	6.8	6.8	6.8	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

70.7	71.1	71.0	70.6	69.6	68.1	66.2	64.6	63.2
6.0	6.4	6.6	6.7	6.8	6.8	6.8	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

70.7	71.1	71.0	70.8	70.3	69.4	68.2	66.7	64.8
6.0	6.4	6.6	6.7	6.8	6.9	6.9	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.4	2.4	2.4	2.4	2.4	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.2	17.4	17.5	17.7	17.9	18.1	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

173.7	177.2	180.6	184.1	187.4	190.7	193.9
2.1	2.0	1.9	1.9	1.8	1.8	1.7
173.9	177.2	180.6	184.1	187.4	190.7	193.9
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
5.2	5.2	5.0	5.0	4.9	4.9	4.8
6.7	6.7	6.7	6.7	6.7	6.6	6.6
7.0	6.9	6.8	6.7	6.6	6.5	6.4
7.0	6.8	6.5	6.3	6.1	5.9	5.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.1	3.1	3.1	3.1	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.9	1.9	1.8	1.8	1.7

2032	2033	2034	2035	2036	2037	2038
62.0	60.8	59.9	59.1	58.6	58.2	58.1
-1.3	-1.2	-0.9	-0.8	-0.6	-0.3	-0.1
2.2	2.1	1.9	1.7	1.5	1.3	1.1
2.4	2.4	2.4	2.4	2.4	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.8	1.0	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.9	1.0	1.0	1.0	1.0	1.0
4.0	4.0	3.9	3.8	3.8	3.7	3.7

-1.2	-1.2	-1.1	-1.1	-1.0	-1.0	-0.9
-1.9	-1.8	-1.8	-1.8	-1.7	-1.7	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
62.0	60.8	59.9	59.1	58.6	58.2	58.1
50.1	49.2	48.3	47.6	47.0	46.6	46.3
4.9	4.8	4.8	4.7	4.6	4.6	4.6
5.0	4.9	4.8	4.8	4.7	4.7	4.6
1.7	1.7	1.8	1.9	2.0	2.2	2.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
6.7	6.7	6.7	6.7	6.7	6.6	6.6
6.7	6.7	6.7	6.7	6.7	6.7	6.7
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



62.0	60.8	59.9	59.1	58.6	58.2	58.1
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

62.8	61.1	59.7	58.5	57.4	56.6	56.0
6.7	6.7	6.7	6.7	6.7	6.6	6.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-3.6
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	0.0	1.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.5	17.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	133.1	139.2
Growth rate (including feedback and output-gap closure effect)	7.2	4.6
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	134.2	138.8
<i>Output gap</i>		
Output gap	-0.8	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.1	20.6
Interest rates and inflation		
Nominal implicit interest rate on debt	3.2	4.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	6.4	15.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.45	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.6

Debt projections

	2021	2022
Gross debt	76.6	73.3
<i>Change in debt (-1+2+3)</i>		-3.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-3.5
(1.1) Structural primary balance (before ageing cost)		-3.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.2

(2.1) Interest expenditure	2.8
(2.2) Growth effect	-2.9
(2.3) Inflation effect	-10.2
(2.4) Exchange rate effect linked to the interest rate	0.1
(3) Stock flow adjustments (3.1 + 3.2)	3.4
(3.1) Base	1.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	2.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	76.6	73.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	3.2	4.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	76.6	73.3
IIR	3.2	4.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	76.6	73.3
IIR	3.2	4.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.4	17.4	17.3	17.3	17.2	17.1	17.1	17.1	17.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

139.9	143.9	147.5	150.9	154.3	157.9	161.3	164.7	168.0
0.5	2.8	2.5	2.3	2.3	2.3	2.2	2.1	2.0
						1.7	1.7	1.5

142.2	145.7	149.4	152.8	156.3	159.9	162.7	165.5	168.0

-1.6	-1.2	-1.3	-1.3	-1.3	-1.3	-0.9	-0.4	0.0

13.6	6.4	6.0	5.8	5.7	5.7	5.5	5.3	5.2

6.0	6.4	6.6	6.7	6.8	6.8	6.9	7.0	6.9
		7.9	7.8	7.7	7.5	7.9	7.8	7.7
		15.3	14.1	12.9	11.7	11.0	9.9	8.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

13.0	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-0.8	-0.9	-0.9	-0.4	0.0
0.5	2.8	2.5	2.3	2.3	1.9	1.7	1.7	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.5	64.9	63.2
-2.6	0.4	-0.1	-0.4	-0.9	-1.5	-1.6	-1.7	-1.7
-0.1	-0.1	0.5	1.1	1.7	2.3	2.5	2.7	2.8
0.6	0.5	1.1	1.7	2.3	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.6	0.6	0.6	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	0.0	0.4	0.6	0.7	0.8	0.9	1.0	1.1

3.9	4.3	4.4	4.5	4.5	4.5	4.5	4.4	4.3
-0.4	-1.9	-1.7	-1.5	-1.5	-1.5	-1.4	-1.3	-1.2
-8.4	-2.4	-2.4	-2.3	-2.3	-2.2	-2.1	-2.0	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
70.7	71.1	71.0	70.6	69.6	68.1	66.5	64.9	63.2
	56.7	57.2	57.1	56.6	55.7	54.4	53.0	51.6
	4.0	4.2	4.4	4.6	4.7	4.8	4.8	4.9
	5.5	5.6	5.6	5.6	5.5	5.4	5.3	5.2
	4.5	3.6	3.1	2.6	2.0	1.8	1.6	1.3
	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
6.0	6.4	6.6	6.7	6.8	6.8	6.9	7.0	6.9
	5.5	5.8	6.1	6.2	6.4	6.6	6.7	6.8
		6.6	6.7	6.8	6.8	6.9	7.0	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



70.7	71.1	71.0	70.6	69.6	68.1	66.5	64.9	63.2
6.0	6.4	6.6	6.7	6.8	6.8	6.9	7.0	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.7	71.1	71.0	70.8	70.3	69.4	68.2	66.7	64.8
6.0	6.4	6.6	6.7	6.8	6.9	6.9	6.8	6.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

17.2	17.4	17.5	17.7	17.9	18.1	18.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5

170.5	172.9	175.4	177.8	180.2	182.4	184.6
1.5	1.4	1.4	1.4	1.3	1.3	1.2
1.5	1.4	1.4	1.4	1.3	1.3	1.2

170.5	172.9	175.4	177.8	180.2	182.4	184.6

0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.6	4.5	4.5	4.5	4.4	4.3	4.3
6.9	7.0	7.0	7.0	7.0	7.0	6.9
7.5	7.4	7.3	7.2	7.1	7.0	6.9
7.5	7.3	7.0	6.8	6.6	6.4	6.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.1	3.1	3.1	3.1	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.4	1.4	1.3	1.3	1.2

2032	2033	2034	2035	2036	2037	2038
61.9	60.7	59.7	58.9	58.4	58.0	57.9
-1.3	-1.2	-1.0	-0.8	-0.6	-0.4	-0.1
2.7	2.6	2.4	2.2	2.0	1.8	1.6
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.8	1.0	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	1.4	1.4	1.4	1.5	1.5	1.5

4.2	4.1	4.1	4.0	3.9	3.9	3.9
-0.9	-0.9	-0.8	-0.8	-0.7	-0.7	-0.7
-1.9	-1.8	-1.8	-1.8	-1.7	-1.7	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
61.9	60.7	59.7	58.9	58.4	58.0	57.9
50.4	49.4	48.5	47.7	47.1	46.7	46.4
5.0	4.9	4.8	4.7	4.6	4.6	4.6
5.0	4.9	4.9	4.8	4.7	4.7	4.7
1.3	1.4	1.5	1.6	1.7	1.9	2.1
0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
6.9	7.0	7.0	7.0	7.0	7.0	6.9
6.9	6.9	7.0	7.0	7.0	7.0	7.0
6.9	7.0	7.0	7.0	7.0	7.0	6.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



61.9	60.7	59.7	58.9	58.4	58.0	57.9
6.9	7.0	7.0	7.0	7.0	7.0	6.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
63.1	61.4	59.7	58.5	57.4	56.5	55.8
6.8	6.9	6.9	6.9	6.9	6.9	6.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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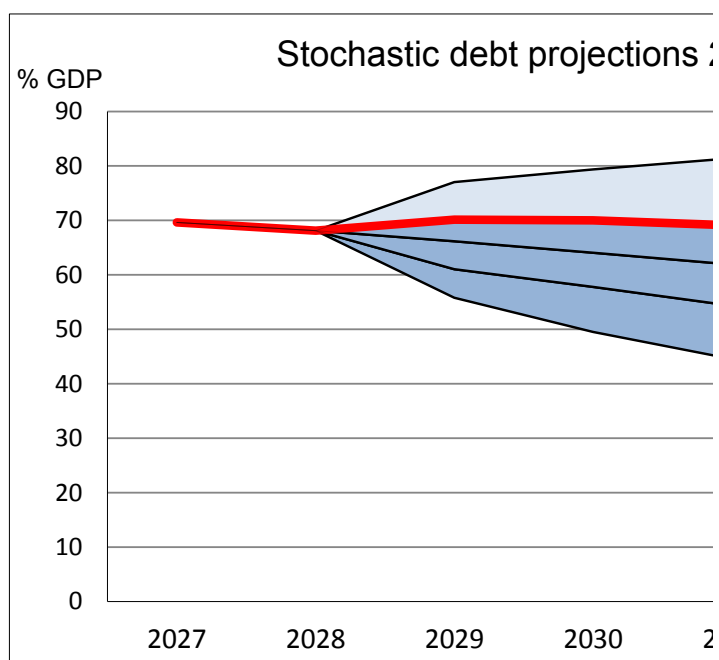
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HU
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	76.6	73.3	70.7	71.1
Distribution of debt paths				
p10	76.6	73.3	70.7	71.1
p30	76.6	73.3	70.7	71.1
p50 - Adjustment scenario	76.6	73.3	70.7	71.1
p70	76.6	73.3	70.7	71.1
p90	76.6	73.3	70.7	71.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	69.6	68.1	55.8	49.5
p30_p10	0.0	0.0	5.2	8.3
p50_p30	0.0	0.0	5.1	6.3
p70_p50	0.0	0.0	4.0	5.9
p90_p70	0.0	0.0	6.9	9.4
p10	69.6	68.1	55.8	49.5
p30	69.6	68.1	61.0	57.8
p50	69.6	68.1	66.1	64.1
p70	69.6	68.1	70.1	70.0
p90	69.6	68.1	77.1	79.4

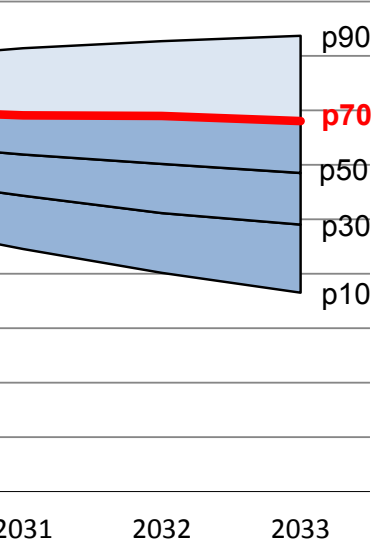
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
71.0	70.6	69.6	68.1	66.1	64.1	61.9	60.2	58.5	57.0
71.0	70.6	69.6	68.1	55.8	49.5	44.5	40.2	36.5	
71.0	70.6	69.6	68.1	61.0	57.8	54.3	51.1	49.0	
71.0	70.6	69.6	68.1	66.1	64.1	61.9	60.2	58.5	
71.0	70.6	69.6	68.1	70.1	70.0	69.1	69.0	68.0	
71.0	70.6	69.6	68.1	77.1	79.4	81.4	82.7	83.7	

2031	2032	2033
44.5	40.2	36.5
9.8	10.9	12.5
7.6	9.0	9.5
7.2	8.8	9.5
12.4	13.7	15.7
44.5	40.2	36.5
54.3	51.1	49.0
61.9	60.2	58.5
69.1	69.0	68.0
81.4	82.7	83.7



2035	2036	2037	2038	2039	2040	2041
55.7	54.6	53.7	53.0	52.6	52.5	52.8

2029-2033







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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is projected to evolve linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is projected to remain constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is affected by the shock (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	HR
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.20

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fanchart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

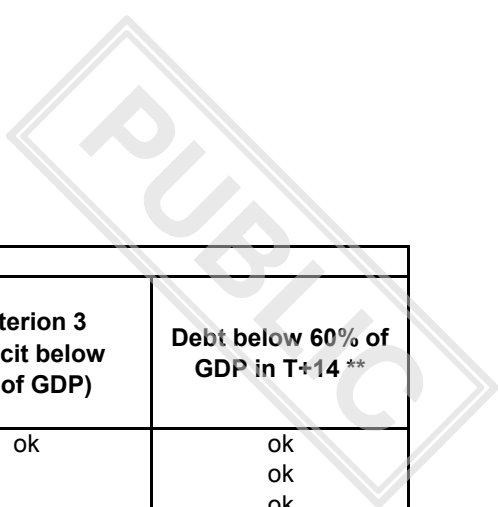
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok	Not met	ok	ok
ok			ok
Not met			ok
Not met			ok

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.20	0.20	0.20	0.20
5.2	4.7	4.4	4.0
0.20			
0.20			
4.6			
4.6			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.20	0.10
53.8	48.1

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
0.20	0.20	0.20	0.20
0.10	0.10	0.10	0.10

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

|

chmark)		
2029	2030	2031
0.10	0.10	0.10

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	78.4	68.4
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock-flow adjustments (without exchange rate effect)	0.6	0.5
Stock-flow adjustment (total)	0.5	0.6
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
of which: Public pensions expenditure	10.7	10.7
Health care expenditure	6.0	5.9
Long-term care expenditure	0.5	0.5
Education & unemployment benefits expenditure	4.8	4.7
Taxes on pensions	0.1	0.1
Property income	0.8	0.8
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	13.1	6.2
Level	53.5	
<i>Potential GDP</i>		
Growth rate	2.4	3.2
Level	53.0	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.0	2.0
Inflation (SF 2023)		
GDP deflator (national currency)	2.0	8.2

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.4
Long-term nominal interest rate (T+10 target)	4.7
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	44.9

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.9
Long-term nominal interest rate in 2025	4.0
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-10.8	-10.7
Difference between debt level in 50th and 30th percentile of the distribution	-4.6	-4.3
Difference between debt level in 70th and 50th percentile of the distribution	4.7	5.6
Difference between debt level in 90th and 50th percentile of the distribution	12.1	13.5

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
63.0	61.8								
-0.1	-0.7								
0.0	0.0								
-0.1	0.8								
-0.1	0.8								
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1	22.0
10.8	10.8	10.9	10.9	10.9	10.9	11.0	11.0	11.0	10.9
6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.2	6.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.5	4.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
1.6	2.3	2.1	1.7	1.5	1.6	1.5	1.3	1.2	1.1
3.4	3.0	2.5	2.1	1.9	1.6	1.5	1.3	1.2	1.1
1.9	2.0								
7.5	3.2								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
 Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-11.8	-11.9	-12.8
-5.1	-4.6	-4.7
6.2	6.8	7.1
14.9	16.3	18.4

2033	2034	2035	2036	2037	2038	2039	2040	2041

22.0	22.0	21.9	21.9	21.8	21.7	21.7	21.6	21.6
10.9	10.8	10.8	10.7	10.7	10.6	10.5	10.4	10.4
6.2	6.2	6.3	6.3	6.3	6.3	6.3	6.4	6.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.4

1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.5	1.5

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock flow adjustments (without exchange rate effect)	0.6	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	53.5	56.8
Growth rate	13.1	6.2
<i>Potential GDP (real)</i>		
Level	53.0	54.7
<i>Output gap</i>		
Output gap	0.9	3.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.4	14.9
Interest rate		
Nominal implicit interest rate on debt	2.0	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.0	8.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.44	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.2

Debt projections

	2021	2022
Gross debt	78.4	68.4
<i>Change in debt (-1+2+3)</i>		-10.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.8
(1.1) Structural primary balance (before ageing cost)		0.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.7
(1.4) One-off and other temporary measures		0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.8
(2.1) Interest expenditure		1.4

(2.2) Growth effect	-4.2
(2.3) Inflation effect	-5.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.5
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.4
Structural balance	-1.0
Net expenditure growth	7.6

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	78.4	68.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.0	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	78.4	68.4
IIR	2.0	2.0
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.1	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

57.7	59.0	60.2	61.3	62.2	63.1	64.1	64.9	65.7
1.6	2.3	2.1	1.7	1.5	1.6	1.5	1.3	1.2

56.6	58.3	59.8	61.0	62.2	63.1	64.1	64.9	65.7

1.9	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0

9.2	5.5	5.3	4.8	4.5	4.5	4.4	4.1	3.9

1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.5
		4.0	4.1	4.2	4.3	4.4	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.5	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.3	2.1	1.7	1.5	1.6	1.5	1.3	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.5	59.8	59.7	59.8	60.0	60.5	61.2
-5.4	-1.1	-1.4	-0.7	-0.1	0.0	0.2	0.5	0.7
0.7	-0.2	-0.4	-0.7	-0.9	-0.9	-1.0	-0.9	-0.9
-0.1	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.5	-0.4	-0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.6	-2.1	-1.8	-1.4	-1.0	-0.9	-0.7	-0.5	-0.2
1.2	1.2	1.3	1.4	1.5	1.7	1.8	1.9	2.0

2032	2033	2034	2035	2036	2037	2038
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	22.0	22.0	21.9	21.9	21.8	21.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8

66.4	67.2	68.0	68.9	69.9	70.9	72.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5
66.4	67.2	68.0	68.9	69.9	70.9	72.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8	3.8	3.8	3.8	3.9	4.1	4.0
3.7	3.8	3.9	4.0	4.1	4.1	4.2
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
62.0	62.9	63.8	64.7	65.6	66.3	67.0
0.8	0.9	0.9	0.9	0.8	0.7	0.7
-0.9	-0.9	-0.9	-0.8	-0.8	-0.7	-0.6
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.2	0.1	0.1	0.0	0.0	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.1	0.1	0.1	0.0	0.1
2.2	2.3	2.4	2.5	2.5	2.6	2.7

-0.7	-0.7	-0.7	-0.8	-0.9	-1.0	-1.0
-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-3.2	-3.2	-3.3	-3.3	-3.3	-3.3
-3.1	-3.2	-3.2	-3.3	-3.3	-3.3	-3.3
3.8	3.8	3.8	3.8	3.9	4.0	4.0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
62.0	62.9	63.8	64.7	65.6	66.3	67.0
49.0	49.6	50.4	51.1	51.8	52.4	53.0
6.3	6.4	6.5	6.6	6.7	6.8	6.9
3.6	3.7	3.7	3.8	3.8	3.8	3.9
2.9	3.0	3.0	3.1	3.1	3.1	3.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94
3.7	3.8	3.9	4.0	4.1	4.1	4.2
3.7	3.9	4.0	4.1	4.2	4.2	4.3
3.7	3.8	3.9	4.0	4.1	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



62.0	62.9	63.8	64.7	65.6	66.3	67.0
3.7	3.8	3.9	4.0	4.1	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock flow adjustments (without exchange rate effect)	0.6	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	53.5	56.8
Growth rate	13.1	6.2
<i>Potential GDP (real)</i>		
Level	53.0	54.7
<i>Output gap</i>		
Output gap	0.9	3.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.4	14.9
Interest rates		
Nominal implicit interest rate on debt	2.0	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.0	8.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.44

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.2

Debt projections

	2021	2022
Gross debt	78.4	68.4
<i>Change in debt (-1+2+3)</i>		-10.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.8
(1.1) Structural primary balance (before ageing cost)		0.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.7
(1.4) One-off and other temporary measures		0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.8
(2.1) Interest expenditure		1.4

(2.2) Growth effect	-4.2
(2.3) Inflation effect	-5.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.5
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.4
Structural balance	-1.0
Net expenditure growth	7.6
Average net primary expenditure growth	4.6
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	78.4	68.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.06	0.06
Share of long-term debt in total government debt	0.94	0.94
IIR	2.0	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	78.4	68.4
IIR	2.0	2.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	78.4	68.4
IIR	2.0	2.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

57.7	59.0	60.1	61.2	62.2	63.1	64.0	64.9	65.7
1.6	2.3	2.0	1.8	1.6	1.4	1.5	1.4	1.2

56.6	58.3	59.8	61.0	62.2	63.1	64.1	64.9	65.7

1.9	1.2	0.6	0.3	0.0	-0.1	-0.1	0.0	0.0

9.2	5.5	5.1	4.9	4.6	4.3	4.4	4.2	4.0

1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
		4.0	4.1	4.2	4.3	4.4	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.5	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.4	0.2	0.0	-0.1	0.0	0.0
1.6	2.3	2.0	1.6	1.3	1.4	1.5	1.3	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.4	55.9	55.4
-5.4	-1.1	-1.5	-1.2	-1.0	-0.9	-0.8	-0.6	-0.4
0.7	-0.2	-0.2	-0.2	-0.1	0.1	0.1	0.1	0.1
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.5	-0.3	-0.1	0.0	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.6	-2.1	-1.7	-1.4	-1.1	-0.8	-0.7	-0.5	-0.3
1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8

-1.0	-1.3	-1.2	-1.0	-0.9	-0.8	-0.8	-0.7	-0.7
-4.8	-1.9	-1.9	-1.8	-1.7	-1.6	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.5	-1.3	-1.5	-1.6	-1.6	-1.6	-1.6	-1.7	-1.7
-1.3	-1.9	-1.8	-1.7	-1.6	-1.5	-1.6	-1.7	-1.7
12.1	7.5	5.2	4.7	4.4	4.0	4.3	4.1	3.9

0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.4	55.9	55.4
	50.0	49.3	48.1	47.2	46.5	45.7	45.1	44.7
	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7
	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.3
	2.0	1.4	1.5	1.5	1.5	1.5	1.6	1.6
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94

1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
	1.9	2.2	2.4	2.7	2.9	3.1	3.3	3.5
		2.2	2.5	2.7	2.9	3.1	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

63.0	61.8	60.4	59.1	58.1	57.2	56.4	55.9	55.4
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

63.0	61.8	60.4	59.3	58.5	57.9	57.5	57.2	57.0
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	22.0	22.0	21.9	21.9	21.8	21.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8

66.4	67.2	68.0	68.9	69.9	70.9	72.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5
66.4	67.2	68.0	68.9	69.9	70.9	72.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8	3.8	3.8	3.8	3.9	4.1	4.0
3.6	3.7	3.8	3.9	4.0	4.1	4.1
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
55.2	55.0	54.8	54.6	54.4	54.0	53.6
-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	-0.4
0.1	0.2	0.2	0.2	0.3	0.4	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.1	0.0	0.0	0.0
1.9	2.0	2.0	2.1	2.1	2.1	2.1

-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8
-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.7
-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.7
3.8	3.8	3.8	3.8	3.9	4.0	4.0

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
55.2	55.0	54.8	54.6	54.4	54.0	53.6
44.4	44.2	44.0	43.9	43.7	43.4	45.0
5.7	5.7	5.7	5.7	5.7	5.6	3.8
3.3	3.3	3.3	3.2	3.2	3.2	3.2
1.7	1.7	1.7	1.7	1.7	1.7	1.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94
3.6	3.7	3.8	3.9	4.0	4.1	4.1
3.6	3.8	3.9	4.0	4.1	4.1	4.2
3.6	3.7	3.8	3.9	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

55.2	55.0	54.8	54.6	54.4	54.0	53.6
3.6	3.7	3.8	3.9	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

56.9	56.8	56.7	56.6	56.5	56.3	56.0
3.6	3.8	3.9	4.0	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock flow adjustments (without exchange rate effect)	0.6	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	53.5	56.8
Growth rate	13.1	6.2
<i>Potential GDP (real)</i>		
Level	53.0	54.7
<i>Output gap</i>		
Output gap	0.9	3.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.4	14.9
Interest rates		
Nominal implicit interest rate on debt	2.0	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.0	8.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.44

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.2

Debt projections

	2021	2022
Gross debt	78.4	68.4
<i>Change in debt (-1+2+3)</i>		-10.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.8
(1.1) Structural primary balance (before ageing cost)		0.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.7
(1.4) One-off and other temporary measures		0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.8
(2.1) Interest expenditure		1.4

(2.2) Growth effect	-4.2
(2.3) Inflation effect	-5.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.5
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	78.4	68.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.06	0.06
Share of long-term debt in total government debt	0.94	0.94
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	78.4	68.4
IIR	2.0	2.0
IRR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	78.4	68.4
IIR	2.0	2.0
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

57.7	59.0	60.1	61.2	62.2	63.1	64.0	64.9	65.7
1.6	2.3	2.0	1.8	1.6	1.4	1.5	1.4	1.2

56.6	58.3	59.8	61.0	62.2	63.1	64.1	64.9	65.7

1.9	1.2	0.6	0.3	0.0	-0.1	-0.1	0.0	0.0

9.2	5.5	5.1	4.9	4.6	4.3	4.4	4.2	4.0

1.9	2.0	2.2	2.5	2.7	2.9	3.3	3.4	3.5
		4.0	4.1	4.2	4.3	5.4	4.5	4.6
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.5	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.4	0.2	0.0	-0.1	0.0	0.0
1.6	2.3	2.0	1.6	1.3	1.4	1.5	1.3	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.6	56.0	55.7
-5.4	-1.1	-1.5	-1.2	-1.0	-0.9	-0.7	-0.5	-0.4
0.7	-0.2	-0.2	-0.2	-0.1	0.1	0.1	0.1	0.1
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.5	-0.3	-0.1	0.0	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.6	-2.1	-1.7	-1.4	-1.1	-0.8	-0.6	-0.4	-0.2
1.2	1.2	1.3	1.4	1.5	1.6	1.8	1.8	1.9

-1.0	-1.3	-1.2	-1.0	-0.9	-0.8	-0.8	-0.7	-0.7
-4.8	-1.9	-1.9	-1.8	-1.7	-1.6	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

			1	1	1	1	1	1	1
			0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.6	56.0	55.7
	50.0	49.3	48.1	47.2	46.5	45.7	45.2	44.8
	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7
	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.3
	2.0	1.4	1.5	1.5	1.5	1.6	1.6	1.7
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94

	2.0	2.2	2.5	2.7	2.9	3.3	3.4	3.5
	1.9	2.2	2.4	2.7	2.9	3.2	3.4	3.6
		2.2	2.5	2.7	2.9	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

63.0	61.8	60.4	59.1	58.1	57.2	56.6	56.0	55.7
1.9	2.0	2.2	2.5	2.7	2.9	3.3	3.4	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

63.0	61.8	60.4	59.3	58.5	57.9	57.5	57.2	57.0
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	22.0	22.0	21.9	21.9	21.8	21.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8

66.4	67.2	68.0	68.9	69.9	70.9	72.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5
66.4	67.2	68.0	68.9	69.9	70.9	72.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8	3.8	3.8	3.8	3.9	4.1	4.0
3.7	3.8	3.9	4.0	4.1	4.1	4.1
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
55.5	55.3	55.1	55.0	54.7	54.4	54.0
-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4
0.1	0.2	0.2	0.2	0.3	0.4	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.1	0.1	0.0	0.1
2.0	2.0	2.1	2.1	2.1	2.2	2.2

-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8
-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
55.5	55.3	55.1	55.0	54.7	54.4	54.0
44.6	44.4	44.3	44.1	44.0	43.7	43.5
5.8	5.7	5.7	5.7	5.7	5.7	5.6
3.3	3.3	3.3	3.3	3.2	3.2	3.2
1.7	1.8	1.8	1.8	1.7	1.7	1.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94

3.7	3.8	3.9	4.0	4.1	4.1	4.1
3.7	3.9	4.0	4.1	4.1	4.2	4.2
3.7	3.8	3.9	4.0	4.1	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



55.5	55.3	55.1	55.0	54.7	54.4	54.0
3.7	3.8	3.9	4.0	4.1	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

57.0	57.0	56.9	56.9	56.8	56.6	56.4
3.8	3.9	4.0	4.0	4.1	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock flow adjustments (without exchange rate effect)	0.6	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	53.5	56.8
Growth rate	13.1	6.2
<i>Potential GDP (real)</i>		
Level	53.0	54.7
<i>Output gap</i>		
Output gap	0.9	3.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.4	14.9
Interest rates		
Nominal implicit interest rate on debt	2.0	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.0	8.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.44	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.2

Debt projections

	2021	2022
Gross debt	78.4	68.4
<i>Change in debt (-1+2+3)</i>		-10.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.8
(1.1) Structural primary balance (before ageing cost)		0.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.7
(1.4) One-off and other temporary measures		0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.8
(2.1) Interest expenditure		1.4

(2.2) Growth effect	-4.2
(2.3) Inflation effect	-5.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.5
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	78.4	68.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	78.4	68.4
IIR	2.0	2.0
IRR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	78.4	68.4
IIR	2.0	2.0
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	-0.1	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

57.7	59.0	60.1	61.2	62.2	63.1	64.2	65.1	65.8
1.6	2.3	2.0	1.8	1.6	1.4	1.7	1.5	1.1
56.6	58.3	59.8	61.0	62.2	63.1	64.1	64.9	65.7
1.9	1.2	0.6	0.3	0.0	-0.1	0.1	0.3	0.2
9.2	5.5	5.1	4.9	4.6	4.3	4.6	4.3	3.8
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
		4.0	4.1	4.2	4.3	4.4	4.5	4.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
7.5	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	0.4	0.2	0.0	-0.1	0.1	0.2
1.6	2.3	2.0	1.6	1.3	1.4	1.7	1.5	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.5	56.2	56.3
-5.4	-1.1	-1.5	-1.2	-1.0	-0.9	-0.7	-0.3	0.1
0.7	-0.2	-0.2	-0.2	-0.1	0.1	-0.1	-0.3	-0.3
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	-0.1	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.5	-0.3	-0.1	0.0	0.1	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.6	-2.1	-1.7	-1.4	-1.1	-0.8	-0.8	-0.6	-0.2
1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9

-1.0	-1.3	-1.2	-1.0	-0.9	-0.8	-0.9	-0.8	-0.6
-4.8	-1.9	-1.9	-1.8	-1.7	-1.6	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	1

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.5	56.2	56.3
	50.0	49.3	48.1	47.2	46.5	45.6	45.1	45.0
	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.8
	3.7	3.6	3.6	3.5	3.4	3.4	3.3	3.3
	2.0	1.4	1.5	1.5	1.5	1.7	1.9	2.0
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
	1.9	2.2	2.4	2.7	2.9	3.1	3.3	3.5
		2.2	2.5	2.7	2.9	3.1	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

63.0	61.8	60.4	59.1	58.1	57.2	56.5	56.2	56.3
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

63.0	61.8	60.4	59.3	58.5	57.9	57.5	57.2	57.0
1.9	2.0	2.2	2.5	2.7	2.9	3.1	3.3	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	22.0	22.0	21.9	21.9	21.8	21.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8

66.5	67.2	68.0	68.9	69.9	70.9	72.0
1.0	1.1	1.2	1.3	1.4	1.5	1.5
66.4	67.2	68.0	68.9	69.9	70.9	72.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.7	3.7	3.8	3.8	3.9	4.1	4.0
3.6	3.8	3.9	4.0	4.0	4.1	4.1
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.2	1.3	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
56.6	56.9	57.3	57.6	57.9	58.0	58.1
0.3	0.4	0.3	0.3	0.3	0.2	0.1
-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	-0.1
-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.1	0.0	0.1
2.0	2.0	2.1	2.2	2.2	2.3	2.3

-0.6	-0.6	-0.7	-0.7	-0.8	-0.9	-0.9
-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
56.6	56.9	57.3	57.6	57.9	58.0	58.1
45.1	45.3	45.6	45.8	46.1	46.2	46.4
5.8	5.9	5.9	5.9	6.0	6.0	6.0
3.3	3.4	3.4	3.4	3.4	3.4	3.4
2.1	2.2	2.3	2.3	2.3	2.3	2.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.6	3.8	3.9	4.0	4.0	4.1	4.1
3.7	3.8	3.9	4.0	4.1	4.2	4.2
3.6	3.8	3.9	4.0	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



56.6	56.9	57.3	57.6	57.9	58.0	58.1
3.6	3.8	3.9	4.0	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
56.9	57.2	57.6	58.0	58.5	58.7	59.0
3.6	3.8	3.9	4.0	4.0	4.1	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	0.4
One-off and other temporary measures	0.0	-0.3
Stock flow adjustments (without exchange rate effect)	0.6	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	53.5	56.8
Growth rate (including feedback and output-gap closure effect)	13.1	6.2
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	53.0	54.7
<i>Output gap</i>		
Output gap	0.9	3.8
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.4	14.9
Interest rates and inflation		
Nominal implicit interest rate on debt	2.0	2.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.0	8.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.44	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.2

Debt projections

	2021	2022
Gross debt	78.4	68.4
<i>Change in debt (-1+2+3)</i>		-10.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.8
(1.1) Structural primary balance (before ageing cost)		0.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.7
(1.4) One-off and other temporary measures		0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.8

(2.1) Interest expenditure	1.4
(2.2) Growth effect	-4.2
(2.3) Inflation effect	-5.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.5
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	78.4	68.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	2.0	2.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	78.4	68.4
IIR	2.0	2.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	78.4	68.4
IIR	2.0	2.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.9	22.0	22.1	22.1	22.1	22.1	22.1
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

57.7	59.0	60.1	61.2	62.2	63.1	63.7	64.3	64.7
1.6	2.3	2.0	1.8	1.6	1.4	1.0	0.9	0.7
						1.0	0.8	0.7

56.6	58.3	59.8	61.0	62.2	63.1	63.8	64.3	64.7

1.9	1.2	0.6	0.3	0.0	-0.1	-0.1	0.0	0.0

9.2	5.5	5.1	4.9	4.6	4.3	3.9	3.7	3.4

1.9	2.0	2.2	2.5	2.7	2.9	3.2	3.4	3.6
		4.0	4.1	4.2	4.3	4.9	5.0	5.1
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.5	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.4	0.2	0.0	-0.1	0.0	0.0
1.6	2.3	2.0	1.6	1.3	1.4	1.0	0.8	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
63.0	61.8	60.4	59.1	58.1	57.2	56.8	56.5	56.5
-5.4	-1.1	-1.5	-1.2	-1.0	-0.9	-0.5	-0.2	0.0
0.7	-0.2	-0.2	-0.2	-0.1	0.1	0.1	0.1	0.1
-0.1	-0.7	-0.5	-0.3	-0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.5	-0.3	-0.1	0.0	0.1	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.6	-2.1	-1.7	-1.4	-1.1	-0.8	-0.4	-0.1	0.1

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.0	22.0	22.0	21.9	21.9	21.8	21.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8

65.1	65.6	66.0	66.5	67.1	67.8	68.5
0.6	0.7	0.7	0.8	0.9	1.0	1.0
0.6	0.7	0.7	0.8	0.9	1.0	1.0

65.1	65.6	66.0	66.5	67.1	67.8	68.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.3	3.3	3.3	3.4	3.5	3.5
3.8	4.0	4.2	4.3	4.4	4.5	4.5
5.2	5.2	5.1	5.1	5.1	5.0	5.0
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.7	0.8	0.9	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
56.7	56.9	57.2	57.5	57.7	57.9	58.0
0.2	0.2	0.3	0.3	0.2	0.1	0.1
0.1	0.2	0.2	0.2	0.3	0.4	0.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.4	0.5	0.5	0.5	0.5	0.6

2.1	2.2	2.3	2.4	2.4	2.5	2.5
-0.3	-0.4	-0.4	-0.4	-0.5	-0.6	-0.6
-1.5	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
56.7	56.9	57.2	57.5	57.7	57.9	58.0
45.5	45.6	45.8	46.0	46.2	46.3	46.5
5.9	5.9	5.9	6.0	6.0	6.0	6.0
3.4	3.4	3.4	3.4	3.4	3.4	3.4
1.8	1.9	2.0	2.0	2.0	2.0	2.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.8	4.0	4.2	4.3	4.4	4.5	4.5
3.9	4.1	4.2	4.3	4.4	4.5	4.6
3.8	4.0	4.2	4.3	4.4	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



56.7	56.9	57.2	57.5	57.7	57.9	58.0
3.8	4.0	4.2	4.3	4.4	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.2	57.5	57.8	58.2	58.5	58.7	59.0
3.7	3.9	4.1	4.2	4.3	4.4	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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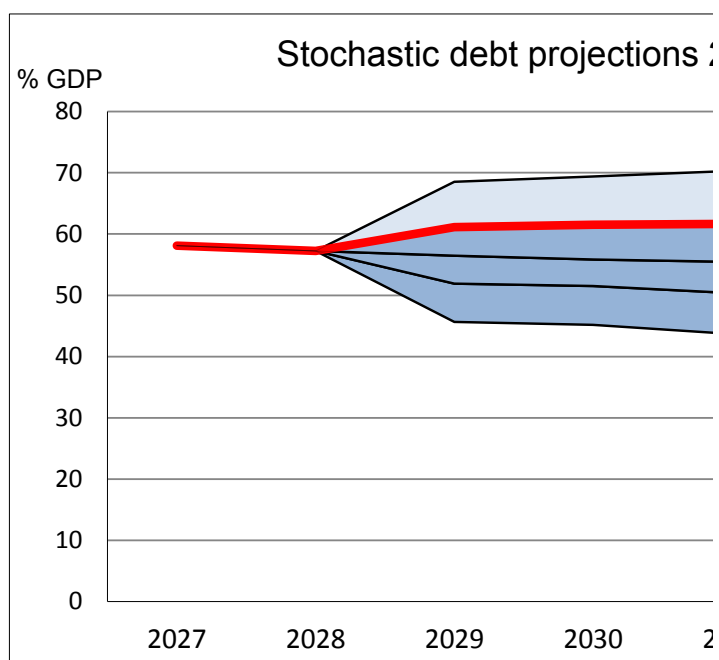
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	HR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	78.4	68.4	63.0	61.8
Distribution of debt paths				
p10	78.4	68.4	63.0	61.8
p30	78.4	68.4	63.0	61.8
p50 - Adjustment scenario	78.4	68.4	63.0	61.8
p70	78.4	68.4	63.0	61.8
p90	78.4	68.4	63.0	61.8
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	58.1	57.2	45.6	45.2
p30_p10	0.0	0.0	6.2	6.3
p50_p30	0.0	0.0	4.6	4.3
p70_p50	0.0	0.0	4.7	5.6
p90_p70	0.0	0.0	7.4	7.9
p10	58.1	57.2	45.6	45.2
p30	58.1	57.2	51.9	51.5
p50	58.1	57.2	56.4	55.9
p70	58.1	57.2	61.1	61.5
p90	58.1	57.2	68.5	69.4

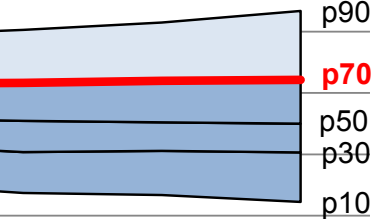
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
60.4	59.1	58.1	57.2	56.4	55.9	55.4	55.2	55.0	54.8
60.4	59.1	58.1	57.2	45.6	45.2	43.7	43.3	42.2	
60.4	59.1	58.1	57.2	51.9	51.5	50.4	50.6	50.3	
60.4	59.1	58.1	57.2	56.4	55.9	55.4	55.2	55.0	
60.4	59.1	58.1	57.2	61.1	61.5	61.7	62.0	62.1	
60.4	59.1	58.1	57.2	68.5	69.4	70.3	71.5	73.4	

2031	2032	2033
43.7	43.3	42.2
6.7	7.2	8.1
5.1	4.6	4.7
6.2	6.8	7.1
8.6	9.5	11.3
43.7	43.3	42.2
50.4	50.6	50.3
55.4	55.2	55.0
61.7	62.0	62.1
70.3	71.5	73.4



2035	2036	2037	2038	2039	2040	2041
54.6	54.4	54.0	53.6	53.2	52.8	52.3

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	FR
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.75

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

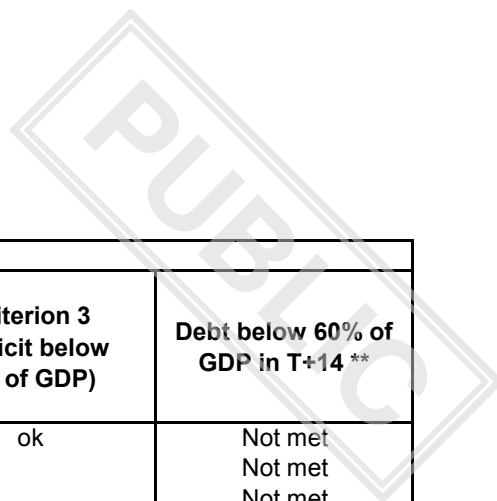
* The stochastic simulations are provided mainly for information, as the cone of uncertainty is not shown. Indeed, in this Excel worksheet, the size of the cone of the fan chart is as of the level of debt as shocks (in particular interest rate shocks) have different impacts.
 ** In case a smaller adjustment than the one implied by criterion 1 and criterion 2 is chosen, the minimum adjustment (baseline 'adjustment scenario') and all deterministic stress tests, then the minimum adjustment is met (criterion 3).

Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period
In case of a plan with no extension, both the plan period and the adjustment period are 4 years.
In case of a plan with extension, the plan period remains 4 years while the adjustment period is extended. If the minimum adjustment safeguard is binding, the values in G22 and G23 are the same. However, the values in G24 and G25 are different.

years of adjustment
 Annual adjustment
 Probability debt decreases:

* The adjustment in the table does not account for the minimum adjustment safeguard that debt declines over the plan period, i.e. that debt in T+4 is lower than in T.

Annual adjustment in a plan with no extension
 Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok	ok	ok	Not met
ok			Not met
ok			Not met
ok			Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.75	0.75	0.75	0.75
2.0	1.8	1.7	1.7
0.75			
0.75			
1.8			
1.8			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.75	0.55
76.5	75.7

ment of 0.5 pp. of GDP as a benchmark nor for the deficit below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
Not met	ok	0

|

chmark)		
2029	2030	2031
0.00	0.00	0.00

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	112.9	111.6
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock-flow adjustments (without exchange rate effect)	0.3	-0.2
Stock-flow adjustment (total)	0.2	0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
of which: Public pensions expenditure	15.3	15.3
Health care expenditure	8.9	8.8
Long-term care expenditure	2.0	2.0
Education & unemployment benefits expenditure	4.4	4.4
Taxes on pensions	2.0	2.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.8	2.6
Level	2219.2	
<i>Potential GDP</i>		
Growth rate	1.1	1.1
Level	2246.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.3	1.8
Inflation (SF 2023)		
GDP deflator (national currency)	1.3	3.0

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.7
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	54.6

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.7
Long-term nominal interest rate in 2025	3.0
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-4.4	-6.2
Difference between debt level in 50th and 30th percentile of the distribution	-1.8	-2.7
Difference between debt level in 70th and 50th percentile of the distribution	2.0	2.6
Difference between debt level in 90th and 50th percentile of the distribution	5.1	7.1

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
109.6	109.5								
-2.5	-2.2								
-0.1	-0.1								
-0.2	0.0								
-0.3	0.0								
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8	28.8
15.2	15.3	15.4	15.4	15.5	15.6	15.6	15.6	15.6	15.6
8.8	8.8	8.9	8.9	8.9	9.0	9.0	9.0	9.1	9.1
2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
4.3	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.1	4.1
2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4
1.1	1.1	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4
1.9	1.9								
5.4	2.6								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EL, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-7.4	-8.6	-9.3
-3.1	-3.4	-4.0
3.3	4.0	4.7
8.4	9.9	11.6

2033	2034	2035	2036	2037	2038	2039	2040	2041
28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.7
15.6	15.6	15.5	15.4	15.4	15.3	15.2	15.2	15.1
9.1	9.1	9.2	9.2	9.2	9.3	9.3	9.3	9.3
2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4
4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9
2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6	1.6
0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6	1.6

onomy, Economic Papers, No. 543.
pean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	FR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rate		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-4.7
Structural balance	-4.7
Net expenditure growth	1.6

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2343.2	2356.9	2367.9	2378.6	2389.2	2399.4	2409.5
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

6.1	4.1	3.4	3.2	3.1	3.1	3.1	3.1	3.1

1.9	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.8
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.3	111.5	113.0	114.8	116.7	118.8	121.0
-2.0	0.0	0.8	1.2	1.5	1.8	1.9	2.1	2.2
-2.7	-2.3	-2.3	-2.4	-2.4	-2.5	-2.6	-2.6	-2.6
-2.5	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-1.5	-1.2	-0.9	-0.8	-0.6	-0.5	-0.4
2.0	2.0	2.1	2.3	2.4	2.6	2.8	3.0	3.2

2032	2033	2034	2035	2036	2037	2038
-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
0.4	0.7	1.0	1.3	1.4	1.5	1.6
2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.3	3.6	3.9	3.9	4.0	4.0
2.9	3.0	3.1	3.1	3.2	3.2	3.3
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.7	1.0	1.3	1.4	1.5	1.6

2032	2033	2034	2035	2036	2037	2038
123.4	125.6	127.6	129.3	131.0	132.7	134.4
2.4	2.2	2.0	1.7	1.7	1.6	1.7
-2.6	-2.6	-2.7	-2.7	-2.6	-2.6	-2.6
-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.5	-0.7	-0.9	-0.9	-1.0	-0.9
3.4	3.5	3.7	3.8	4.0	4.1	4.2

-0.5	-0.9	-1.2	-1.6	-1.7	-1.9	-2.0
-3.1	-3.1	-3.2	-3.2	-3.2	-3.2	-3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-6.0	-6.2	-6.4	-6.5	-6.6	-6.7	-6.8
-6.0	-6.2	-6.4	-6.5	-6.6	-6.7	-6.8
3.1	3.3	3.6	3.8	3.9	4.0	4.0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
123.4	125.6	127.6	129.3	131.0	132.7	134.4
94.7	96.3	97.8	99.1	100.4	101.6	102.9
8.9	9.0	9.2	9.3	9.4	9.5	9.7
13.8	14.1	14.3	14.4	14.6	14.7	14.9
5.3	5.5	5.6	5.8	5.9	6.0	6.1
0.7	0.7	0.7	0.7	0.8	0.8	0.8
0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88
2.9	3.0	3.1	3.1	3.2	3.2	3.3
2.9	3.0	3.1	3.2	3.2	3.3	3.4
2.9	3.0	3.1	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



123.4	125.6	127.6	129.3	131.0	132.7	134.4
2.9	3.0	3.1	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.63

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-4.7
Structural balance	-4.7
Net expenditure growth	1.6
Average net primary expenditure growth	1.8
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2330.2	2335.1	2340.4	2347.0	2368.0	2388.8	2409.5
0.7	1.4	0.2	0.2	0.2	0.3	0.9	0.9	0.9

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	-0.5	-0.9	-1.2	-1.3	-0.9	-0.4	0.0

6.1	4.1	2.8	2.8	2.9	2.9	3.6	3.5	3.5

1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.6	-0.8	-0.9	-0.4	0.0
0.7	1.4	0.2	0.0	-0.1	-0.1	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.2	107.7	106.2
-2.0	0.0	0.9	0.5	0.1	-0.5	-1.3	-1.5	-1.6
-2.7	-2.3	-1.8	-1.3	-0.7	-0.1	0.2	0.4	0.7
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.3	0.6	0.7	0.8	0.6	0.3	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.9	-0.8	-0.7	-0.6	-1.2	-1.0	-0.9
2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8

-0.8	-1.5	-0.2	-0.2	-0.2	-0.3	-1.0	-0.9	-0.9
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.7	-4.3	-3.9	-3.6	-3.1	-2.6	-2.5	-2.3	-2.1
-4.4	-4.2	-3.6	-3.0	-2.4	-1.8	-1.9	-2.0	-2.1
5.8	3.3	2.0	1.8	1.7	1.7	3.1	3.1	3.1

0	0	0



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.2	107.7	106.2
	85.0	86.0	86.7	87.1	87.1	86.1	85.0	83.9
	7.6	7.8	7.9	7.9	8.0	7.9	7.9	7.8
	12.6	12.7	12.8	12.8	12.8	12.7	12.5	12.3
	3.8	3.5	3.2	2.8	2.3	2.2	2.0	1.9
	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



109.6	109.5	110.4	111.0	111.0	110.5	109.2	107.7	106.2
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
0.4	0.7	1.0	1.3	1.4	1.5	1.6
2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.3	3.6	3.9	3.9	4.0	4.0
2.8	2.9	2.9	3.0	3.1	3.1	3.2
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.7	1.0	1.3	1.4	1.5	1.6

2032	2033	2034	2035	2036	2037	2038
105.2	104.1	102.8	101.3	99.8	98.3	96.8
-1.0	-1.1	-1.3	-1.5	-1.5	-1.5	-1.5
0.7	0.6	0.6	0.6	0.7	0.6	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.5	-0.7	-0.9	-0.8	-0.9	-0.8
2.9	2.9	3.0	3.0	3.0	3.0	3.0

-0.4	-0.7	-1.0	-1.3	-1.4	-1.5	-1.5
-2.7	-2.7	-2.6	-2.5	-2.5	-2.4	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.2	-2.3	-2.3	-2.4	-2.3	-2.4	-2.4
-2.2	-2.3	-2.3	-2.4	-2.3	-2.4	-2.4
3.1	3.3	3.6	3.8	3.9	4.0	4.0

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
105.2	104.1	102.8	101.3	99.8	98.3	96.8
83.0	82.0	81.0	79.8	78.6	77.3	76.9
7.8	7.7	7.6	7.5	7.4	7.3	6.4
12.2	12.1	11.9	11.7	11.5	11.3	11.1
2.0	2.0	2.1	2.1	2.1	2.1	2.1
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88
2.8	2.9	2.9	3.0	3.1	3.1	3.2
2.8	2.9	2.9	3.0	3.1	3.2	3.2
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

105.2	104.1	102.8	101.3	99.8	98.3	96.8
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0

107.2	104.9	102.3	99.9	97.5	95.1	92.7
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.63

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2330.2	2335.1	2340.4	2347.0	2368.0	2388.8	2409.5
0.7	1.4	0.2	0.2	0.2	0.3	0.9	0.9	0.9

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	-0.5	-0.9	-1.2	-1.3	-0.9	-0.4	0.0

6.1	4.1	2.8	2.8	2.9	2.9	3.6	3.5	3.5

1.9	1.9	2.0	2.1	2.2	2.4	2.9	2.8	2.9
		3.0	3.1	3.2	3.3	5.6	3.5	3.6
		2.7	2.8	2.8	2.9	5.1	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.6	-0.8	-0.9	-0.4	0.0
0.7	1.4	0.2	0.0	-0.1	-0.1	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.7	108.4	107.0
-2.0	0.0	0.9	0.5	0.1	-0.5	-0.8	-1.3	-1.4
-2.7	-2.3	-1.8	-1.3	-0.7	-0.1	0.2	0.4	0.7
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.3	0.6	0.7	0.8	0.6	0.3	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.9	-0.8	-0.7	-0.6	-0.6	-0.8	-0.7
2.0	2.0	2.1	2.3	2.4	2.5	3.1	2.9	3.0

-0.8	-1.5	-0.2	-0.2	-0.2	-0.3	-1.0	-0.9	-0.9
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.7	108.4	107.0
	85.0	86.0	86.7	87.1	87.1	86.1	85.4	84.4
	7.6	7.8	7.9	7.9	8.0	7.9	7.9	7.9
	12.6	12.7	12.8	12.8	12.8	12.7	12.6	12.4
	3.8	3.5	3.2	2.8	2.3	2.6	2.2	2.0
	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

	1.9	2.0	2.1	2.2	2.4	2.9	2.8	2.9
	1.7	1.9	2.0	2.2	2.3	2.7	2.7	2.8
		2.0	2.1	2.2	2.4	2.9	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

109.6	109.5	110.4	111.0	111.0	110.5	109.7	108.4	107.0
1.9	1.9	2.0	2.1	2.2	2.4	2.9	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9 2437.4 2462.1 2494.1 2529.0 2567.4 2607.2
0.4 0.7 1.0 1.3 1.4 1.5 1.6

2419.9 2437.4 2462.1 2494.1 2529.0 2567.4 2607.2

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.1 3.3 3.6 3.9 3.9 4.0 4.0

2.9	3.0	3.1	3.1	3.2	3.2	3.3
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.4 0.7 1.0 1.3 1.4 1.5 1.6

2032	2033	2034	2035	2036	2037	2038
106.2	105.2	104.1	102.7	101.3	99.8	98.5
-0.8	-1.0	-1.2	-1.4	-1.4	-1.4	-1.4
0.7	0.6	0.6	0.6	0.7	0.6	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.3	-0.5	-0.7	-0.8	-0.8	-0.7
3.1	3.1	3.1	3.1	3.1	3.1	3.1

-0.5	-0.7	-1.0	-1.3	-1.4	-1.5	-1.5
-2.8	-2.7	-2.6	-2.6	-2.5	-2.5	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
106.2	105.2	104.1	102.7	101.3	99.8	98.5
83.7	82.8	81.9	80.8	79.6	78.5	77.4
7.9	7.8	7.7	7.6	7.5	7.4	7.3
12.3	12.2	12.0	11.8	11.7	11.5	11.3
2.1	2.2	2.2	2.2	2.2	2.2	2.2
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88

2.9	3.0	3.1	3.1	3.2	3.2	3.3
2.9	3.0	3.1	3.2	3.2	3.3	3.3
2.9	3.0	3.1	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



106.2	105.2	104.1	102.7	101.3	99.8	98.5
2.9	3.0	3.1	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0

107.6	105.6	103.1	100.8	98.5	96.2	93.9
3.2	3.1	3.1	3.2	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.5	0.3	0.3
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2330.2	2335.1	2340.4	2347.0	2372.4	2392.6	2404.9
0.7	1.4	0.2	0.2	0.2	0.3	1.1	0.9	0.5
2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5
-0.3	0.0	-0.5	-0.9	-1.2	-1.3	-0.7	-0.3	-0.2
6.1	4.1	2.8	2.8	2.9	2.9	3.7	3.5	3.2
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.4	-0.6	-0.8	-0.9	-0.5	-0.2
0.7	1.4	0.2	0.0	-0.1	-0.1	0.6	0.6	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.1	108.1	107.5
-2.0	0.0	0.9	0.5	0.1	-0.5	-1.4	-1.0	-0.6
-2.7	-2.3	-1.8	-1.3	-0.7	-0.1	0.0	0.0	0.1
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.5	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.3	0.6	0.7	0.8	0.4	0.2	0.1
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.9	-0.8	-0.7	-0.6	-1.4	-1.0	-0.5
2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8

-0.8	-1.5	-0.2	-0.2	-0.2	-0.3	-1.2	-0.9	-0.5
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.1	108.1	107.5
	85.0	86.0	86.7	87.1	87.1	85.9	85.0	84.5
	7.6	7.8	7.9	7.9	8.0	7.9	7.9	7.9
	12.6	12.7	12.8	12.8	12.8	12.7	12.5	12.4
	3.8	3.5	3.2	2.8	2.3	2.3	2.4	2.4
	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

109.6	109.5	110.4	111.0	111.0	110.5	109.1	108.1	107.5
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5

2417.7	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
0.5	0.8	1.0	1.3	1.4	1.5	1.6
2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.4	3.6	3.9	3.9	4.0	4.0
2.8	2.9	3.0	3.0	3.1	3.2	3.2
3.7	3.7	3.7	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.7	1.0	1.3	1.4	1.5	1.6

2032	2033	2034	2035	2036	2037	2038
107.0	106.3	105.5	104.5	103.5	102.5	101.5
-0.5	-0.7	-0.8	-1.0	-1.0	-1.0	-1.0
0.1	0.1	0.1	0.1	0.2	0.1	0.2
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.6	-0.7	-0.9	-0.9	-0.9	-0.8
2.9	3.0	3.0	3.1	3.1	3.1	3.2

-0.6	-0.8	-1.0	-1.3	-1.4	-1.5	-1.5
-2.8	-2.7	-2.7	-2.6	-2.6	-2.5	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
107.0	106.3	105.5	104.5	103.5	102.5	101.5
84.0	83.4	82.7	81.9	81.1	80.2	79.4
7.9	7.8	7.8	7.7	7.6	7.5	7.5
12.3	12.2	12.1	12.0	11.9	11.7	11.6
2.5	2.5	2.6	2.6	2.6	2.7	2.7
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.8	2.9	3.0	3.0	3.1	3.2	3.2
2.8	2.9	3.0	3.1	3.1	3.2	3.3
2.8	2.9	3.0	3.0	3.1	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



107.0	106.3	105.5	104.5	103.5	102.5	101.5
2.8	2.9	3.0	3.0	3.1	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.1	105.3	103.6	101.6	99.6	97.7	95.8
2.8	2.9	3.0	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate (including feedback and output-gap closure effect)	6.8	2.6
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates and inflation		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2

(2.1) Interest expenditure	1.9
(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2330.2	2335.1	2340.4	2347.0	2356.3	2365.1	2373.7
0.7	1.4	0.2	0.2	0.2	0.3	0.4	0.4	0.4
						-0.1	-0.1	-0.1

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2377.3	2375.6	2373.7

-0.3	0.0	-0.5	-0.9	-1.2	-1.3	-0.9	-0.4	0.0

6.1	4.1	2.8	2.8	2.9	2.9	3.0	3.0	3.0

1.9	1.9	2.0	2.1	2.2	2.4	2.6	2.7	2.9
		3.0	3.1	3.2	3.3	3.9	4.0	4.1
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.6	-0.8	-0.9	-0.4	0.0
0.7	1.4	0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.8	109.1	108.3
-2.0	0.0	0.9	0.5	0.1	-0.5	-0.7	-0.8	-0.8
-2.7	-2.3	-1.8	-1.3	-0.7	-0.1	0.2	0.4	0.7
-2.5	-2.2	-1.5	-0.7	0.0	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.3	0.6	0.7	0.8	0.6	0.3	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.9	-0.8	-0.7	-0.6	-0.5	-0.3	-0.1

2.0	2.0	2.1	2.3	2.4	2.5	2.8	2.9	3.0
-0.8	-1.5	-0.2	-0.2	-0.2	-0.3	-0.4	-0.4	-0.4
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.4	111.0	111.0	110.5	109.8	109.1	108.3
	85.0	86.0	86.7	87.1	87.1	86.5	86.0	85.4
	7.6	7.8	7.9	7.9	8.0	8.0	8.0	8.0
	12.6	12.7	12.8	12.8	12.8	12.7	12.7	12.6
	3.8	3.5	3.2	2.8	2.3	2.3	2.2	2.1
	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.9	1.9	2.0	2.1	2.2	2.4	2.6	2.7	2.9
	1.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8
		2.0	2.1	2.2	2.4	2.6	2.7	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5

2372.1	2377.4	2389.5	2408.7	2430.3	2455.1	2480.9
-0.1	0.2	0.5	0.8	0.9	1.0	1.1
-0.1	0.2	0.5	0.8	0.9	1.0	1.1

2372.1	2377.4	2389.5	2408.7	2430.3	2455.1	2480.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.8	3.1	3.4	3.4	3.5	3.5
3.0	3.1	3.2	3.3	3.4	3.5	3.6
4.2	4.2	4.2	4.3	4.3	4.3	4.3
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.2	0.5	0.8	0.9	1.0	1.1

2032	2033	2034	2035	2036	2037	2038
108.1	107.7	107.2	106.6	105.9	105.2	104.6
-0.2	-0.3	-0.5	-0.7	-0.7	-0.7	-0.6
0.7	0.6	0.6	0.6	0.7	0.6	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.3	0.1	0.0	0.0	0.0	0.0

3.2	3.3	3.4	3.4	3.5	3.6	3.6
0.1	-0.2	-0.5	-0.8	-0.9	-1.0	-1.1
-2.8	-2.7	-2.7	-2.7	-2.6	-2.6	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
108.1	107.7	107.2	106.6	105.9	105.2	104.6
85.0	84.7	84.2	83.6	83.1	82.5	81.9
8.0	8.0	7.9	7.9	7.8	7.7	7.7
12.5	12.4	12.4	12.3	12.2	12.1	12.0
2.2	2.3	2.4	2.5	2.5	2.6	2.6
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.0	3.1	3.2	3.3	3.4	3.5	3.6
2.9	3.1	3.2	3.3	3.4	3.5	3.6
3.0	3.1	3.2	3.3	3.4	3.5	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



108.1	107.7	107.2	106.6	105.9	105.2	104.6
3.0	3.1	3.2	3.3	3.4	3.5	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.8	106.3	104.3	102.7	101.0	99.3	97.6
2.9	3.0	3.1	3.2	3.3	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

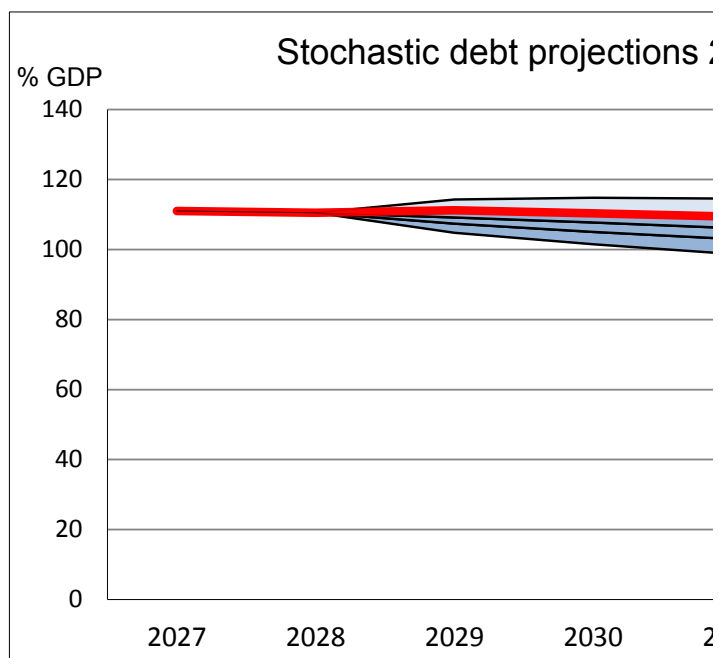
Country	FR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	112.9	111.6	109.6	109.5
Distribution of debt paths				
p10	112.9	111.6	109.6	109.5
p30	112.9	111.6	109.6	109.5
p50 - Adjustment scenario	112.9	111.6	109.6	109.5
p70	112.9	111.6	109.6	109.5
p90	112.9	111.6	109.6	109.5
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	111.0	110.5	104.8	101.5
p30_p10	0.0	0.0	2.6	3.6
p50_p30	0.0	0.0	1.8	2.7
p70_p50	0.0	0.0	2.0	2.6
p90_p70	0.0	0.0	3.1	4.5
p10	111.0	110.5	104.8	101.5
p30	111.0	110.5	107.4	105.1
p50	111.0	110.5	109.2	107.7
p70	111.0	110.5	111.2	110.3
p90	111.0	110.5	114.3	114.8

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
110.4	111.0	111.0	110.5	109.2	107.7	106.2	105.2	104.1	102.8

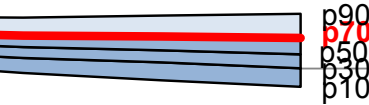
110.4	111.0	111.0	110.5	104.8	101.5	98.8	96.7	94.8	
110.4	111.0	111.0	110.5	107.4	105.1	103.1	101.8	100.1	
110.4	111.0	111.0	110.5	109.2	107.7	106.2	105.2	104.1	
110.4	111.0	111.0	110.5	111.2	110.3	109.4	109.2	108.7	
110.4	111.0	111.0	110.5	114.3	114.8	114.5	115.1	115.6	

2031	2032	2033
98.8	96.7	94.8
4.3	5.1	5.3
3.1	3.4	4.0
3.3	4.0	4.7
5.1	5.9	6.9
98.8	96.7	94.8
103.1	101.8	100.1
106.2	105.2	104.1
109.4	109.2	108.7
114.5	115.1	115.6



2035	2036	2037	2038	2039	2040	2041
101.3	99.8	98.3	96.8	95.4	94.0	92.7

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity to its maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	FR
# years of adjustment	7
Annual adjustment (when benchmark not binding)	0.00

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the cone of uncertainty is not shown. Indeed, in this Excel worksheet, the size of the cone of the fan chart is as of the level of debt as shocks (in particular interest rate shocks) have different impacts.

** In case a smaller adjustment than the one implied by criterion 1 and criterion 2 is chosen, the minimum adjustment (baseline 'adjustment scenario') and all deterministic stress tests, then the minimum adjustment is met (criterion 3).

Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

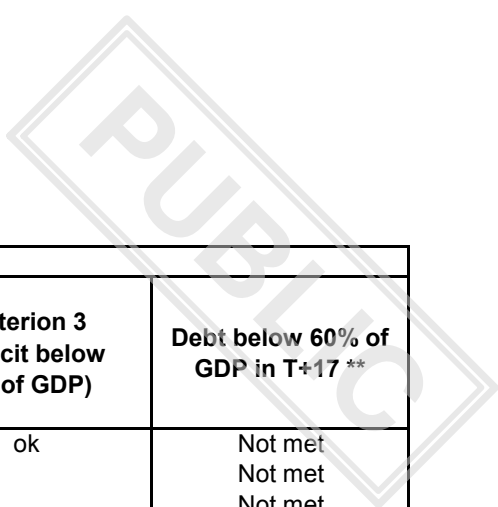
In case of a plan with no extension, both the plan period and the adjustment period are 4 years.

In case of a plan with extension, the plan period remains 4 years while the adjustment period is extended. If the minimum adjustment safeguard is binding, the values in G22 and G23 are the same. However, if the minimum adjustment safeguard is not binding, the values in G22 and G23 are different.

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjustment safeguard that debt declines over the plan period, i.e. that debt in T+4 is lower than in T.

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+17 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
1.00	1.00	1.00	1.00
1.6	1.4	1.3	1.3
1.00			
0.57			
1.4			
2.1			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.75	0.55
76.5	75.7

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

2029	2030	2031
0.00	0.00	0.00
3.1	3.1	3.1

chmark)		
2029	2030	2031
0.00	0.00	0.00

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	112.9	111.6
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock-flow adjustments (without exchange rate effect)	0.3	-0.2
Stock-flow adjustment (total)	0.2	0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
of which: Public pensions expenditure	15.3	15.3
Health care expenditure	8.9	8.8
Long-term care expenditure	2.0	2.0
Education & unemployment benefits expenditure	4.4	4.4
Taxes on pensions	2.0	2.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.8	2.6
Level	2219.2	
<i>Potential GDP</i>		
Growth rate	1.1	1.1
Level	2246.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.3	1.8
Inflation (SF 2023)		
GDP deflator (national currency)	1.3	3.0

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.7
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	54.6

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.7
Long-term nominal interest rate in 2025	3.0
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-4.4	-6.2
Difference between debt level in 50th and 30th percentile of the distribution	-1.8	-2.7
Difference between debt level in 70th and 50th percentile of the distribution	2.0	2.6
Difference between debt level in 90th and 50th percentile of the distribution	5.1	7.1

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
109.6	109.5								
-2.5	-2.2								
-0.1	-0.1								
-0.2	0.0								
-0.3	0.0								
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8	28.8
15.2	15.3	15.4	15.4	15.5	15.6	15.6	15.6	15.6	15.6
8.8	8.8	8.9	8.9	8.9	9.0	9.0	9.0	9.1	9.1
2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1
4.3	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.1	4.1
2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4
1.1	1.1	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.4
1.9	1.9								
5.4	2.6								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EL, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-7.4	-8.6	-9.3
-3.1	-3.4	-4.0
3.3	4.0	4.7
8.4	9.9	11.6

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these country, changing this parameter would not affect debt projections.

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Country	FR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rate		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-4.7
Structural balance	-4.7
Net expenditure growth	1.6

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2343.2	2356.9	2367.9	2378.6	2389.2	2399.4	2409.5
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

6.1	4.1	3.4	3.2	3.1	3.1	3.1	3.1	3.1

1.9	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.8
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	1.4	0.8	0.6	0.5	0.5	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.3	111.5	113.0	114.8	116.7	118.8	121.0
-2.0	0.0	0.8	1.2	1.5	1.8	1.9	2.1	2.2
-2.7	-2.3	-2.3	-2.4	-2.4	-2.5	-2.6	-2.6	-2.6
-2.5	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-1.5	-1.2	-0.9	-0.8	-0.6	-0.5	-0.4
2.0	2.0	2.1	2.3	2.4	2.6	2.8	3.0	3.2

2032	2033	2034	2035	2036	2037	2038	2039	2040
-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2	2648.4	2690.5
0.4	0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6
2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2	2648.4	2690.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.3	3.6	3.9	3.9	4.0	4.0	4.0	4.0
2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4
3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6

2032	2033	2034	2035	2036	2037	2038	2039	2040
123.4	125.6	127.6	129.3	131.0	132.7	134.4	136.1	137.9
2.4	2.2	2.0	1.7	1.7	1.6	1.7	1.7	1.8
-2.6	-2.6	-2.7	-2.7	-2.6	-2.6	-2.6	-2.6	-2.6
-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.5	-0.7	-0.9	-0.9	-1.0	-0.9	-0.9	-0.8
3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.3	4.4



2041

-2.2
0.0
0.0

28.7
0.5

2734.1
1.6

2734.1

0.0

4.0

3.4
3.8
2.6
0.1

2.4
1.0

0.0
0.0
1.6

2041
139.6
1.8
-2.5
-2.2
0.0
0.0
0.0
0.3
0.0
0.0
-0.8
4.5

-2.1
-3.2
0.0
0.0
0.0
0.0
-7.1
-7.1
4.0



1	
0	
2041	
139.6	
107.0	
10.1	
15.4	
6.3	
0.8	
0.12	
0.88	
3.4	
3.5	
3.4	
0.0	
1.0	



139.6
3.4
0.0

2041
0.1
0.1
0.1
0.1





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Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.63

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-4.7
Structural balance	-4.7
Net expenditure growth	1.6
Average net primary expenditure growth	2.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2325.8	2327.9	2331.2	2336.5	2361.0	2385.3	2409.5
0.7	1.4	0.0	0.1	0.1	0.2	1.0	1.0	1.0

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	-0.7	-1.2	-1.5	-1.8	-1.2	-0.6	0.0

6.1	4.1	2.7	2.7	2.8	2.9	3.7	3.7	3.7

1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.5	-0.8	-1.0	-1.2	-0.6	0.0
0.7	1.4	0.0	-0.2	-0.3	-0.3	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
-2.0	0.0	1.0	0.4	-0.4	-1.2	-2.3	-2.6	-2.8
-2.7	-2.3	-1.7	-1.0	-0.2	0.6	1.0	1.4	1.8
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.5	0.8	1.0	1.1	0.7	0.4	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.7	-0.6	-0.6	-0.5	-1.3	-1.2	-1.0
2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-0.8	-1.5	0.0	-0.1	-0.2	-0.2	-1.1	-1.1	-1.0
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.7	-2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.7	-4.3	-3.8	-3.3	-2.6	-1.9	-1.6	-1.3	-0.9
-4.4	-4.2	-3.4	-2.5	-1.7	-0.8	-0.8	-0.9	-0.9
5.8	3.3	1.6	1.4	1.3	1.3	3.1	3.1	3.1

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
	85.0	86.2	86.9	87.1	86.7	85.0	83.2	81.2
	7.6	7.8	7.9	7.9	8.0	7.8	7.7	7.6
	12.6	12.7	12.8	12.8	12.8	12.5	12.3	12.0
	3.8	3.4	2.9	2.3	1.7	1.4	1.1	0.8
	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

109.6	109.5	110.4	111.0	111.0	110.5	109.2	107.7	106.2
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038	2039	2040
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2	2648.4	2690.5
0.4	0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6
2419.9	2437.4	2462.1	2494.1	2529.0	2567.4	2607.2	2648.4	2690.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.3	3.6	3.9	3.9	4.0	4.0	4.0	4.0
2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.2	3.2
3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.7	1.0	1.3	1.4	1.5	1.6	1.6	1.6

2032	2033	2034	2035	2036	2037	2038	2039	2040
99.6	97.4	95.0	92.5	89.9	87.4	84.9	82.5	80.1
-2.1	-2.2	-2.4	-2.5	-2.5	-2.5	-2.5	-2.4	-2.4
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.5	-0.7	-0.8	-0.8	-0.8	-0.8	-0.7	-0.6
2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6



2041

1.8
0.0
0.0

28.7
0.5

2734.1
1.6

2734.1

0.0

4.0

3.3
3.8
2.6
0.1

2.4
1.0

0.0
0.0
1.6

2041
77.7
-2.4
1.8
1.8
0.0
0.0
0.0
-0.1
0.0
0.0
-0.6
2.5

-1.2
-1.8
0.0
0.0
0.0
0.0
-0.7
-0.7
4.0

0



1
0

2041
77.7
62.1
5.8
9.1
0.6
0.1
0.1
0.9
3.3
3.4
3.3
0.0
1.0



92.7
3.3
0.0
85.8
3.3
0.0

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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.63

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2325.8	2327.9	2331.2	2336.5	2361.0	2385.3	2409.5
0.7	1.4	0.0	0.1	0.1	0.2	1.0	1.0	1.0

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	-0.7	-1.2	-1.5	-1.8	-1.2	-0.6	0.0

6.1	4.1	2.7	2.7	2.8	2.9	3.7	3.7	3.7

1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.5	-0.8	-1.0	-1.2	-0.6	0.0
0.7	1.4	0.0	-0.2	-0.3	-0.3	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
-2.0	0.0	1.0	0.4	-0.4	-1.2	-2.3	-2.6	-2.8
-2.7	-2.3	-1.7	-1.0	-0.2	0.6	1.0	1.4	1.8
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.5	0.8	1.0	1.1	0.7	0.4	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.7	-0.6	-0.6	-0.5	-1.3	-1.2	-1.0
2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-0.8	-1.5	0.0	-0.1	-0.2	-0.2	-1.1	-1.1	-1.0
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.7	-2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
	85.0	86.2	86.9	87.1	86.7	85.0	83.2	81.2
	7.6	7.8	7.9	7.9	8.0	7.8	7.7	7.6
	12.6	12.7	12.8	12.8	12.8	12.5	12.3	12.0
	3.8	3.4	2.9	2.3	1.7	1.4	1.1	0.8
	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

109.6	109.5	110.4	111.0	111.0	110.5	109.7	108.4	107.0
1.9	1.9	2.0	2.1	2.2	2.4	2.9	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038	2039	2040
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2419.9 2437.4 2462.1 2494.1 2529.0 2567.4 2607.2 2648.4 2690.5
0.4 0.7 1.0 1.3 1.4 1.5 1.6 1.6 1.6

2419.9 2437.4 2462.1 2494.1 2529.0 2567.4 2607.2 2648.4 2690.5

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.1 3.3 3.6 3.9 3.9 4.0 4.0 4.0 4.0

3.1	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3
5.4	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8
4.7	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.4 0.7 1.0 1.3 1.4 1.5 1.6 1.6 1.6

2032	2033	2034	2035	2036	2037	2038	2039	2040
99.9	97.8	95.6	93.2	90.7	88.2	85.8	83.4	81.1
-1.7	-2.1	-2.3	-2.4	-2.5	-2.5	-2.4	-2.4	-2.3
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.4	-0.6	-0.7	-0.7	-0.8	-0.7	-0.6	-0.6
3.1	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.6

_____ 0 0 0 0 0 0 0 0

1	1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0	0

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2041

1.8
0.0
0.0

28.7
0.5

2734.1
1.6

2734.1

0.0

4.0

3.3
3.8
2.6
0.1

2.4
1.0

0.0
0.0
1.6

2041
78.7
-2.4
1.8
1.8
0.0
0.0
0.0
-0.1
0.0
0.0
-0.5
2.6

-1.3
-1.9
0.0
0.0
0.0
0.0
0



1
0
2041
78.7
62.8
5.9
9.2
0.7
0.1
0.12
0.88
3.3
3.4
3.324
0.0
1.0



94.4
3.377
0.0
87.3
3.4
0.0







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Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate	6.8	2.6
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.9

(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2325.8	2327.9	2331.2	2336.5	2361.0	2385.3	2409.5
0.7	1.4	0.0	0.1	0.1	0.2	1.0	1.0	1.0
2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5
-0.3	0.0	-0.7	-1.2	-1.5	-1.8	-1.2	-0.6	0.0
6.1	4.1	2.7	2.7	2.8	2.9	3.7	3.7	3.7
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.5	-0.8	-1.0	-1.2	-0.6	0.0
0.7	1.4	0.0	-0.2	-0.3	-0.3	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
-2.0	0.0	1.0	0.4	-0.4	-1.2	-2.3	-2.6	-2.8
-2.7	-2.3	-1.7	-1.0	-0.2	0.6	1.0	1.4	1.8
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.5	0.8	1.0	1.1	0.7	0.4	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.7	-0.6	-0.6	-0.5	-1.3	-1.2	-1.0
2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-0.8	-1.5	0.0	-0.1	-0.2	-0.2	-1.1	-1.1	-1.0
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.7	-2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
	85.0	86.2	86.9	87.1	86.7	85.0	83.2	81.2
	7.6	7.8	7.9	7.9	8.0	7.8	7.7	7.6
	12.6	12.7	12.8	12.8	12.8	12.5	12.3	12.0
	3.8	3.4	2.9	2.3	1.7	1.4	1.1	0.8
	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

109.6	109.5	110.4	111.0	111.0	110.5	109.1	108.1	107.5
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0



2041

1.3
0.0
0.0

28.7
0.5

2734.1
1.6

2734.1

0.0

4.0

3.3
3.8
2.6
0.1

2.4
1.0

0.0
0.0
1.6

2041
81.9
-1.9
1.3
1.3
0.0
0.0
0.0
-0.1
0.0
0.0
-0.6
2.6

-1.3
-1.9
0.0
0.0
0.0
0.0
0



1
0
2041
81.9
64.9
6.1
9.5
1.2
0.2
0.1
0.9
3.3
3.4
3.3
0.0
1.0



98.8
3.337
0.0
90.4
3.3
0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FR
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.2	-2.9
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	0.3	-0.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	28.5	28.4
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2219.2	2276.0
Growth rate (including feedback and output-gap closure effect)	6.8	2.6
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	2246.8	2272.3
<i>Output gap</i>		
Output gap	-1.2	0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.2	5.7
Interest rates and inflation		
Nominal implicit interest rate on debt	1.3	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.3	3.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.63	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	112.9	111.6
<i>Change in debt (-1+2+3)</i>		-1.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.8
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.1
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2

(2.1) Interest expenditure	1.9
(2.2) Growth effect	-2.7
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	112.9	111.6
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.3	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	1.0

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.75)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.55)

Debt	112.9	111.6
IIR	1.3	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.4	28.4	28.5	28.6	28.7	28.7	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2292.5	2325.0	2325.8	2327.9	2331.2	2336.5	2361.0	2385.3	2409.5
0.7	1.4	0.0	0.1	0.1	0.2	1.0	1.0	1.0
						0.4	0.4	0.4

2298.3	2324.1	2342.6	2356.6	2367.9	2378.6	2389.2	2399.4	2409.5

-0.3	0.0	-0.7	-1.2	-1.5	-1.8	-1.2	-0.6	0.0

6.1	4.1	2.7	2.7	2.8	2.9	3.7	3.7	3.7

1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		3.0	3.1	3.2	3.3	3.4	3.5	3.6
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.5	-0.8	-1.0	-1.2	-0.6	0.0
0.7	1.4	0.0	-0.2	-0.3	-0.3	0.4	0.4	0.4

2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
-2.0	0.0	1.0	0.4	-0.4	-1.2	-2.3	-2.6	-2.8
-2.7	-2.3	-1.7	-1.0	-0.2	0.6	1.0	1.4	1.8
-2.5	-2.2	-1.2	-0.2	0.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.5	0.8	1.0	1.1	0.7	0.4	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.5	-2.3	-0.7	-0.6	-0.6	-0.5	-1.3	-1.2	-1.0

2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7
-0.8	-1.5	0.0	-0.1	-0.2	-0.2	-1.1	-1.1	-1.0
-5.7	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.7	-2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
109.6	109.5	110.5	110.9	110.5	109.3	107.0	104.4	101.7
	85.0	86.2	86.9	87.1	86.7	85.0	83.2	81.2
	7.6	7.8	7.9	7.9	8.0	7.8	7.7	7.6
	12.6	12.7	12.8	12.8	12.8	12.5	12.3	12.0
	3.8	3.4	2.9	2.3	1.7	1.4	1.1	0.8
	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
	1.7	1.9	2.0	2.2	2.3	2.4	2.5	2.6
		2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



109.6	109.5	110.4	111.0	111.0	110.5	109.8	109.1	108.3
1.9	1.9	2.0	2.1	2.2	2.4	2.6	2.7	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
109.6	109.5	110.4	111.1	111.5	111.5	111.0	110.2	109.0
1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038	2039	2040
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28.8	28.9	28.9	28.9	28.8	28.8	28.8	28.8	28.8
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

2407.9	2413.3	2425.6	2445.0	2467.0	2492.2	2518.3	2545.5	2573.3
-0.1	0.2	0.5	0.8	0.9	1.0	1.1	1.1	1.1
-0.1	0.2	0.5	0.8	0.9	1.0	1.1	1.1	1.1

2407.9	2413.3	2425.6	2445.0	2467.0	2492.2	2518.3	2545.5	2573.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.8	3.1	3.4	3.4	3.5	3.5	3.5	3.5
2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6
4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3
3.5	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.2	0.5	0.8	0.9	1.0	1.1	1.1	1.1

2032	2033	2034	2035	2036	2037	2038	2039	2040
100.2	98.6	96.9	95.0	93.2	91.3	89.5	87.7	86.0
-1.4	-1.6	-1.7	-1.9	-1.9	-1.9	-1.8	-1.8	-1.7
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.1	0.0	-0.2	-0.2	-0.2	-0.1	0.0	0.0



2041

1.8
0.0
0.0

28.7
0.5

2602.1
1.1
1.1

2602.1

0.0

3.5

3.6
4.3
3.1
0.1

2.4
1.0

0.0
0.0
1.1

2041
84.2
-1.7
1.8
1.8
0.0
0.0
0.0
-0.1
0.0
0.0
0.1

3.0
-0.9
-2.0
0.0
0.0
0.0
0.0
0



1
0
2041
84.2
67.0
6.3
9.8
1.0
0.1
0.1
0.9
3.6
3.7
3.6
0.0
1.0



103.0
3.732
0.0
93.0
3.7
0.0



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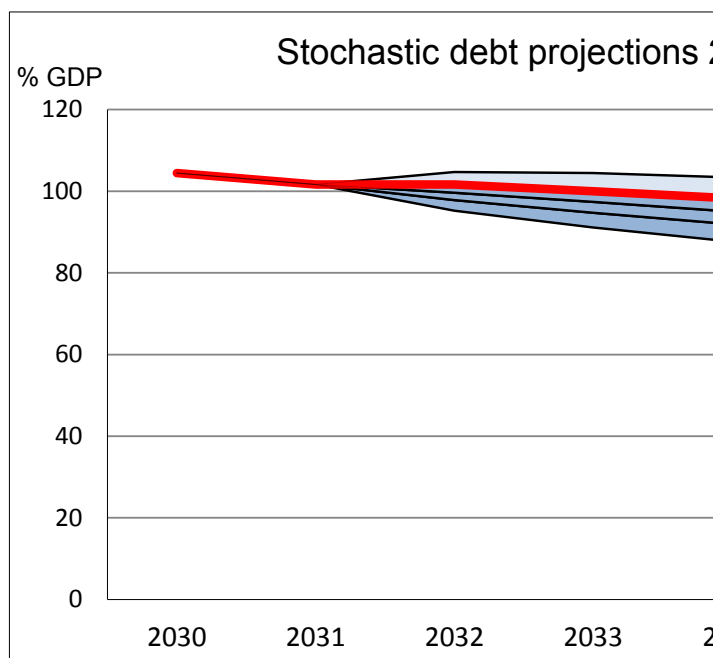
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

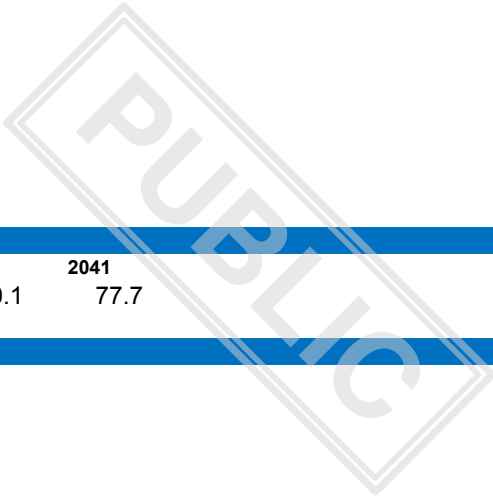
Country	FR
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2032
Last year of stochastic projections	2036

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	112.9	111.6	109.6	109.5
Distribution of debt paths				
p10	112.9	111.6	109.6	109.5
p30	112.9	111.6	109.6	109.5
p50 - Adjustment scenario	112.9	111.6	109.6	109.5
p70	112.9	111.6	109.6	109.5
p90	112.9	111.6	109.6	109.5
Graph				
Stochastic debt projections 2032-2036	2030	2031	2032	2033
p10	104.4	101.7	95.2	91.1
p30_p10	0.0	0.0	2.6	3.6
p50_p30	0.0	0.0	1.8	2.7
p70_p50	0.0	0.0	2.0	2.6
p90_p70	0.0	0.0	3.1	4.5
p10	104.4	101.7	95.2	91.1
p30	104.4	101.7	97.8	94.7
p50	104.4	101.7	99.6	97.4
p70	104.4	101.7	101.6	100.0
p90	104.4	101.7	104.7	104.5

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
110.5	110.9	110.5	109.3	107.0	104.4	101.7	99.6	97.4	95.0
110.5	110.9	110.5	109.3	107.0	104.4	101.7	95.2	91.1	87.6
110.5	110.9	110.5	109.3	107.0	104.4	101.7	97.8	94.7	91.9
110.5	110.9	110.5	109.3	107.0	104.4	101.7	99.6	97.4	95.0
110.5	110.9	110.5	109.3	107.0	104.4	101.7	101.6	100.0	98.3
110.5	110.9	110.5	109.3	107.0	104.4	101.7	104.7	104.5	103.4

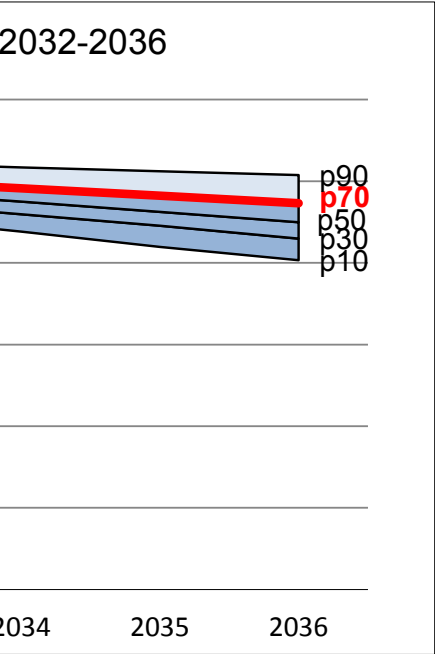
2034	2035	2036
87.6	83.9	80.6
4.3	5.1	5.3
3.1	3.4	4.0
3.3	4.0	4.7
5.1	5.9	6.9
87.6	83.9	80.6
91.9	89.1	85.9
95.0	92.5	89.9
98.3	96.5	94.6
103.4	102.4	101.5





2035	2036	2037	2038	2039	2040	2041
92.5	89.9	87.4	84.9	82.5	80.1	77.7

83.9	80.6
89.1	85.9
92.5	89.9
96.5	94.6
102.4	101.5





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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	FI
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.25

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

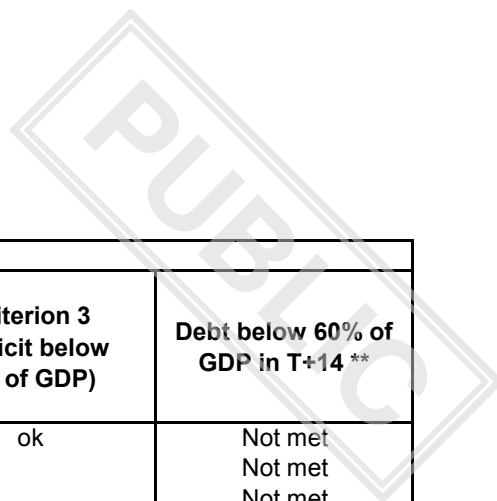
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the smallest adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.25	0.25	0.25	0.25
3.1	3.0	3.1	3.1
0.25			
0.25			
3.1			
3.1			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.25	0.10
72.8	71.6

ment of 0.5 pp. of GDP as a benchmark nor for the below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
0.25	0.25	0.25	0.25
0.10	0.10	0.10	0.10

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

|

chmark)		
2029	2030	2031
0.10	0.10	0.10

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	72.6	73.0
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	-1.1	3.7
Stock-flow adjustment (total)	-1.2	3.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
of which: Public pensions expenditure	13.8	13.6
Health care expenditure	6.3	6.2
Long-term care expenditure	2.2	2.2
Education & unemployment benefits expenditure	5.2	5.2
Taxes on pensions	2.9	2.8
Property income	2.1	2.1
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	3.0	2.1
Level	206.4	
<i>Potential GDP</i>		
Growth rate	1.0	1.6
Level	208.2	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	0.7	0.8
Inflation (SF 2023)		
GDP deflator (national currency)	2.2	4.2

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.2
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.0
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	53.8

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.0
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.6
Long-term nominal interest rate in 2025	3.0
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-5.7	-8.2
Difference between debt level in 50th and 30th percentile of the distribution	-2.5	-3.5
Difference between debt level in 70th and 50th percentile of the distribution	2.7	3.4
Difference between debt level in 90th and 50th percentile of the distribution	6.4	8.8

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
73.9	76.2								
-1.0	-0.7								
0.0	0.0								
1.6	2.5								
1.5	2.5								
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1	25.1
13.6	13.5	13.6	13.6	13.6	13.7	13.7	13.7	13.7	13.7
6.3	6.3	6.3	6.4	6.4	6.4	6.5	6.5	6.5	6.5
2.3	2.3	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9
5.2	5.2	5.2	5.2	5.1	5.1	5.0	4.9	4.9	4.8
2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.9	2.8	2.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.2	1.4	1.5	1.4	1.4	1.0	1.0	1.1	1.2	1.2
1.1	1.2	1.1	1.0	1.0	1.0	1.0	1.1	1.2	1.2
1.2	1.7								
4.4	2.4								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-9.9	-10.9	-12.1
-4.0	-4.7	-5.3
4.0	5.0	5.4
10.5	12.1	14.0

2033	2034	2035	2036	2037	2038	2039	2040	2041

25.0	25.0	24.9	24.9	24.8	24.8	24.7	24.7	24.6
13.6	13.5	13.4	13.3	13.2	13.1	12.9	12.8	12.8
6.6	6.6	6.6	6.6	6.6	6.7	6.7	6.7	6.7
2.9	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.3
4.7	4.7	4.7	4.6	4.6	4.6	4.5	4.5	4.5
2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.7
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

1.3	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.3

1.3	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.3

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.1	3.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
Property income	2.1	2.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	206.4	210.7
Growth rate	3.0	2.1
<i>Potential GDP (real)</i>		
Level	208.2	211.7
<i>Output gap</i>		
Output gap	-0.9	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.3	6.4
Interest rate		
Nominal implicit interest rate on debt	0.7	0.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (national currency)	2.2	4.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.58

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.1

Debt projections

	2021	2022
Gross debt	72.6	73.0
<i>Change in debt (-1+2+3)</i>		0.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		0.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.8
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.4
(2.3) Inflation effect	-3.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.9
(3.1) Base	3.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-0.9
Structural balance	-0.6
Net expenditure growth	2.8

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	72.6	73.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	0.7	0.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

211.1	214.0	217.2	220.1	223.2	225.4	227.8	230.4	233.1
0.2	1.4	1.5	1.4	1.4	1.0	1.0	1.1	1.2

214.0	216.5	218.8	221.0	223.2	225.4	227.8	230.4	233.1

-1.4	-1.1	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0

4.6	3.8	4.0	3.9	3.9	3.6	3.6	3.8	3.8

1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3
		3.0	3.0	3.0	3.0	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	1.4	1.5	1.4	1.4	1.0	1.0	1.1	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.9	75.5	75.1	75.1	75.2	75.3	75.4
0.9	2.3	-0.3	-0.3	-0.4	0.0	0.1	0.1	0.1
-1.7	-1.3	-1.2	-1.1	-1.0	-1.1	-1.1	-1.2	-1.2
-1.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.7	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.4	-1.5	-1.5	-1.4	-1.4	-1.1	-1.1	-1.1	-1.1
0.8	1.2	1.4	1.4	1.5	1.5	1.6	1.6	1.7

2032	2033	2034	2035	2036	2037	2038
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.1	25.0	25.0	24.9	24.9	24.8	24.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1

235.9	238.9	242.2	245.6	249.2	252.8	256.5
1.2	1.3	1.4	1.4	1.5	1.5	1.4
235.9	238.9	242.2	245.6	249.2	252.8	256.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	3.9	4.0	4.0	4.0	4.0	3.9
2.4	2.4	2.5	2.5	2.6	2.6	2.7
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.4	1.4	1.5	1.5	1.4

2032	2033	2034	2035	2036	2037	2038
75.5	75.6	75.7	75.8	75.8	75.9	75.9
0.1	0.1	0.1	0.0	0.0	0.0	0.0
-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.4	0.4	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.1	-1.1	-1.1	-1.1	-1.0	-1.0	-0.9
1.7	1.8	1.8	1.9	1.9	1.9	2.0

-0.9	-0.9	-1.0	-1.0	-1.1	-1.1	-1.1
-1.9	-1.9	-1.9	-1.9	-1.9	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.9	-3.0	-3.0	-3.0	-3.0	-2.9	-2.9
-2.9	-3.0	-3.0	-3.0	-3.0	-2.9	-2.9
3.8	3.9	3.9	4.0	4.0	3.9	3.9



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
75.5	75.6	75.7	75.8	75.8	75.8	75.9
60.0	60.1	60.1	60.2	60.3	60.3	60.4
2.4	2.4	2.5	2.5	2.5	2.5	2.5
10.2	10.2	10.2	10.1	10.1	10.1	10.1
2.6	2.6	2.6	2.6	2.6	2.5	2.5
0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86
2.4	2.4	2.5	2.5	2.6	2.6	2.7
2.3	2.4	2.4	2.5	2.5	2.6	2.7
2.4	2.4	2.5	2.5	2.6	2.6	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



75.5	75.6	75.7	75.8	75.8	75.9	75.9
2.4	2.4	2.5	2.5	2.6	2.6	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.1	3.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
Property income	2.1	2.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	206.4	210.7
Growth rate	3.0	2.1
<i>Potential GDP (real)</i>		
Level	208.2	211.7
<i>Output gap</i>		
Output gap	-0.9	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.3	6.4
Interest rates		
Nominal implicit interest rate on debt	0.7	0.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.2	4.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.58

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.1

Debt projections

	2021	2022
Gross debt	72.6	73.0
<i>Change in debt (-1+2+3)</i>		0.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		0.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.8
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.4
(2.3) Inflation effect	-3.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.9
(3.1) Base	3.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Other budgetary variables	
Headline balance	-0.9
Structural balance	-0.6
Net expenditure growth	2.8
Average net primary expenditure growth	3.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	72.6	73.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.14	0.14
Share of long-term debt in total government debt	0.86	0.86
IIR	0.7	0.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

211.1	214.0	216.8	219.2	221.6	223.9	226.8	229.9	233.1
0.2	1.4	1.3	1.1	1.1	1.1	1.3	1.4	1.4

214.0	216.5	218.8	221.0	223.2	225.4	227.8	230.4	233.1

-1.4	-1.1	-0.9	-0.8	-0.7	-0.7	-0.4	-0.2	0.0

4.6	3.8	3.8	3.6	3.6	3.6	3.9	4.0	4.1

1.2	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
		3.0	3.0	3.0	3.0	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.5	-0.5	-0.4	-0.2	0.0
0.2	1.4	1.3	1.2	1.2	0.8	1.0	1.1	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.0	70.7	69.3
0.9	2.3	-0.4	-0.6	-0.8	-1.1	-1.2	-1.3	-1.4
-1.7	-1.3	-1.0	-0.6	-0.3	-0.1	0.0	0.1	0.2
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.7	0.5	0.5	0.4	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.4	-1.5	-1.4	-1.2	-1.2	-1.1	-1.2	-1.2	-1.2
0.8	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.5

-0.1	-1.0	-0.9	-0.8	-0.8	-0.8	-0.9	-0.9	-1.0
-3.1	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.6	-2.6	-2.3	-2.1	-1.8	-1.5	-1.5	-1.5	-1.4
-1.8	-1.9	-1.8	-1.6	-1.4	-1.2	-1.3	-1.3	-1.4
7.2	3.0	3.1	3.0	3.1	3.1	3.6	3.7	3.8

0	0	0



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.0	70.7	69.3
	58.5	60.4	60.2	59.7	59.1	58.1	57.1	56.1
	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.3
	10.2	10.5	10.4	10.3	10.2	10.0	9.8	9.6
	4.4	2.0	1.8	1.6	1.3	1.3	1.3	1.2
	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86

1.2	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.1
		1.9	1.9	2.0	2.1	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



73.9	76.2	75.7	75.1	74.3	73.2	72.0	70.7	69.3
1.2	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

73.9	76.2	75.7	75.3	74.7	74.1	73.4	72.5	71.5
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.1	25.0	25.0	24.9	24.9	24.8	24.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1

235.9	238.9	242.2	245.6	249.2	252.8	256.5
1.2	1.3	1.4	1.4	1.5	1.5	1.4
235.9	238.9	242.2	245.6	249.2	252.8	256.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	3.9	4.0	4.0	4.0	4.0	3.9
2.3	2.4	2.4	2.5	2.5	2.5	2.6
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.4	1.4	1.5	1.5	1.4

2032	2033	2034	2035	2036	2037	2038
68.1	66.9	65.7	64.4	63.1	61.9	60.6
-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.2
0.2	0.2	0.2	0.3	0.3	0.4	0.4
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	-0.8
1.6	1.6	1.6	1.5	1.5	1.5	1.5

-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9
-1.8	-1.7	-1.7	-1.6	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.4	-1.4	-1.3	-1.3	-1.2	-1.2	-1.1
-1.4	-1.4	-1.3	-1.3	-1.2	-1.2	-1.1
3.8	3.9	3.9	4.0	4.0	3.9	3.9

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
68.1	66.9	65.7	64.4	63.1	61.9	60.6
55.1	54.1	53.1	52.1	51.2	50.2	47.3
2.2	2.2	2.2	2.1	2.1	2.0	4.0
9.4	9.2	9.0	8.9	8.7	8.5	8.3
1.2	1.2	1.1	1.1	1.1	1.0	0.9
0.2	0.2	0.2	0.2	0.2	0.2	0.1
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86

2.3	2.4	2.4	2.5	2.5	2.5	2.6
2.2	2.3	2.3	2.4	2.4	2.5	2.5
2.3	2.4	2.4	2.5	2.5	2.5	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0

68.1	66.9	65.7	64.4	63.1	61.9	60.6
2.3	2.4	2.4	2.5	2.5	2.5	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

70.5	69.4	68.2	67.1	65.9	64.8	63.7
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.1	3.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
Property income	2.1	2.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	206.4	210.7
Growth rate	3.0	2.1
<i>Potential GDP (real)</i>		
Level	208.2	211.7
<i>Output gap</i>		
Output gap	-0.9	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.3	6.4
Interest rates		
Nominal implicit interest rate on debt	0.7	0.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.2	4.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.58

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.1

Debt projections

	2021	2022
Gross debt	72.6	73.0
<i>Change in debt (-1+2+3)</i>		<i>0.4</i>
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		0.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.8
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.4
(2.3) Inflation effect	-3.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.9
(3.1) Base	3.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	72.6	73.0
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.14	0.14
Share of long-term debt in total government debt	0.86	0.86
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	72.6	73.0
IIR	0.7	0.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	72.6	73.0
IIR	0.7	0.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

211.1	214.0	216.8	219.2	221.6	223.9	226.8	229.9	233.1
0.2	1.4	1.3	1.1	1.1	1.1	1.3	1.4	1.4

214.0	216.5	218.8	221.0	223.2	225.4	227.8	230.4	233.1

-1.4	-1.1	-0.9	-0.8	-0.7	-0.7	-0.4	-0.2	0.0

4.6	3.8	3.8	3.6	3.6	3.6	3.9	4.0	4.1

1.2	1.7	1.9	1.9	2.0	2.1	2.3	2.3	2.3
		3.0	3.0	3.0	3.0	4.1	3.1	3.1
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.5	-0.5	-0.4	-0.2	0.0
0.2	1.4	1.3	1.2	1.2	0.8	1.0	1.1	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.2	70.9	69.5
0.9	2.3	-0.4	-0.6	-0.8	-1.1	-1.1	-1.3	-1.4
-1.7	-1.3	-1.0	-0.6	-0.3	-0.1	0.0	0.1	0.2
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.7	0.5	0.5	0.4	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.4	-1.5	-1.4	-1.2	-1.2	-1.1	-1.1	-1.2	-1.2
0.8	1.2	1.4	1.4	1.5	1.5	1.7	1.6	1.6

-0.1	-1.0	-0.9	-0.8	-0.8	-0.8	-0.9	-1.0	-1.0
-3.1	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.2	70.9	69.5
	58.5	60.4	60.2	59.7	59.1	58.1	57.2	56.2
	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.3
	10.2	10.5	10.4	10.3	10.2	10.0	9.8	9.6
	4.4	2.0	1.8	1.6	1.3	1.4	1.3	1.2
	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86

	1.7	1.9	1.9	2.0	2.1	2.3	2.3	2.3
	1.6	1.7	1.8	1.9	2.0	2.1	2.1	2.2
		1.9	1.9	2.0	2.1	2.3	2.3	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

73.9	76.2	75.7	75.1	74.3	73.2	72.2	70.9	69.5
1.2	1.7	1.9	1.9	2.0	2.1	2.3	2.3	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

73.9	76.2	75.7	75.3	74.7	74.1	73.4	72.5	71.5
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.1	25.0	25.0	24.9	24.9	24.8	24.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1

235.9 238.9 242.2 245.6 249.2 252.8 256.5
1.2 1.3 1.4 1.4 1.5 1.5 1.4

235.9 238.9 242.2 245.6 249.2 252.8 256.5

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.9 3.9 4.0 4.0 4.0 4.0 3.9

2.4	2.4	2.5	2.5	2.5	2.6	2.6
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
1.2 1.3 1.4 1.4 1.5 1.5 1.4

2032	2033	2034	2035	2036	2037	2038
68.3	67.2	65.9	64.7	63.5	62.2	61.0
-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.2	0.2	0.2	0.3	0.3	0.4	0.4
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-1.0	-0.9	-0.9	-0.8
1.6	1.6	1.6	1.6	1.6	1.6	1.6

-0.8	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9
-1.8	-1.7	-1.7	-1.6	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
68.3	67.2	65.9	64.7	63.5	62.2	61.0
55.3	54.3	53.3	52.4	51.4	50.4	49.5
2.3	2.2	2.2	2.1	2.1	2.1	2.0
9.4	9.3	9.1	8.9	8.7	8.5	8.4
1.2	1.2	1.2	1.1	1.1	1.0	1.0
0.2	0.2	0.2	0.2	0.2	0.2	0.1
0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.86	0.86	0.86	0.86	0.86	0.86	0.86
2.4	2.4	2.5	2.5	2.5	2.6	2.6
2.3	2.3	2.4	2.4	2.5	2.5	2.6
2.4	2.4	2.5	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



68.3	67.2	65.9	64.7	63.5	62.2	61.0
2.4	2.4	2.5	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.6	69.5	68.4	67.3	66.2	65.0	63.9
2.5	2.4	2.5	2.5	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.1	3.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
Property income	2.1	2.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	206.4	210.7
Growth rate	3.0	2.1
<i>Potential GDP (real)</i>		
Level	208.2	211.7
<i>Output gap</i>		
Output gap	-0.9	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.3	6.4
Interest rates		
Nominal implicit interest rate on debt	0.7	0.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.2	4.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.58	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.1

Debt projections

	2021	2022
Gross debt	72.6	73.0
<i>Change in debt (-1+2+3)</i>		<i>0.4</i>
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		0.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.8
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-1.4
(2.3) Inflation effect	-3.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.9
(3.1) Base	3.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	72.6	73.0
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.1	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

211.1	214.0	216.8	219.2	221.6	223.9	227.2	230.4	233.1
0.2	1.4	1.3	1.1	1.1	1.1	1.5	1.4	1.2
214.0	216.5	218.8	221.0	223.2	225.4	227.8	230.4	233.1
-1.4	-1.1	-0.9	-0.8	-0.7	-0.7	-0.3	0.0	0.0
4.6	3.8	3.8	3.6	3.6	3.6	4.1	4.0	3.8
1.2	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
		3.0	3.0	3.0	3.0	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.6	-0.5	-0.5	-0.4	-0.2	0.0
0.2	1.4	1.3	1.2	1.2	0.8	1.2	1.3	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.0	71.1	70.3
0.9	2.3	-0.4	-0.6	-0.8	-1.1	-1.2	-1.0	-0.7
-1.7	-1.3	-1.0	-0.6	-0.3	-0.1	-0.1	-0.3	-0.3
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.1	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.7	0.5	0.5	0.4	0.4	0.2	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.4	-1.5	-1.4	-1.2	-1.2	-1.1	-1.3	-1.3	-1.1
0.8	1.2	1.4	1.4	1.5	1.5	1.5	1.5	1.6

-0.1	-1.0	-0.9	-0.8	-0.8	-0.8	-1.0	-1.0	-0.8
-3.1	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.0	71.1	70.3
	58.5	60.4	60.2	59.7	59.1	58.0	57.1	56.5
	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.3
	10.2	10.5	10.4	10.3	10.2	10.0	9.8	9.6
	4.4	2.0	1.8	1.6	1.3	1.4	1.6	1.6
	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.2
		1.9	1.9	2.0	2.1	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

73.9	76.2	75.7	75.1	74.3	73.2	72.0	71.1	70.3
1.2	1.7	1.9	1.9	2.0	2.1	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

73.9	76.2	75.7	75.3	74.7	74.1	73.4	72.5	71.5
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.1	25.0	25.0	24.9	24.9	24.8	24.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1

235.9	238.9	242.2	245.6	249.2	252.8	256.5
1.2	1.3	1.4	1.4	1.5	1.5	1.4
235.9	238.9	242.2	245.6	249.2	252.8	256.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	3.9	4.0	4.0	4.0	4.0	3.9
2.3	2.4	2.4	2.5	2.5	2.6	2.6
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.4	1.4	1.5	1.5	1.4

2032	2033	2034	2035	2036	2037	2038
69.6	68.9	68.1	67.3	66.6	65.8	65.0
-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.8
-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.1
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-1.0	-1.0	-1.0	-1.0	-0.9	-0.8
1.6	1.6	1.6	1.6	1.6	1.6	1.6

-0.8	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
-1.8	-1.8	-1.7	-1.7	-1.7	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
69.6	68.9	68.1	67.3	66.6	65.8	65.0
55.9	55.3	54.7	54.1	53.5	52.9	52.3
2.3	2.3	2.2	2.2	2.2	2.2	2.1
9.5	9.4	9.3	9.2	9.1	8.9	8.8
1.7	1.6	1.6	1.6	1.6	1.5	1.5
0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.3	2.4	2.4	2.5	2.5	2.6	2.6
2.2	2.3	2.3	2.4	2.5	2.5	2.6
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



69.6	68.9	68.1	67.3	66.6	65.8	65.0
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.5	69.7	69.0	68.4	67.8	67.1	66.5
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.7	0.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.1	3.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.7	24.4
Property income	2.1	2.1
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	206.4	210.7
Growth rate (including feedback and output-gap closure effect)	3.0	2.1
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	208.2	211.7
<i>Output gap</i>		
Output gap	-0.9	-0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.3	6.4
Interest rates and inflation		
Nominal implicit interest rate on debt	0.7	0.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.2	4.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.58	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.1

Debt projections

	2021	2022
Gross debt	72.6	73.0
<i>Change in debt (-1+2+3)</i>		0.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.3
(1.1) Structural primary balance (before ageing cost)		0.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.8

(2.1) Interest expenditure	0.5
(2.2) Growth effect	-1.4
(2.3) Inflation effect	-3.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.9
(3.1) Base	3.7
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.3
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	72.6	73.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	0.7	0.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	72.6	73.0
IIR	0.7	0.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.5	24.5	24.6	24.7	24.8	24.9	25.0	25.0	25.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1

211.1	214.0	216.8	219.2	221.6	223.9	225.6	227.6	229.7
0.2	1.4	1.3	1.1	1.1	1.1	0.8	0.9	0.9
						0.5	0.6	0.7

214.0	216.5	218.8	221.0	223.2	225.4	226.6	228.1	229.7

-1.4	-1.1	-0.9	-0.8	-0.7	-0.7	-0.4	-0.2	0.0

4.6	3.8	3.8	3.6	3.6	3.6	3.3	3.5	3.6

1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.3	2.4
		3.0	3.0	3.0	3.0	3.6	3.6	3.6
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.5	-0.5	-0.4	-0.2	0.0
0.2	1.4	1.3	1.2	1.2	0.8	0.5	0.6	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.5	71.6	70.6
0.9	2.3	-0.4	-0.6	-0.8	-1.1	-0.8	-0.9	-1.0
-1.7	-1.3	-1.0	-0.6	-0.3	-0.1	0.0	0.1	0.2
-1.0	-0.7	-0.4	-0.2	0.1	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.7	0.5	0.5	0.4	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-2.4	-1.5	-1.4	-1.2	-1.2	-1.1	-0.8	-0.8	-0.8

0.8	1.2	1.4	1.4	1.5	1.5	1.6	1.6	1.7
-0.1	-1.0	-0.9	-0.8	-0.8	-0.8	-0.5	-0.6	-0.6
-3.1	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
73.9	76.2	75.7	75.1	74.3	73.2	72.5	71.6	70.6
	58.5	60.4	60.2	59.7	59.1	58.4	57.8	57.0
	2.5	2.6	2.6	2.5	2.5	2.4	2.4	2.3
	10.2	10.5	10.4	10.3	10.2	10.0	9.9	9.7
	4.4	2.0	1.8	1.6	1.3	1.4	1.3	1.3
	0.7	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.3	2.4
	1.6	1.7	1.8	1.9	2.0	2.1	2.1	2.2
		1.9	1.9	2.0	2.1	2.2	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

73.9	76.2	75.7	75.1	74.3	73.2	72.5	71.6	70.6
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

73.9	76.2	75.7	75.3	74.7	74.1	73.4	72.5	71.5
1.2	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.1	25.0	25.0	24.9	24.9	24.8	24.8
2.1	2.1	2.1	2.1	2.1	2.1	2.1

231.3	233.1	235.1	237.3	239.5	241.8	244.1
0.7	0.8	0.9	0.9	1.0	1.0	0.9
0.7	0.8	0.9	0.9	1.0	1.0	0.9

231.3	233.1	235.1	237.3	239.5	241.8	244.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.4	3.4	3.5	3.5	3.5	3.5	3.4
2.5	2.6	2.6	2.7	2.7	2.8	2.8
3.7	3.7	3.7	3.8	3.8	3.9	3.9
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.8	0.9	0.9	1.0	1.0	0.9

2032	2033	2034	2035	2036	2037	2038
69.9	69.1	68.3	67.5	66.7	65.8	65.0
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.2	0.2	0.2	0.3	0.3	0.4	0.4
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.6	-0.5	-0.5	-0.4	-0.4

1.7	1.7	1.7	1.8	1.8	1.8	1.8
-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.6
-1.8	-1.8	-1.7	-1.7	-1.7	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
69.9	69.1	68.3	67.5	66.7	65.8	65.0
56.4	55.8	55.2	54.5	53.9	53.2	52.6
2.3	2.3	2.2	2.2	2.2	2.2	2.1
9.6	9.5	9.4	9.3	9.1	9.0	8.9
1.3	1.3	1.3	1.3	1.3	1.2	1.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.5	2.6	2.6	2.7	2.7	2.8	2.8
2.3	2.4	2.5	2.6	2.6	2.7	2.8
2.5	2.6	2.6	2.7	2.7	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



69.9	69.1	68.3	67.5	66.7	65.8	65.0
2.5	2.6	2.6	2.7	2.7	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.9	70.2	69.5	68.8	68.1	67.4	66.7
2.4	2.5	2.6	2.6	2.7	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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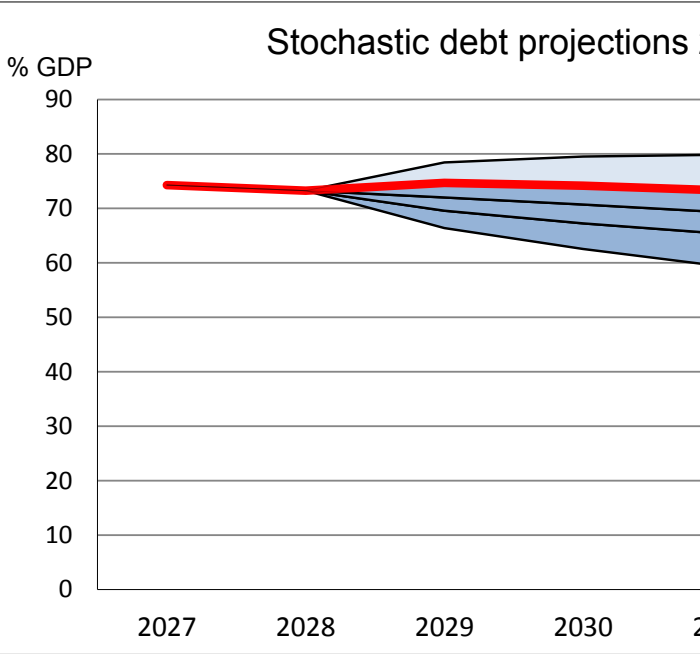
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	FI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	72.6	73.0	73.9	76.2
Distribution of debt paths				
p10	72.6	73.0	73.9	76.2
p30	72.6	73.0	73.9	76.2
p50 - Adjustment scenario	72.6	73.0	73.9	76.2
p70	72.6	73.0	73.9	76.2
p90	72.6	73.0	73.9	76.2
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	74.3	73.2	66.4	62.5
p30_p10	0.0	0.0	3.2	4.7
p50_p30	0.0	0.0	2.5	3.5
p70_p50	0.0	0.0	2.7	3.4
p90_p70	0.0	0.0	3.8	5.4
p10	74.3	73.2	66.4	62.5
p30	74.3	73.2	69.6	67.2
p50	74.3	73.2	72.0	70.7
p70	74.3	73.2	74.7	74.2
p90	74.3	73.2	78.4	79.5

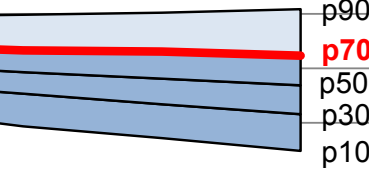
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
75.7	75.1	74.3	73.2	72.0	70.7	69.3	68.1	66.9	65.7
75.7	75.1	74.3	73.2	66.4	62.5	59.4	57.2	54.8	
75.7	75.1	74.3	73.2	69.6	67.2	65.3	63.4	61.6	
75.7	75.1	74.3	73.2	72.0	70.7	69.3	68.1	66.9	
75.7	75.1	74.3	73.2	74.7	74.2	73.3	73.1	72.3	
75.7	75.1	74.3	73.2	78.4	79.5	79.9	80.2	80.9	

2031	2032	2033
59.4	57.2	54.8
6.0	6.2	6.7
4.0	4.7	5.3
4.0	5.0	5.4
6.6	7.1	8.5
59.4	57.2	54.8
65.3	63.4	61.6
69.3	68.1	66.9
73.3	73.1	72.3
79.9	80.2	80.9



2035	2036	2037	2038	2039	2040	2041
64.4	63.1	61.9	60.6	59.4	58.2	57.1

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	ES
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.60

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

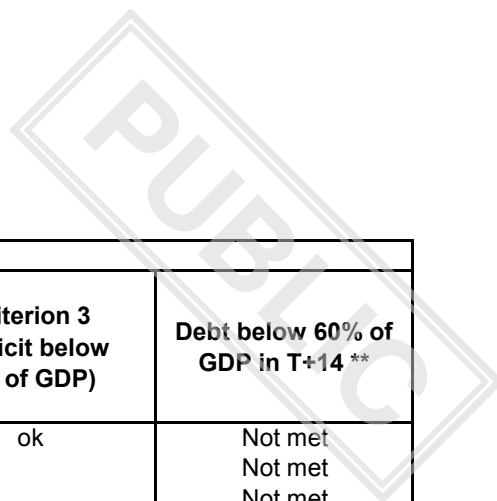
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.60	0.60	0.60	0.60
3.1	2.9	2.8	2.5
0.60			
0.60			
2.8			
2.8			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.60	0.40
72.7	75.3

ment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.60	0.60	0.60	0.60
0.50	0.50	0.35	0.35

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.35	0.35	0.35

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	118.3	113.2
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock-flow adjustments (without exchange rate effect)	-0.1	0.9
Stock-flow adjustment (total)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
of which: Public pensions expenditure	13.4	13.2
Health care expenditure	5.9	5.8
Long-term care expenditure	0.8	0.8
Education & unemployment benefits expenditure	3.6	3.6
Taxes on pensions	1.1	1.0
Property income	0.6	0.6
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	5.5	5.5
Level	1110.0	
<i>Potential GDP</i>		
Growth rate	0.6	1.1
Level	1172.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.9	2.2
Inflation (SF 2023)		
GDP deflator (national currency)	2.3	4.3

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	4.5
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	44.7

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.3
Long-term nominal interest rate in 2025	3.6
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-7.6	-10.5
Difference between debt level in 50th and 30th percentile of the distribution	-3.2	-4.5
Difference between debt level in 70th and 50th percentile of the distribution	3.5	4.8
Difference between debt level in 90th and 50th percentile of the distribution	9.3	13.0

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
110.6	109.1								
-1.2	-0.8								
0.0	0.0								
0.1	0.4								
0.1	0.4								
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6	21.7
13.0	12.8	12.7	12.6	12.5	12.4	12.4	12.3	12.3	12.4
5.8	5.9	5.9	6.0	6.0	6.1	6.1	6.2	6.2	6.3
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9
3.6	3.5	3.5	3.5	3.4	3.4	3.3	3.3	3.2	3.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
1.9	2.0	1.6	1.4	1.3	1.1	0.9	0.8	0.7	0.6
1.2	1.5	1.5	1.4	1.3	1.1	0.9	0.8	0.7	0.6
2.4	2.3								
4.4	2.9								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-12.6	-14.1	-15.3
-5.3	-5.9	-6.9
5.8	7.1	8.8
15.6	18.3	21.4

2033	2034	2035	2036	2037	2038	2039	2040	2041
21.7	21.8	21.9	22.0	22.1	22.2	22.4	22.5	22.7
12.4	12.4	12.5	12.5	12.6	12.7	12.8	12.8	12.9
6.3	6.4	6.5	6.5	6.6	6.6	6.7	6.7	6.7
0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0
3.1	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.9	1.3	1.6	1.6	1.6	1.6	1.5	1.4	1.4
0.9	1.3	1.6	1.6	1.6	1.6	1.5	1.4	1.4

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	ES
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1110.0	1170.5
Growth rate	5.5	5.5
<i>Potential GDP (real)</i>		
Level	1172.8	1186.2
<i>Output gap</i>		
Output gap	-5.4	-1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.9	10.0
Interest rate		
Nominal implicit interest rate on debt	1.9	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.3	4.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.60	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.5

Debt projections

	2021	2022
Gross debt	118.3	113.2
<i>Change in debt (-1+2+3)</i>		-5.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.8
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.3
(2.1) Interest expenditure		2.4

(2.2) Growth effect	-5.9
(2.3) Inflation effect	-4.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.9
(3.1) Base	0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-4.8
Structural balance	-4.0
Net expenditure growth	5.7

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	118.3	113.2
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.9	2.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

1193.2	1216.7	1235.8	1253.7	1270.5	1283.9	1295.9	1306.5	1315.2
1.9	2.0	1.6	1.4	1.3	1.1	0.9	0.8	0.7

1200.5	1219.1	1237.5	1254.6	1270.5	1283.9	1295.9	1306.5	1315.2

-0.6	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0

6.5	5.0	4.5	4.4	4.2	3.9	3.7	3.6	3.4

2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.3
		3.6	3.7	3.8	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.4	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	2.0	1.6	1.4	1.3	1.1	0.9	0.8	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.7	106.5	105.4	104.8	104.5	104.5	104.8
-2.6	-1.5	-1.4	-1.2	-1.0	-0.6	-0.3	0.0	0.3
-1.6	-0.9	-0.8	-0.6	-0.5	-0.4	-0.4	-0.4	-0.4
-1.2	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.4	-0.4	-0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.8	-2.2	-1.8	-1.5	-1.0	-0.7	-0.4	-0.1
2.5	2.4	2.6	2.7	2.8	2.9	3.0	3.2	3.3

2032	2033	2034	2035	2036	2037	2038
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.7	21.8	21.9	22.0	22.1	22.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5

1322.6	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
0.6	0.9	1.3	1.6	1.6	1.6	1.6
1322.6	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.5	3.9	4.2	4.2	4.1	4.0
3.4	3.5	3.6	3.7	3.8	3.8	3.9
4.5	4.4	4.4	4.4	4.4	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.9	1.3	1.6	1.6	1.6	1.6

2032	2033	2034	2035	2036	2037	2038
105.5	106.0	106.3	106.5	106.9	107.5	108.4
0.7	0.5	0.4	0.2	0.4	0.6	0.9
-0.5	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.3	-0.2	-0.1	0.0	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	-0.2	-0.5	-0.4	-0.3	-0.2
3.5	3.6	3.7	3.8	3.9	3.9	4.0

-0.6	-0.9	-1.3	-1.6	-1.6	-1.7	-1.6
-2.7	-2.7	-2.7	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.9	-4.1	-4.3	-4.5	-4.6	-4.8	-5.0
-3.9	-4.1	-4.3	-4.5	-4.6	-4.8	-5.0
3.2	3.5	3.8	4.2	4.1	4.1	4.0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
105.5	106.0	106.3	106.5	106.9	107.5	108.4
85.4	85.7	85.8	85.8	86.0	86.3	86.9
8.7	8.7	8.7	8.7	8.7	8.8	8.8
7.5	7.5	7.5	7.5	7.5	7.6	7.6
3.6	3.8	4.0	4.1	4.3	4.5	4.7
0.3	0.3	0.3	0.3	0.3	0.4	0.4
0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.93	0.93	0.93	0.93	0.93	0.93	0.93
3.4	3.5	3.6	3.7	3.8	3.8	3.9
3.4	3.6	3.7	3.8	3.8	3.9	4.0
3.4	3.5	3.6	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



105.5	106.0	106.3	106.5	106.9	107.5	108.4
3.4	3.5	3.6	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1110.0	1170.5
Growth rate	5.5	5.5
<i>Potential GDP (real)</i>		
Level	1172.8	1186.2
<i>Output gap</i>		
Output gap	-5.4	-1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.9	10.0
Interest rates		
Nominal implicit interest rate on debt	1.9	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.3	4.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.60

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.5

Debt projections

	2021	2022
Gross debt	118.3	113.2
<i>Change in debt (-1+2+3)</i>		-5.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.8
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.3
(2.1) Interest expenditure		2.4

(2.2) Growth effect	-5.9
(2.3) Inflation effect	-4.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.9
(3.1) Base	0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-4.8
Structural balance	-4.0
Net expenditure growth	5.7
Average net primary expenditure growth	2.8
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	118.3	113.2
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.07	0.07
Share of long-term debt in total government debt	0.93	0.93
IIR	1.9	2.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

1193.2	1216.7	1230.4	1244.2	1257.9	1269.7	1286.4	1301.7	1315.2
1.9	2.0	1.1	1.1	1.1	0.9	1.3	1.2	1.0

1200.5	1219.1	1237.5	1254.6	1270.5	1283.9	1295.9	1306.5	1315.2

-0.6	-0.2	-0.6	-0.8	-1.0	-1.1	-0.7	-0.4	0.0

6.5	5.0	4.1	4.0	4.0	3.8	4.1	3.9	3.7

2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		3.6	3.7	3.8	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.4	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.5	-0.7	-0.7	-0.4	0.0
1.9	2.0	1.1	1.0	0.9	0.6	0.9	0.8	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.6	98.3	96.2
-2.6	-1.5	-1.2	-1.4	-1.7	-1.9	-2.3	-2.3	-2.1
-1.6	-0.9	-0.5	-0.1	0.4	1.0	1.2	1.4	1.6
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.3	0.5	0.6	0.7	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.8	-1.7	-1.5	-1.3	-0.9	-1.1	-0.8	-0.5
2.5	2.4	2.6	2.7	2.8	2.9	2.9	3.0	3.1

-2.1	-2.1	-1.2	-1.2	-1.1	-1.0	-1.3	-1.2	-1.0
-4.8	-3.2	-3.1	-3.0	-2.9	-2.8	-2.8	-2.7	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.1	-3.3	-3.1	-2.7	-2.4	-1.9	-1.7	-1.6	-1.4
-3.7	-3.2	-2.7	-2.3	-1.8	-1.3	-1.3	-1.3	-1.4
4.9	3.5	3.1	2.9	2.8	2.5	3.7	3.5	3.3

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.6	98.3	96.2
	89.1	88.6	87.6	86.4	85.2	83.3	81.5	79.7
	8.4	8.5	8.5	8.4	8.4	8.2	8.1	8.0
	7.8	7.7	7.7	7.6	7.5	7.3	7.1	7.0
	3.4	2.9	2.5	2.2	1.8	1.6	1.4	1.3
	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93

2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
	2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.2
		2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



110.6	109.1	107.9	106.5	104.8	102.9	100.6	98.3	96.2
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

110.6	109.1	107.8	106.6	105.2	103.9	102.5	100.9	99.3
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.7	21.8	21.9	22.0	22.1	22.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5

1322.6	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
0.6	0.9	1.3	1.6	1.6	1.6	1.6
1322.6	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.5	3.9	4.2	4.2	4.1	4.0
3.3	3.4	3.5	3.6	3.7	3.7	3.8
4.5	4.4	4.4	4.4	4.4	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.9	1.3	1.6	1.6	1.6	1.6

2032	2033	2034	2035	2036	2037	2038
94.7	93.1	91.4	89.5	87.8	86.3	85.1
-1.5	-1.6	-1.7	-1.9	-1.7	-1.5	-1.2
1.6	1.5	1.4	1.4	1.3	1.2	1.0
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	-0.1	-0.3	-0.5	-0.4	-0.3	-0.2
3.1	3.2	3.2	3.2	3.2	3.2	3.1

-0.5	-0.8	-1.1	-1.4	-1.4	-1.4	-1.3
-2.5	-2.4	-2.3	-2.3	-2.2	-2.1	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1
-1.5	-1.6	-1.7	-1.8	-1.9	-2.0	-2.1
3.2	3.5	3.8	4.2	4.1	4.1	4.0

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
94.7	93.1	91.4	89.5	87.8	86.3	85.1
78.3	76.9	75.4	73.7	72.2	70.9	70.9
8.0	7.8	7.7	7.5	7.3	7.2	5.9
6.9	6.7	6.6	6.5	6.3	6.2	6.1
1.4	1.5	1.6	1.7	1.8	1.9	2.0
0.1	0.1	0.1	0.1	0.1	0.1	0.2
0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.93	0.93	0.93	0.93	0.93	0.93	0.93
3.3	3.4	3.5	3.6	3.7	3.7	3.8
3.4	3.5	3.6	3.7	3.7	3.8	3.9
3.3	3.4	3.5	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

94.7	93.1	91.4	89.5	87.8	86.3	85.1
3.3	3.4	3.5	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

97.5	95.4	93.0	90.8	88.7	86.8	85.2
3.4	3.5	3.6	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1110.0	1170.5
Growth rate	5.5	5.5
<i>Potential GDP (real)</i>		
Level	1172.8	1186.2
<i>Output gap</i>		
Output gap	-5.4	-1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.9	10.0
Interest rates		
Nominal implicit interest rate on debt	1.9	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.3	4.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.60

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.5

Debt projections

	2021	2022
Gross debt	118.3	113.2
<i>Change in debt (-1+2+3)</i>		-5.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.8
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.3
(2.1) Interest expenditure		2.4

(2.2) Growth effect	-5.9
(2.3) Inflation effect	-4.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.9
(3.1) Base	0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	118.3	113.2
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.07	0.07
Share of long-term debt in total government debt	0.93	0.93
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	118.3	113.2
IIR	1.9	2.2
IRR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	118.3	113.2
IIR	1.9	2.2
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

1193.2	1216.7	1230.4	1244.2	1257.9	1269.7	1286.4	1301.7	1315.2
1.9	2.0	1.1	1.1	1.1	0.9	1.3	1.2	1.0

1200.5	1219.1	1237.5	1254.6	1270.5	1283.9	1295.9	1306.5	1315.2

-0.6	-0.2	-0.6	-0.8	-1.0	-1.1	-0.7	-0.4	0.0

6.5	5.0	4.1	4.0	4.0	3.8	4.1	3.9	3.7

2.4	2.3	2.5	2.6	2.7	2.9	3.3	3.3	3.4
		3.6	3.7	3.8	4.0	5.9	4.2	4.3
		2.7	2.8	2.8	2.9	4.7	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.4	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.5	-0.7	-0.7	-0.4	0.0
1.9	2.0	1.1	1.0	0.9	0.6	0.9	0.8	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.9	98.8	96.8
-2.6	-1.5	-1.2	-1.4	-1.7	-1.9	-2.0	-2.1	-2.0
-1.6	-0.9	-0.5	-0.1	0.4	1.0	1.2	1.4	1.6
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.3	0.5	0.6	0.7	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.8	-1.7	-1.5	-1.3	-0.9	-0.8	-0.7	-0.4
2.5	2.4	2.6	2.7	2.8	2.9	3.2	3.2	3.2

-2.1	-2.1	-1.2	-1.2	-1.1	-1.0	-1.3	-1.2	-1.0
-4.8	-3.2	-3.1	-3.0	-2.9	-2.8	-2.8	-2.7	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.9	98.8	96.8
	89.1	88.6	87.6	86.4	85.2	83.3	81.7	80.1
	8.4	8.5	8.5	8.4	8.4	8.2	8.2	8.1
	7.8	7.7	7.7	7.6	7.5	7.3	7.2	7.0
	3.4	2.9	2.5	2.2	1.8	1.9	1.6	1.4
	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93

	2.3	2.5	2.6	2.7	2.9	3.3	3.3	3.4
	2.3	2.4	2.6	2.7	2.9	3.2	3.3	3.4
		2.5	2.6	2.7	2.9	3.3	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

110.6	109.1	107.9	106.5	104.8	102.9	100.9	98.8	96.8
2.4	2.3	2.5	2.6	2.7	2.9	3.3	3.3	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

110.6	109.1	107.8	106.6	105.2	103.9	102.5	100.9	99.3
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.7	21.8	21.9	22.0	22.1	22.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5

1322.6 1334.6 1351.4 1373.2 1395.3 1417.9 1439.8
0.6 0.9 1.3 1.6 1.6 1.6 1.6

1322.6 1334.6 1351.4 1373.2 1395.3 1417.9 1439.8

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.2 3.5 3.9 4.2 4.2 4.1 4.0

3.5	3.6	3.6	3.7	3.8	3.8	3.9
4.5	4.4	4.4	4.4	4.4	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.6 0.9 1.3 1.6 1.6 1.6 1.6

2032	2033	2034	2035	2036	2037	2038
95.4	93.9	92.3	90.5	88.9	87.4	86.2
-1.3	-1.5	-1.7	-1.8	-1.6	-1.4	-1.2
1.6	1.5	1.4	1.4	1.3	1.2	1.0
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	-0.2	-0.4	-0.3	-0.3	-0.2
3.3	3.3	3.3	3.3	3.3	3.3	3.2

-0.5	-0.8	-1.1	-1.4	-1.4	-1.4	-1.3
-2.5	-2.4	-2.4	-2.3	-2.2	-2.2	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
95.4	93.9	92.3	90.5	88.9	87.4	86.2
78.8	77.5	76.0	74.5	73.0	71.8	70.7
8.0	7.9	7.7	7.6	7.4	7.3	7.2
6.9	6.8	6.7	6.5	6.4	6.3	6.2
1.5	1.6	1.7	1.8	1.9	1.9	2.1
0.1	0.1	0.1	0.1	0.1	0.2	0.2
0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.93	0.93	0.93	0.93	0.93	0.93	0.93

3.5	3.6	3.6	3.7	3.8	3.8	3.9
3.5	3.6	3.7	3.8	3.8	3.9	3.9
3.5	3.6	3.6	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



95.4	93.9	92.3	90.5	88.9	87.4	86.2
3.5	3.6	3.6	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

97.8	95.8	93.5	91.4	89.4	87.6	86.0
3.6	3.6	3.7	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1110.0	1170.5
Growth rate	5.5	5.5
<i>Potential GDP (real)</i>		
Level	1172.8	1186.2
<i>Output gap</i>		
Output gap	-5.4	-1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.9	10.0
Interest rates		
Nominal implicit interest rate on debt	1.9	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.3	4.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.60	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.5

Debt projections

	2021	2022
Gross debt	118.3	113.2
<i>Change in debt (-1+2+3)</i>		-5.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.8
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.3
(2.1) Interest expenditure		2.4

(2.2) Growth effect	-5.9
(2.3) Inflation effect	-4.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.9
(3.1) Base	0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	118.3	113.2
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.4	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

1193.2	1216.7	1230.4	1244.2	1257.9	1269.7	1288.8	1304.1	1313.6
1.9	2.0	1.1	1.1	1.1	0.9	1.5	1.2	0.7
1200.5	1219.1	1237.5	1254.6	1270.5	1283.9	1295.9	1306.5	1315.2
-0.6	-0.2	-0.6	-0.8	-1.0	-1.1	-0.6	-0.2	-0.1
6.5	5.0	4.1	4.0	4.0	3.8	4.3	3.9	3.4
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		3.6	3.7	3.8	4.0	4.1	4.2	4.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.4	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.4	-0.5	-0.7	-0.7	-0.4	-0.1
1.9	2.0	1.1	1.0	0.9	0.6	1.1	1.0	0.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.5	98.6	97.4
-2.6	-1.5	-1.2	-1.4	-1.7	-1.9	-2.4	-1.9	-1.3
-1.6	-0.9	-0.5	-0.1	0.4	1.0	1.1	1.1	1.1
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.4	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.3	0.5	0.6	0.7	0.3	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.8	-1.7	-1.5	-1.3	-0.9	-1.3	-0.8	-0.2
2.5	2.4	2.6	2.7	2.8	2.9	2.9	3.0	3.1

-2.1	-2.1	-1.2	-1.2	-1.1	-1.0	-1.5	-1.2	-0.7
-4.8	-3.2	-3.1	-3.0	-2.9	-2.8	-2.8	-2.7	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	100.5	98.6	97.4
	89.1	88.6	87.6	86.4	85.2	83.1	81.4	80.3
	8.4	8.5	8.5	8.4	8.4	8.2	8.1	8.1
	7.8	7.7	7.7	7.6	7.5	7.3	7.1	7.0
	3.4	2.9	2.5	2.2	1.8	1.7	1.8	1.9
	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.2
	2.5	2.6	2.7	2.9	3.0	3.1	3.2
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



110.6	109.1	107.9	106.5	104.8	102.9	100.5	98.6	97.4
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

110.6	109.1	107.8	106.6	105.2	103.9	102.5	100.9	99.3
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.7	21.8	21.9	22.0	22.1	22.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5

1321.8	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
0.6	1.0	1.3	1.6	1.6	1.6	1.6
1322.6	1334.6	1351.4	1373.2	1395.3	1417.9	1439.8
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.6	3.9	4.2	4.2	4.1	4.0
3.4	3.5	3.6	3.6	3.7	3.8	3.8
4.5	4.4	4.4	4.4	4.4	4.3	4.3
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.9	1.3	1.6	1.6	1.6	1.6

2032	2033	2034	2035	2036	2037	2038
96.4	95.3	94.0	92.7	91.5	90.5	89.8
-1.0	-1.2	-1.2	-1.4	-1.2	-1.0	-0.7
1.1	1.0	0.9	0.9	0.8	0.7	0.5
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	-0.1	-0.3	-0.5	-0.4	-0.3	-0.2
3.2	3.2	3.3	3.3	3.3	3.3	3.3

-0.6	-0.9	-1.2	-1.5	-1.4	-1.4	-1.3
-2.5	-2.5	-2.4	-2.3	-2.3	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
96.4	95.3	94.0	92.7	91.5	90.5	89.8
79.3	78.3	77.1	75.9	74.8	73.9	73.1
8.1	8.0	7.8	7.7	7.6	7.5	7.4
7.0	6.9	6.8	6.6	6.6	6.5	6.4
2.0	2.0	2.1	2.2	2.3	2.5	2.6
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.4	3.5	3.6	3.6	3.7	3.8	3.8
3.4	3.5	3.6	3.7	3.8	3.8	3.9
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



96.4	95.3	94.0	92.7	91.5	90.5	89.8
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5	95.7	94.1	92.3	90.7	89.4	88.2
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.4	-1.6
One-off and other temporary measures	-0.1	-0.1
Stock flow adjustments (without exchange rate effect)	-0.1	0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.6	22.3
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	1110.0	1170.5
Growth rate (including feedback and output-gap closure effect)	5.5	5.5
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	1172.8	1186.2
<i>Output gap</i>		
Output gap	-5.4	-1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.9	10.0
Interest rates and inflation		
Nominal implicit interest rate on debt	1.9	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.3	4.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.60	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.5

Debt projections

	2021	2022
Gross debt	118.3	113.2
<i>Change in debt (-1+2+3)</i>		-5.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.8
(1.4) One-off and other temporary measures		0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-8.3

(2.1) Interest expenditure	2.4
(2.2) Growth effect	-5.9
(2.3) Inflation effect	-4.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.9
(3.1) Base	0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	118.3	113.2
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.9	2.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.6)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

Extension (annual adjustment of 0.4)

Debt	118.3	113.2
IIR	1.9	2.2
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.2	22.0	21.9	21.8	21.7	21.6	21.6	21.6	21.6
0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

1193.2	1216.7	1230.4	1244.2	1257.9	1269.7	1280.0	1288.8	1295.8
1.9	2.0	1.1	1.1	1.1	0.9	0.8	0.7	0.5
						0.4	0.3	0.2

1200.5	1219.1	1237.5	1254.6	1270.5	1283.9	1289.5	1293.6	1295.8

-0.6	-0.2	-0.6	-0.8	-1.0	-1.1	-0.7	-0.4	0.0

6.5	5.0	4.1	4.0	4.0	3.8	3.6	3.4	3.2

2.4	2.3	2.5	2.6	2.7	2.9	3.1	3.2	3.4
		3.6	3.7	3.8	4.0	4.6	4.7	4.8
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.4	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.4	-0.5	-0.7	-0.7	-0.4	0.0
1.9	2.0	1.1	1.0	0.9	0.6	0.4	0.3	0.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	101.1	99.5	98.0
-2.6	-1.5	-1.2	-1.4	-1.7	-1.9	-1.7	-1.6	-1.5
-1.6	-0.9	-0.5	-0.1	0.4	1.0	1.2	1.4	1.6
-1.2	-0.8	-0.2	0.4	1.0	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	0.3	0.5	0.6	0.7	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.8	-1.7	-1.5	-1.3	-0.9	-0.5	-0.2	0.2

2.5	2.4	2.6	2.7	2.8	2.9	3.0	3.2	3.3
-2.1	-2.1	-1.2	-1.2	-1.1	-1.0	-0.8	-0.7	-0.5
-4.8	-3.2	-3.1	-3.0	-2.9	-2.8	-2.8	-2.7	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
110.6	109.1	107.9	106.5	104.8	102.9	101.1	99.5	98.0
	89.1	88.6	87.6	86.4	85.2	83.7	82.4	81.1
	8.4	8.5	8.5	8.4	8.4	8.3	8.2	8.2
	7.8	7.7	7.7	7.6	7.5	7.3	7.2	7.1
	3.4	2.9	2.5	2.2	1.8	1.7	1.6	1.5
	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.4	2.3	2.5	2.6	2.7	2.9	3.1	3.2	3.4
	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4
		2.5	2.6	2.7	2.9	3.1	3.2	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



110.6	109.1	107.9	106.5	104.8	102.9	101.1	99.5	98.0
2.4	2.3	2.5	2.6	2.7	2.9	3.1	3.2	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.6	109.1	107.8	106.6	105.2	103.9	102.5	100.9	99.3
2.4	2.3	2.5	2.6	2.7	2.9	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.7	21.8	21.9	22.0	22.1	22.2
0.5	0.5	0.5	0.5	0.5	0.5	0.5

1296.5	1301.8	1311.7	1326.3	1341.0	1356.0	1370.2
0.1	0.4	0.8	1.1	1.1	1.1	1.1
0.1	0.4	0.8	1.1	1.1	1.1	1.1

1296.5	1301.8	1311.7	1326.3	1341.0	1356.0	1370.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.7	3.0	3.4	3.7	3.6	3.6	3.5
3.6	3.7	3.8	3.9	4.0	4.1	4.2
5.0	4.9	4.9	4.9	4.9	4.8	4.8
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.4	0.8	1.1	1.1	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
97.3	96.4	95.3	94.2	93.3	92.5	92.1
-0.8	-0.9	-1.0	-1.1	-0.9	-0.7	-0.5
1.6	1.5	1.4	1.4	1.3	1.2	1.0
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.6	0.4	0.2	0.3	0.4	0.6

3.4	3.5	3.6	3.6	3.6	3.7	3.7
-0.1	-0.4	-0.7	-1.0	-1.0	-1.0	-0.9
-2.5	-2.5	-2.4	-2.4	-2.3	-2.3	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
97.3	96.4	95.3	94.2	93.3	92.5	92.1
80.3	79.4	78.4	77.3	76.4	75.7	75.2
8.2	8.1	8.0	7.9	7.8	7.7	7.6
7.0	7.0	6.9	6.8	6.7	6.6	6.6
1.7	1.8	2.0	2.1	2.2	2.3	2.5
0.1	0.1	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.6	3.7	3.8	3.9	4.0	4.1	4.2
3.6	3.7	3.8	4.0	4.1	4.2	4.2
3.6	3.7	3.8	3.9	4.0	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



97.3	96.4	95.3	94.2	93.3	92.5	92.1
3.6	3.7	3.8	3.9	4.0	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
98.1	96.6	94.8	93.2	91.8	90.6	89.7
3.5	3.6	3.7	3.8	3.9	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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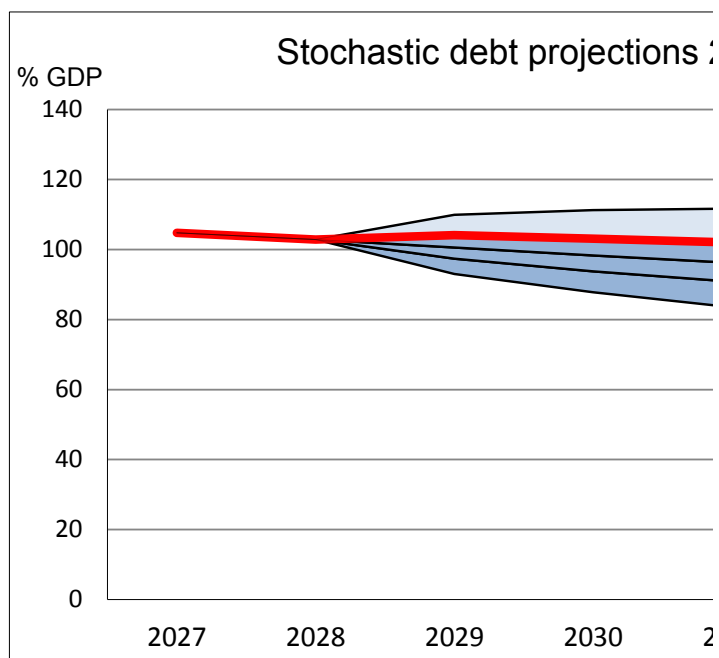
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	ES
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	118.3	113.2	110.6	109.1
Distribution of debt paths				
p10	118.3	113.2	110.6	109.1
p30	118.3	113.2	110.6	109.1
p50 - Adjustment scenario	118.3	113.2	110.6	109.1
p70	118.3	113.2	110.6	109.1
p90	118.3	113.2	110.6	109.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	104.8	102.9	93.0	87.8
p30_p10	0.0	0.0	4.4	6.0
p50_p30	0.0	0.0	3.2	4.5
p70_p50	0.0	0.0	3.5	4.8
p90_p70	0.0	0.0	5.8	8.2
p10	104.8	102.9	93.0	87.8
p30	104.8	102.9	97.4	93.8
p50	104.8	102.9	100.6	98.3
p70	104.8	102.9	104.1	103.1
p90	104.8	102.9	109.9	111.3

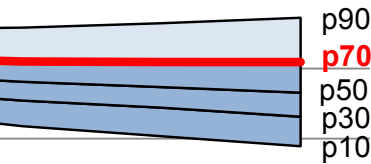
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
107.9	106.5	104.8	102.9	100.6	98.3	96.2	94.7	93.1	91.4
107.9	106.5	104.8	102.9	93.0	87.8	83.5	80.6	77.8	
107.9	106.5	104.8	102.9	97.4	93.8	90.8	88.8	86.2	
107.9	106.5	104.8	102.9	100.6	98.3	96.2	94.7	93.1	
107.9	106.5	104.8	102.9	104.1	103.1	102.0	101.9	101.9	
107.9	106.5	104.8	102.9	109.9	111.3	111.7	113.0	114.5	

2031	2032	2033
83.5	80.6	77.8
7.3	8.1	8.4
5.3	5.9	6.9
5.8	7.1	8.8
9.7	11.1	12.7
83.5	80.6	77.8
90.8	88.8	86.2
96.2	94.7	93.1
102.0	101.9	101.9
111.7	113.0	114.5



2035	2036	2037	2038	2039	2040	2041
89.5	87.8	86.3	85.1	84.1	83.4	82.9

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.
2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.
3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).
4. The last table "Adjustment complying with EGR criteria safeguard/benchmark" (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without extension and benchmark, for a plan with and without extension.
5. The last table, '**Technical trajectories**' (in cells D35:M39), displays the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding is consistent with the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is projected to evolve linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is projected to remain constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is affected by the shock (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	EL
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.00

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

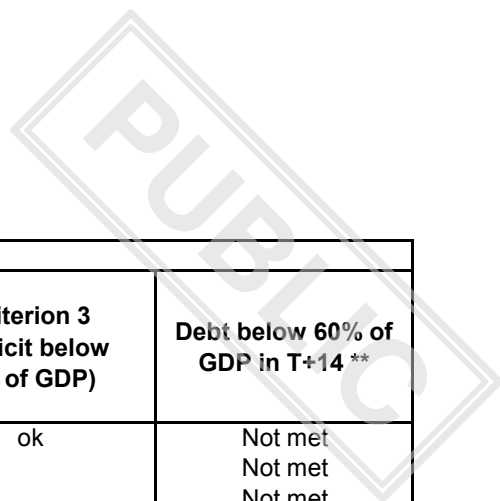
Annual adjustment (change in SPB)
Net primary expenditure growth
0
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The technical adjustment path in the table does not account for the mir
 nor for the safeguard that debt declines over the plan period, i.e. that det

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
Not met Not met Not met Not met	Not met	ok	Not met Not met Not met Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.00	0.00	0.00	0.00
4.3	4.0	3.9	3.7
0.00			
0.00			
4.0			
4.0			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Technical trajectory without safeguard/benchmark*	
No extension	Extension
4	7
0.00	0.00
66.2%	< 70%

Minimum adjustment of 0.5 pp. of GDP as a benchmark
Debt in T+4 is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

|

chmark)		
2029	2030	2031
0.00	0.00	0.00

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EL
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	194.6	171.3
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock-flow adjustments (without exchange rate effect)	-0.4	-0.9
Stock-flow adjustment (total)	-0.4	-0.9
Interest deferrals	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
of which: Public pensions expenditure	15.9	15.5
Health care expenditure	4.6	4.5
Long-term care expenditure	0.2	0.2
Education & unemployment benefits expenditure	3.2	3.2
Taxes on pensions	2.0	1.9
Property income	0.4	0.4
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	8.4	5.9
Level	188.1	
<i>Potential GDP</i>		
Growth rate	-0.3	0.4
Level	200.6	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.3	1.4
Inflation (SF 2023)		
GDP deflator (national currency)	1.3	8.1

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.5
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0

Share of primary expenditure in GDP in 2024	44.0
Share of outstanding debt in total debt in 2024	0.9
Share of rolled over long-term debt in 2024	0.0
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.0
Long-term nominal interest rate in 2025	4.3
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-11.8	-16.4
Difference between debt level in 50th and 30th percentile of the distribution	-4.8	-7.0
Difference between debt level in 70th and 50th percentile of the distribution	5.7	7.6
Difference between debt level in 90th and 50th percentile of the distribution	13.1	18.5

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
160.2	154.3								
1.7	2.1								
0.0	0.0								
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2	-1.3
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.1	20.6	20.3	20.2	20.0	20.0	19.9	19.9	19.9	20.0
15.1	14.5	14.2	14.1	13.9	13.9	13.8	13.8	13.9	13.9
4.5	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.8	4.8
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
3.2	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.9	2.8
1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6	0.5
1.0	1.5	1.4	1.2	1.1	1.0	0.9	0.7	0.6	0.5
2.0	2.0								
4.7	2.9								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
 Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-19.5	-22.3	-25.2
-7.9	-9.1	-10.0
9.4	11.0	12.4
22.1	26.0	29.6

2033	2034	2035	2036	2037	2038	2039	2040	2041
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1
11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19.8	19.7	19.8	19.8	19.9	20.0	20.0	20.1	20.1
13.7	13.7	13.7	13.8	13.8	13.9	13.9	14.0	14.0
4.8	4.9	4.9	4.9	5.0	5.0	5.0	5.0	5.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.8	1.1	1.5	1.6	1.7	1.7	1.8	1.7	1.7
0.8	1.1	1.5	1.6	1.7	1.7	1.8	1.7	1.7

nomy, Economic Papers, No. 543.
 pean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock flow adjustments (without exchange rate effect)	-0.4	-0.9
Interest deferral	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	188.1	199.2
Growth rate	8.4	5.9
<i>Potential GDP (real)</i>		
Level	200.6	201.3
<i>Output gap</i>		
Output gap	-6.3	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.8	14.5
Interest rate		
Nominal implicit interest rate on debt	1.3	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (national currency)	1.3	8.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.9

Debt projections

	2021	2022
Gross debt	194.6	171.3
<i>Change in debt (-1+2+3)</i>		-23.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.1
(1.1) Structural primary balance (before ageing cost)		0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.6
(1.4) One-off and other temporary measures		-0.5
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-22.2

(2.1) Interest expenditure	2.4
(2.2) Growth effect	-10.0
(2.3) Inflation effect	-14.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2 + 3.3)	-0.9
(3.1) Base	-0.9
(3.3) Adjustment due to the exchange rate effect linked to debt value	0.0
(3.2) Interest deferral	0.0
Other budgetary variables	
Headline balance	-2.3
Structural balance	-2.2
Net expenditure growth	3.1

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	194.6	171.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.3	1.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9
	0.9	0.9

Per memo - STATA results

Debt	194.6	171.3
IIR	1.3	1.4
IRR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.0	0.0
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.1	20.6	20.3	20.2	20.0	20.0	19.9	19.9	19.9
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3

204.1	208.0	210.4	212.3	214.1	216.2	218.0	219.6	220.8
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

203.4	206.4	209.3	211.8	214.1	216.2	218.0	219.6	220.8

0.3	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0

7.2	4.9	4.0	3.8	3.6	3.8	3.6	3.4	3.3

2.0	2.0	2.1	2.3	2.6	2.8	3.0	3.2	3.3
		4.3	4.4	4.4	4.4	4.4	4.5	4.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

4.7	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.2	144.8	140.2	135.1	130.4	126.1	122.1
-11.0	-5.9	-5.1	-4.4	-4.6	-5.1	-4.7	-4.3	-4.0
1.9	2.5	2.6	2.7	2.7	2.7	2.7	2.8	2.7
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.4	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	-0.2	-0.4	-0.5	-0.6	-0.6	-0.6	-0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-8.3	-4.3	-2.9	-2.1	-1.4	-1.3	-0.7	-0.4	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	11.0	0.0	0.0	0.0	0.0	0.0
20.0	19.8	19.7	19.8	19.8	19.9	20.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3

221.9	223.7	226.3	229.6	233.2	237.3	241.4
0.5	0.8	1.1	1.5	1.6	1.7	1.7
221.9	223.7	226.3	229.6	233.2	237.3	241.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.4	3.7	4.0	4.1	4.3	4.2
3.3	3.4	3.2	3.2	3.2	3.2	3.3
4.5	4.5	4.5	4.4	4.4	4.4	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	1.1	1.5	1.6	1.7	1.7

2032	2033	2034	2035	2036	2037	2038
118.3	126.1	122.3	118.3	114.2	110.1	106.3
-3.8	7.8	-3.8	-4.0	-4.1	-4.1	-3.9
2.7	2.9	2.9	2.9	2.8	2.8	2.7
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.8	-0.8	-0.8	-0.7	-0.7	-0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	-0.7	-1.0	-1.1	-1.1	-1.0

3.9	3.9	3.8	3.8	3.6	3.5	3.4
-0.6	-0.9	-1.4	-1.7	-1.8	-1.9	-1.8
-3.1	-3.0	-3.2	-3.0	-2.9	-2.8	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	10.8	-0.2	-0.2	-0.2	-0.2	-0.2
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	11.0	0.0	0.0	0.0	0.0	0.0

-1.2	-1.0	-0.9	-0.9	-0.8	-0.8	-0.8
-1.2	-1.0	-0.9	-0.9	-0.8	-0.8	-0.8
3.1	3.4	3.7	4.0	4.1	4.2	4.2



0	1	1	1	1	1	1
1	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
118.3	126.1	122.3	118.3	114.2	110.1	106.3
104.4	99.0	107.3	102.3	98.6	94.1	90.7
7.0	8.7	7.1	8.4	8.4	9.0	8.8
6.9	6.7	7.1	6.9	6.6	6.4	6.2
0.0	11.1	0.7	0.7	0.6	0.6	0.6
0.0	0.7	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.3	3.4	3.2	3.2	3.2	3.2	3.3
2.8	2.9	3.1	3.2	3.3	3.4	3.5
2.8	2.9	3.1	3.2	3.3	3.4	3.5
0.5	0.5	0.0	0.0	-0.1	-0.2	-0.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



118.3	126.1	122.3	118.3	114.2	110.1	106.3
3.3	3.4	3.5	3.5	3.5	3.5	3.6
0.5	0.5	0.0	0.0	-0.1	-0.2	-0.2
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock flow adjustments (without exchange rate effect)	-0.4	-0.9
Interest deferral	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	188.1	199.2
Growth rate	8.4	5.9
<i>Potential GDP (real)</i>		
Level	200.6	201.3
<i>Output gap</i>		
Output gap	-6.3	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.8	14.5
Interest rates		
Nominal implicit interest rate on debt	1.3	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	1.3	8.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.9

Debt projections

	2021	2022
Gross debt	194.6	171.3
<i>Change in debt (-1+2+3)</i>		-23.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.1
(1.1) Structural primary balance (before ageing cost)		0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.6
(1.4) One-off and other temporary measures		-0.5
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-22.2

(2.1) Interest expenditure	2.4
(2.2) Growth effect	-10.0
(2.3) Inflation effect	-14.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2 + 3.3)	-0.9
(3.1) Base	-0.9
(3.3) Adjustment due to the exchange rate effect linked to debt value	0.0
(3.2) Interest deferral	0.0
Other budgetary variables	
Headline balance	-2.3
Structural balance	-2.2
Net expenditure growth	3.1
Average net primary expenditure growth	4.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	194.6	171.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.3	1.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IRR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.1	20.6	20.3	20.2	20.0	20.0	19.9	19.9	19.9
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3

204.1	208.0	210.4	212.3	214.1	216.2	218.0	219.6	220.8
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

203.4	206.4	209.3	211.8	214.1	216.2	218.0	219.6	220.8

0.3	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0

7.2	4.9	4.0	3.8	3.6	3.8	3.6	3.4	3.3

2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		4.3	4.4	4.4	4.4	4.4	4.5	4.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

4.7	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.0	125.6
-11.0	-5.9	-4.9	-4.0	-4.1	-4.5	-4.1	-3.7	-3.4
1.9	2.5	2.4	2.3	2.1	2.1	2.2	2.2	2.2
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.4	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-8.3	-4.3	-2.9	-2.1	-1.4	-1.3	-0.7	-0.3	0.0

3.2	3.1	3.1	3.3	3.7	3.9	4.0	4.1	4.1
-3.9	-3.0	-1.7	-1.3	-1.1	-1.3	-1.1	-0.9	-0.7
-7.6	-4.5	-4.3	-4.1	-4.0	-3.8	-3.6	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.6	-0.7	-1.1	-1.6	-1.8	-1.9	-1.9	-1.9
-1.5	-1.0	-1.0	-1.2	-1.6	-1.8	-1.9	-1.9	-1.9
2.1	3.4	4.3	4.0	3.9	3.7	3.6	3.4	3.2

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.0	125.6
	140.3	136.2	130.8	126.2	121.7	117.7	113.7	110.2
	3.5	3.4	4.8	5.8	6.5	6.6	7.1	7.5
	9.0	8.7	8.4	8.2	8.0	7.7	7.5	7.3
	1.5	1.0	1.3	0.9	0.6	0.7	0.6	0.7
	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
	2.0	2.1	2.1	2.2	2.4	2.5	2.6	2.7
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.1	0.3	0.5	0.6	0.6	0.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.0	125.6
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		0.0	0.1	0.3	0.5	0.6	0.6	0.6
160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.1	125.7
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	11.0	0.0	0.0	0.0	0.0	0.0
20.0	19.8	19.7	19.8	19.8	19.9	20.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3

221.9	223.7	226.3	229.6	233.2	237.3	241.4
0.5	0.8	1.1	1.5	1.6	1.7	1.7
221.9	223.7	226.3	229.6	233.2	237.3	241.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.1	3.4	3.7	4.0	4.1	4.3	4.2
3.4	3.4	3.2	3.3	3.3	3.3	3.3
4.5	4.5	4.5	4.4	4.4	4.4	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	1.1	1.5	1.6	1.7	1.7

2032	2033	2034	2035	2036	2037	2038
122.5	130.9	127.7	124.3	120.8	117.3	114.0
-3.2	8.5	-3.2	-3.4	-3.5	-3.5	-3.3
2.1	2.3	2.3	2.3	2.2	2.2	2.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.2	-0.2	-0.2	-0.1	-0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.0	-0.7	-0.9	-1.1	-1.1	-1.0

4.1	4.1	4.0	4.0	3.9	3.8	3.7
-0.6	-1.0	-1.4	-1.8	-1.9	-2.0	-2.0
-3.2	-3.1	-3.3	-3.2	-3.0	-2.9	-2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	10.8	-0.2	-0.2	-0.2	-0.2	-0.2
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	11.0	0.0	0.0	0.0	0.0	0.0

-2.0	-1.8	-1.7	-1.7	-1.7	-1.6	-1.6
-2.0	-1.8	-1.7	-1.7	-1.7	-1.6	-1.6
3.1	3.4	3.7	4.0	4.1	4.2	4.2

0	1	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
122.5	130.9	127.7	124.3	120.8	117.3	114.0
107.4	102.5	111.4	106.8	103.5	99.5	97.8
7.3	9.0	7.4	8.8	8.8	9.6	8.2
7.1	6.9	7.4	7.2	7.0	6.8	6.6
0.6	11.8	1.4	1.4	1.4	1.4	1.4
0.0	0.7	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94
3.4	3.4	3.2	3.3	3.3	3.3	3.3
2.8	2.9	3.2	3.3	3.4	3.5	3.6
2.8	2.9	3.2	3.3	3.4	3.4	3.5
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0

122.5	130.9	127.7	124.3	120.8	117.3	114.0
3.4	3.4	3.4	3.5	3.6	3.5	3.6
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2
122.6	131.1	127.9	124.5	121.1	117.6	114.4
3.4	3.4	3.5	3.6	3.5	3.6	3.6
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock flow adjustments (without exchange rate effect)	-0.4	-0.9
Interest deferral	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	188.1	199.2
Growth rate	8.4	5.9
<i>Potential GDP (real)</i>		
Level	200.6	201.3
<i>Output gap</i>		
Output gap	-6.3	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.8	14.5
Interest rates		
Nominal implicit interest rate on debt	1.3	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	1.3	8.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.9

Debt projections

	2021	2022
Gross debt	194.6	171.3
<i>Change in debt (-1+2+3)</i>		-23.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.1
(1.1) Structural primary balance (before ageing cost)		0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.6
(1.4) One-off and other temporary measures		-0.5
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-22.2

(2.1) Interest expenditure	2.4
(2.2) Growth effect	-10.0
(2.3) Inflation effect	-14.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2 + 3.3)	-0.9
(3.1) Base	-0.9
(3.3) Adjustment due to the exchange rate effect linked to debt value	0.0
(3.2) Interest deferral	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	194.6	171.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.06	0.06
Share of long-term debt in total government debt	0.94	0.94
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.1	20.6	20.3	20.2	20.0	20.0	19.9	19.9	19.9
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3

204.1	208.0	210.4	212.3	214.1	216.2	218.0	219.6	220.8
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

203.4	206.4	209.3	211.8	214.1	216.2	218.0	219.6	220.8

0.3	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0

7.2	4.9	4.0	3.8	3.6	3.8	3.6	3.4	3.3

2.0	2.0	2.1	2.3	2.6	2.8	3.5	3.4	3.5
		4.3	4.4	4.4	4.4	8.2	4.5	4.5
		2.7	2.8	2.8	2.9	6.7	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

4.7	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.4	1.9	1.1	0.9	0.8	1.0	0.9	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	133.3	129.8	126.7
-11.0	-5.9	-4.9	-4.0	-4.1	-4.5	-3.5	-3.5	-3.1
1.9	2.5	2.4	2.3	2.1	2.1	2.2	2.2	2.2
1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.4	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-8.3	-4.3	-2.9	-2.1	-1.4	-1.3	-0.2	-0.1	0.3

3.2	3.1	3.1	3.3	3.7	3.9	4.6	4.3	4.4
-3.9	-3.0	-1.7	-1.3	-1.1	-1.3	-1.1	-0.9	-0.7
-7.6	-4.5	-4.3	-4.1	-4.0	-3.8	-3.6	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	133.3	129.8	126.7
	140.3	136.2	130.8	126.2	121.7	117.7	114.2	110.8
	3.5	3.4	4.8	5.8	6.5	6.6	7.2	7.5
	9.0	8.7	8.4	8.2	8.0	7.7	7.6	7.4
	1.5	1.0	1.3	0.9	0.6	1.2	0.9	0.9
	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94

	2.0	2.1	2.3	2.6	2.8	3.5	3.4	3.5
	2.0	2.1	2.1	2.2	2.4	2.7	2.8	2.9
		2.1	2.2	2.3	2.4	2.9	2.8	2.9
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



160.2	154.3	149.5	145.4	141.3	136.8	133.3	129.8	126.7
2.0	2.0	2.1	2.3	2.6	2.8	3.5	3.4	3.5
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.1	125.7
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	11.0	0.0	0.0	0.0	0.0	0.0
20.0	19.8	19.7	19.8	19.8	19.9	20.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3

221.9 223.7 226.3 229.6 233.2 237.3 241.4
0.5 0.8 1.1 1.5 1.6 1.7 1.7

221.9 223.7 226.3 229.6 233.2 237.3 241.4

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.1 3.4 3.7 4.0 4.1 4.3 4.2

3.5	3.6	3.3	3.4	3.4	3.4	3.4
4.5	4.5	4.5	4.4	4.4	4.4	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.5 0.8 1.1 1.5 1.6 1.7 1.7

2032	2033	2034	2035	2036	2037	2038
123.7	132.4	129.3	126.0	122.7	119.3	116.1
-3.0	8.6	-3.1	-3.3	-3.3	-3.3	-3.2
2.1	2.3	2.3	2.3	2.2	2.2	2.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.2	-0.2	-0.2	-0.1	-0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.2	-0.5	-0.8	-0.9	-1.0	-0.9

4.3	4.3	4.3	4.2	4.1	4.0	3.9
-0.6	-1.0	-1.4	-1.8	-1.9	-2.0	-2.0
-3.3	-3.1	-3.3	-3.2	-3.1	-3.0	-2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	10.8	-0.2	-0.2	-0.2	-0.2	-0.2
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	11.0	0.0	0.0	0.0	0.0	0.0
0	1	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
123.7	132.4	129.3	126.0	122.7	119.3	116.1
108.3	103.5	112.6	108.1	105.0	101.1	98.2
7.3	9.1	7.5	8.9	8.9	9.7	9.6
7.2	7.0	7.5	7.3	7.1	6.9	6.7
0.8	12.0	1.6	1.6	1.6	1.6	1.5
0.1	0.7	0.1	0.1	0.1	0.1	0.1
0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.94	0.94	0.94	0.94	0.94	0.94	0.94
3.5	3.6	3.3	3.4	3.4	3.4	3.4
3.0	3.1	3.3	3.4	3.5	3.6	3.7
3.0	3.1	3.3	3.4	3.5	3.5	3.6
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0



123.7	132.4	129.3	126.0	122.7	119.3	116.1
3.5	3.6	3.6	3.7	3.7	3.7	3.7
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2

123.1	131.8	128.8	125.6	122.3	119.0	115.9
3.7	3.6	3.7	3.7	3.7	3.7	3.7
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2



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Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock flow adjustments (without exchange rate effect)	-0.4	-0.9
Interest deferral	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	188.1	199.2
Growth rate	8.4	5.9
<i>Potential GDP (real)</i>		
Level	200.6	201.3
<i>Output gap</i>		
Output gap	-6.3	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.8	14.5
Interest rates		
Nominal implicit interest rate on debt	1.3	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	1.3	8.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.9

Debt projections

	2021	2022
Gross debt	194.6	171.3
<i>Change in debt (-1+2+3)</i>		-23.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.1
(1.1) Structural primary balance (before ageing cost)		0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.6
(1.4) One-off and other temporary measures		-0.5
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-22.2

(2.1) Interest expenditure	2.4
(2.2) Growth effect	-10.0
(2.3) Inflation effect	-14.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2 + 3.3)	-0.9
(3.1) Base	-0.9
(3.3) Adjustment due to the exchange rate effect linked to debt value	0.0
(3.2) Interest deferral	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	194.6	171.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.7	2.1	2.1	2.1	2.1	2.1	1.9	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.1	20.6	20.3	20.2	20.0	20.0	19.9	19.9	19.9
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3

204.1	208.0	210.4	212.3	214.1	216.2	218.4	220.3	221.3
2.4	1.9	1.1	0.9	0.8	1.0	1.0	0.8	0.5
203.4	206.4	209.3	211.8	214.1	216.2	218.0	219.6	220.8
0.3	0.8	0.5	0.3	0.0	0.0	0.2	0.3	0.2
7.2	4.9	4.0	3.8	3.6	3.8	3.8	3.6	3.1
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		4.3	4.4	4.4	4.4	4.4	4.5	4.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
4.7	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
2.4	1.9	1.1	0.9	0.8	1.0	1.0	0.9	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	132.7	129.1	126.2
-11.0	-5.9	-4.9	-4.0	-4.1	-4.5	-4.2	-3.6	-2.8
1.9	2.5	2.4	2.3	2.1	2.1	2.0	1.8	1.8
1.7	2.1	2.1	2.1	2.1	2.1	1.9	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.4	-0.3	-0.1	0.0	0.0	-0.1	-0.2	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-8.3	-4.3	-2.9	-2.1	-1.4	-1.3	-1.0	-0.5	0.2

3.2	3.1	3.1	3.3	3.7	3.9	4.0	4.1	4.1
-3.9	-3.0	-1.7	-1.3	-1.1	-1.3	-1.4	-1.1	-0.6
-7.6	-4.5	-4.3	-4.1	-4.0	-3.8	-3.6	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
160.2	154.3	149.5	145.4	141.3	136.8	132.7	129.1	126.2
	140.3	136.2	130.8	126.2	121.7	117.5	113.5	110.3
	3.5	3.4	4.8	5.8	6.5	6.6	7.1	7.5
	9.0	8.7	8.4	8.2	8.0	7.7	7.5	7.3
	1.5	1.0	1.3	0.9	0.6	0.8	1.0	1.0
	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
2.0	2.1	2.1	2.2	2.4	2.5	2.6	2.7
	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	0.0	0.1	0.3	0.5	0.6	0.6	0.6

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



160.2	154.3	149.5	145.4	141.3	136.8	132.7	129.1	126.2
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

160.2	154.3	149.5	145.4	141.3	136.8	132.8	129.1	125.7
2.0	2.0	2.1	2.3	2.6	2.8	3.1	3.2	3.3
		0.0	0.1	0.3	0.5	0.6	0.6	0.6

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	11.0	0.0	0.0	0.0	0.0	0.0
20.0	19.8	19.7	19.8	19.8	19.9	20.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3

222.2	223.7	226.3	229.6	233.2	237.3	241.4
0.4	0.7	1.1	1.5	1.6	1.7	1.7
221.9	223.7	226.3	229.6	233.2	237.3	241.4
0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.0	3.3	3.7	4.0	4.1	4.3	4.2
3.4	3.5	3.2	3.3	3.3	3.3	3.3
4.5	4.5	4.5	4.4	4.4	4.4	4.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	1.1	1.5	1.6	1.7	1.7

2032	2033	2034	2035	2036	2037	2038
123.7	132.8	130.0	127.1	124.2	121.2	118.4
-2.6	9.1	-2.7	-2.9	-3.0	-3.0	-2.8
1.7	1.8	1.8	1.8	1.7	1.7	1.6
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.2	-0.2	-0.2	-0.1	-0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.1	-0.7	-0.9	-1.1	-1.1	-1.0

4.1	4.1	4.1	4.1	4.0	3.9	3.9
-0.5	-0.8	-1.5	-1.8	-1.9	-2.1	-2.0
-3.2	-3.1	-3.3	-3.2	-3.1	-3.0	-2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	10.8	-0.2	-0.2	-0.2	-0.2	-0.2
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	11.0	0.0	0.0	0.0	0.0	0.0
0	1	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
123.7	132.8	130.0	127.1	124.2	121.2	118.4
108.0	103.6	113.0	108.7	105.9	102.3	99.7
7.3	9.1	7.5	8.9	9.0	9.8	9.7
7.2	7.0	7.5	7.3	7.2	7.0	6.8
1.1	12.3	1.9	2.0	2.0	2.0	2.0
0.1	0.8	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.4	3.5	3.2	3.3	3.3	3.3	3.3
2.8	3.0	3.2	3.3	3.4	3.5	3.6
2.9	3.0	3.2	3.3	3.4	3.5	3.5
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0

123.7	132.8	130.0	127.1	124.2	121.2	118.4
3.4	3.5	3.5	3.6	3.6	3.6	3.6
0.5	0.5	0.0	0.0	-0.1	-0.1	-0.2
122.5	131.2	128.5	125.7	122.9	120.0	117.2
3.4	3.4	3.5	3.6	3.6	3.6	3.6
0.5	0.5	0.0	0.0	-0.1	-0.2	-0.2



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.2	0.2
One-off and other temporary measures	0.8	0.5
Stock flow adjustments (without exchange rate effect)	-0.4	-0.9
Interest deferral	0.0	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.9	21.4
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	188.1	199.2
Growth rate (including feedback and output-gap closure effect)	8.4	5.9
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	200.6	201.3
<i>Output gap</i>		
Output gap	-6.3	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.8	14.5
Interest rates and inflation		
Nominal implicit interest rate on debt	1.3	1.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	1.3	8.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.52	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.9

Debt projections

	2021	2022
Gross debt	194.6	171.3
<i>Change in debt (-1+2+3)</i>		-23.3
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.1
(1.1) Structural primary balance (before ageing cost)		0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.6
(1.4) One-off and other temporary measures		-0.5
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0

(2) Snowball effect (2.1 + 2.2 + 2.3)	-22.2
(2.1) Interest expenditure	2.4
(2.2) Growth effect	-10.0
(2.3) Inflation effect	-14.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.9
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
(3.2) Interest deferral	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	194.6	171.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.3	1.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	194.6	171.3
IIR	1.3	1.4
IIR difference STATA - Excel		

-8.3	-4.3	-2.9	-2.1	-1.4	-1.3	0.0	0.4	0.8
3.2	3.1	3.1	3.3	3.7	3.9	4.1	4.2	4.3
-3.9	-3.0	-1.7	-1.3	-1.1	-1.3	-0.5	-0.3	-0.1
-7.6	-4.5	-4.3	-4.1	-4.0	-3.8	-3.6	-3.5	-3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
-0.8	1.0	0.4	0.3	-0.6	-1.1	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	11.0	0.0	0.0	0.0	0.0	0.0
20.0	19.8	19.7	19.8	19.8	19.9	20.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3

217.5	218.2	219.6	221.7	224.1	226.9	229.7
0.0	0.3	0.6	1.0	1.1	1.2	1.2
0.0	0.3	0.6	1.0	1.1	1.2	1.2

217.5	218.2	219.6	221.7	224.1	226.9	229.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.9	3.2	3.5	3.6	3.8	3.7
3.5	3.6	3.4	3.4	3.5	3.5	3.6
5.0	5.0	5.0	4.9	4.9	4.9	4.9
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.3	0.6	1.0	1.1	1.2	1.2

2032	2033	2034	2035	2036	2037	2038
125.6	134.9	132.5	129.9	127.3	124.7	122.3
-2.3	9.3	-2.4	-2.6	-2.6	-2.6	-2.4
2.1	2.3	2.3	2.3	2.2	2.2	2.1
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.2	-0.2	-0.2	-0.1	-0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.1	0.8	0.2	-0.1	-0.2	-0.3	-0.2
4.4	4.4	4.4	4.4	4.3	4.3	4.3
0.0	-0.4	-0.8	-1.2	-1.4	-1.5	-1.5
-3.3	-3.2	-3.4	-3.3	-3.2	-3.1	-3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.3	10.8	-0.2	-0.2	-0.2	-0.2	-0.2
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	11.0	0.0	0.0	0.0	0.0	0.0
0	1	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
125.6	134.9	132.5	129.9	127.3	124.7	122.3
109.9	105.6	115.3	111.3	108.8	105.4	103.1
7.5	9.2	7.7	9.1	9.2	10.1	10.1
7.3	7.2	7.7	7.5	7.4	7.2	7.1
0.9	12.1	1.7	1.8	1.8	1.9	1.9
0.1	0.8	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
3.5	3.6	3.4	3.4	3.5	3.5	3.6
2.9	3.1	3.4	3.5	3.6	3.8	3.9
3.0	3.1	3.4	3.5	3.6	3.7	3.8
0.5	0.5	-0.1	-0.1	-0.2	-0.2	-0.3
1.0	1.0	1.0	1.0	1.0	1.0	1.0



125.6	134.9	132.5150	129.9	127.3	124.7	122.3
3.5	3.6	3.7	3.8	3.8	3.9	3.9
0.5	0.5	-0.1	-0.1	-0.2	-0.2	-0.3
123.3	132.5	130.1	127.5	124.8	122.2	119.7
3.4	3.5	3.6	3.7	3.7	3.8	3.9
0.5	0.5	-0.1	-0.1	-0.2	-0.2	-0.3



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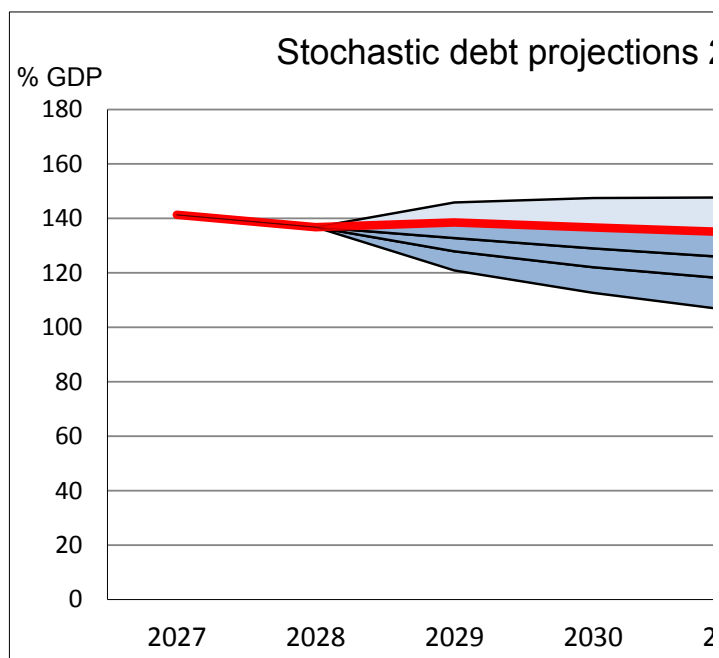
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	194.6	171.3	160.2	154.3
Distribution of debt paths				
p10	194.6	171.3	160.2	154.3
p30	194.6	171.3	160.2	154.3
p50 - Adjustment scenario	194.6	171.3	160.2	154.3
p70	194.6	171.3	160.2	154.3
p90	194.6	171.3	160.2	154.3
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	141.3	136.8	120.9	112.6
p30_p10	0.0	0.0	7.0	9.4
p50_p30	0.0	0.0	4.8	7.0
p70_p50	0.0	0.0	5.7	7.6
p90_p70	0.0	0.0	7.3	10.9
p10	141.3	136.8	120.9	112.6
p30	141.3	136.8	128.0	122.0
p50	141.3	136.8	132.8	129.0
p70	141.3	136.8	138.5	136.7
p90	141.3	136.8	145.8	147.5

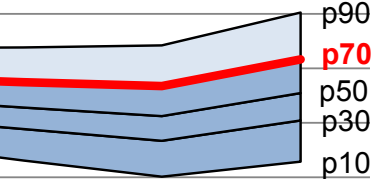
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
149.5	145.4	141.3	136.8	132.8	129.0	125.6	122.5	130.9	127.7
149.5	145.4	141.3	136.8	120.9	112.6	106.2	100.2	105.7	
149.5	145.4	141.3	136.8	128.0	122.0	117.7	113.4	120.9	
149.5	145.4	141.3	136.8	132.8	129.0	125.6	122.5	130.9	
149.5	145.4	141.3	136.8	138.5	136.7	135.0	133.5	143.3	
149.5	145.4	141.3	136.8	145.8	147.5	147.7	148.5	160.5	

2031	2032	2033
106.2	100.2	105.7
11.6	13.2	15.2
7.9	9.1	10.0
9.4	11.0	12.4
12.7	14.9	17.2
106.2	100.2	105.7
117.7	113.4	120.9
125.6	122.5	130.9
135.0	133.5	143.3
147.7	148.5	160.5



2035	2036	2037	2038	2039	2040	2041
124.3	120.8	117.3	114.0	111.1	108.4	105.9

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

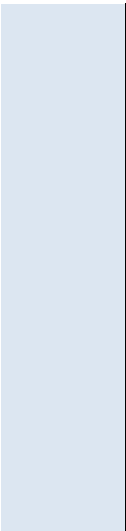
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the adjustment scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	EE
# years of adjustment	4
Annual adjustment (change in SPB)	0.00
SPB at the end of the adjustment	-0.7

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is the same as the SPB at the beginning of the plan, indicating that the Member State has achieved a sustainable adjustment.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -1.9	7 -1.8

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	17.6	18.4
Structural primary balance ('+' means 'surplus')	-4.3	-0.1
One-off and other temporary measures	1.0	0.1
Stock-flow adjustments (without exchange rate effect)	-1.0	2.2
Stock-flow adjustment (total)	-1.0	2.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.7	17.1
of which: Public pensions expenditure	8.2	7.7
Health care expenditure	5.1	5.0
Long-term care expenditure	0.4	0.4
Education & unemployment benefits expenditure	4.0	4.0
Taxes on pensions	0.0	0.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	8.0	-1.3
Level	21.9	
<i>Potential GDP</i>		
Growth rate	3.1	2.4
Level	21.5	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	0.2	0.5
Inflation (SF 2023)		
GDP deflator (national currency)	6.0	16.6

Additional parameters

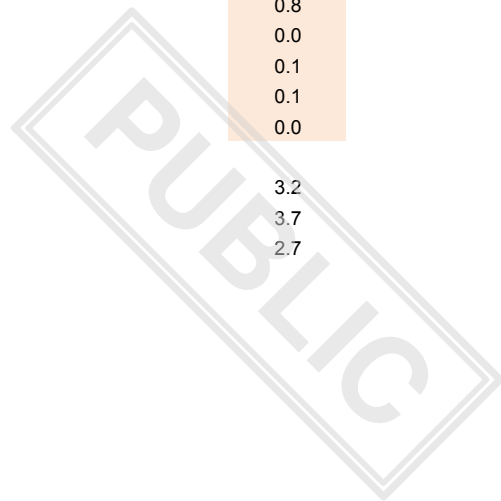
Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	3.3
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.0
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	39.7

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.0
0.1
0.1
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

3.2
3.7
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
19.5	21.3								
-0.7	-0.7								
0.0	0.0								
-0.3	0.3								
-0.3	0.3								
16.8	16.7	16.7	16.6	16.7	16.7	16.7	16.6	16.6	16.5
7.4	7.2	7.1	7.0	7.0	7.0	6.9	6.9	6.8	6.8
5.0	5.0	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.2
0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
-0.4	3.1	2.5	2.2	2.1	1.2	1.4	1.5	1.6	1.6
1.8	1.8	1.5	1.3	1.2	1.2	1.4	1.5	1.6	1.6
2.6	3.2								
10.3	3.6								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
16.5	16.4	16.3	16.3	16.2	16.2	16.2	16.2	16.1
6.7	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.4
5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4.0	3.9	3.9	3.9	3.8	3.8	3.8	3.7	3.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
1.8	2.0	2.1	2.0	1.8	1.8	1.7	1.6	1.6
1.8	2.0	2.1	2.0	1.8	1.8	1.7	1.6	1.6

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	EE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.3	-0.1
One-off and other temporary measures	1.0	0.1
Stock flow adjustments (without exchange rate effect)	-1.0	2.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.7	17.1
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	21.9	21.6
Growth rate	8.0	-1.3
<i>Potential GDP (real)</i>		
Level	21.5	22.1
<i>Output gap</i>		
Output gap	1.8	-1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.5	15.1
Interest rate		
Nominal implicit interest rate on debt	0.2	0.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (national currency)	6.0	16.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.49	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		-1.3

Debt projections

	2021	2022
Gross debt	17.6	18.4
<i>Change in debt (-1+2+3)</i>		0.8
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.8
(1.1) Structural primary balance (before ageing cost)		-0.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.9
(1.4) One-off and other temporary measures		-0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-2.2
(2.1) Interest expenditure		0.1

(2.2) Growth effect	0.2
(2.3) Inflation effect	-2.5
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.2
(3.1) Base	2.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.9
Structural balance	-0.2
Net expenditure growth	8.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	17.6	18.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	0.2	0.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	17.6	18.4
IIR	0.2	0.5
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.8	16.7	16.7	16.6	16.7	16.7	16.7	16.6	16.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

21.6	22.2	22.8	23.3	23.8	24.1	24.4	24.8	25.2
-0.4	3.1	2.5	2.2	2.1	1.2	1.4	1.5	1.6

22.5	22.9	23.2	23.5	23.8	24.1	24.4	24.8	25.2

-4.0	-2.8	-1.9	-0.9	0.0	0.0	0.0	0.0	0.0

9.9	6.8	6.0	5.6	5.4	4.4	4.4	4.4	4.3

2.6	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
		3.7	3.7	3.6	3.5	3.5	3.4	3.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

10.3	3.6	3.4	3.3	3.2	3.1	3.0	2.9	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	3.1	2.5	2.2	2.1	1.2	1.4	1.5	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
19.5	21.3	22.3	23.0	23.3	23.8	24.3	24.7	25.1
1.1	1.7	1.1	0.6	0.3	0.5	0.5	0.4	0.4
-2.7	-2.1	-1.6	-1.1	-0.8	-0.8	-0.7	-0.7	-0.6
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	1.4	0.9	0.5	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.7	-0.6	-0.5	-0.5	-0.2	-0.2	-0.2	-0.2
0.4	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8

2032	2033	2034	2035	2036	2037	2038
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.5	16.5	16.4	16.3	16.3	16.2	16.2
0.5	0.5	0.4	0.4	0.4	0.4	0.4

25.6	26.0	26.5	27.1	27.6	28.1	28.6
1.6	1.8	2.0	2.1	2.0	1.8	1.8
25.6	26.0	26.5	27.1	27.6	28.1	28.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.3	4.4	4.6	4.7	4.6	4.3	4.2
3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.4	3.4	3.4	3.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.8	2.0	2.1	2.0	1.8	1.8

2032	2033	2034	2035	2036	2037	2038
25.5	25.8	25.9	25.9	25.9	26.0	26.0
0.4	0.3	0.1	0.0	0.0	0.1	0.0
-0.6	-0.5	-0.4	-0.4	-0.3	-0.3	-0.3
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.2	-0.3	-0.4	-0.4	-0.4	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	-0.3	-0.4	-0.3	-0.3	-0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8

-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.4
-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.4	-1.4	-1.2	-1.2	-1.2	-1.1	-1.1
-1.4	-1.4	-1.2	-1.2	-1.2	-1.1	-1.1
4.2	4.4	4.5	4.7	4.5	4.3	4.2



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
25.5	25.8	25.9	25.9	25.9	26.0	26.0
21.5	21.8	22.0	22.1	22.2	22.2	22.3
0.5	0.5	0.5	0.5	0.5	0.5	0.5
2.0	2.1	2.1	2.1	2.1	2.1	2.1
1.3	1.2	1.1	1.1	1.1	1.0	1.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.4	3.4	3.4	3.4	3.4	3.4	3.4
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



25.5	25.8	25.9	25.9	25.9	26.0	26.0
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	EE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.3	-0.1
One-off and other temporary measures	1.0	0.1
Stock flow adjustments (without exchange rate effect)	-1.0	2.2
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.7	17.1
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	21.9	21.6
Growth rate	8.0	-1.3
<i>Potential GDP (real)</i>		
Level	21.5	22.1
<i>Output gap</i>		
Output gap	1.8	-1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	14.5	15.1
Interest rates		
Nominal implicit interest rate on debt	0.2	0.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	6.0	16.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.49

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		-1.3

Debt projections

	2021	2022
Gross debt	17.6	18.4
<i>Change in debt (-1+2+3)</i>		<i>0.8</i>
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-0.8
(1.1) Structural primary balance (before ageing cost)		-0.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.9
(1.4) One-off and other temporary measures		-0.1
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-2.2
(2.1) Interest expenditure		0.1

(2.2) Growth effect	0.2
(2.3) Inflation effect	-2.5
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.2
(3.1) Base	2.2
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.9
Structural balance	-0.2
Net expenditure growth	8.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	17.6	18.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.09	0.09
Share of long-term debt in total government debt	0.91	0.91
IIR	0.2	0.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0)

Debt	17.6	18.4
IIR	0.2	0.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	17.6	18.4
IIR	0.2	0.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.8	16.7	16.7	16.6	16.7	16.7	16.7	16.6	16.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

21.6	22.2	22.8	23.3	23.8	24.1	24.4	24.8	25.2
-0.4	3.1	2.5	2.2	2.1	1.2	1.4	1.5	1.6

22.5	22.9	23.2	23.5	23.8	24.1	24.4	24.8	25.2

-4.0	-2.8	-1.9	-0.9	0.0	0.0	0.0	0.0	0.0

9.9	6.8	6.0	5.6	5.4	4.4	4.4	4.4	4.3

2.6	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
		3.7	3.7	3.6	3.5	3.5	3.4	3.3
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

10.3	3.6	3.4	3.3	3.2	3.1	3.0	2.9	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	3.1	2.5	2.2	2.1	1.2	1.4	1.5	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
19.5	21.3	22.4	23.1	23.3	23.9	24.3	24.8	25.2
1.1	1.7	1.1	0.7	0.3	0.5	0.5	0.4	0.4
-2.7	-2.1	-1.6	-1.2	-0.7	-0.7	-0.7	-0.7	-0.6
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	1.4	0.9	0.5	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.7	-0.6	-0.5	-0.5	-0.2	-0.2	-0.2	-0.2
0.4	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8

0.1	-0.6	-0.5	-0.5	-0.5	-0.3	-0.3	-0.3	-0.4
-1.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.1	-2.7	-2.3	-1.9	-1.5	-1.5	-1.5	-1.5	-1.4
-1.2	-1.3	-1.4	-1.4	-1.5	-1.5	-1.5	-1.5	-1.4
13.7	5.5	5.0	4.6	4.4	4.3	4.4	4.3	4.3

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
19.5	21.3	22.4	23.1	23.3	23.9	24.3	24.8	25.2
	16.5	18.1	19.1	19.7	20.1	20.5	20.9	21.2
	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5
	1.6	1.7	1.8	1.9	1.9	1.9	2.0	2.0
	2.7	2.1	1.7	1.3	1.4	1.4	1.3	1.3
	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08
0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.92	0.92
2.6	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
	3.2	3.3	3.3	3.3	3.4	3.4	3.4	3.4
		3.2	3.3	3.3	3.3	3.3	3.3	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

19.5	21.3	22.4	23.1	23.3	23.9	24.3	24.8	25.2
2.6	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

19.5	21.3	22.4	23.1	23.3	23.9	24.4	24.9	25.4
2.6	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.5	16.5	16.4	16.3	16.3	16.2	16.2
0.5	0.5	0.4	0.4	0.4	0.4	0.4

25.6	26.0	26.5	27.1	27.6	28.1	28.6
1.6	1.8	2.0	2.1	2.0	1.8	1.8
25.6	26.0	26.5	27.1	27.6	28.1	28.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.3	4.4	4.6	4.7	4.6	4.3	4.2
3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.4	3.4	3.4	3.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.8	2.0	2.1	2.0	1.8	1.8

2032	2033	2034	2035	2036	2037	2038
25.5	25.8	25.9	25.9	26.0	26.0	26.1
0.4	0.3	0.1	0.0	0.0	0.0	0.0
-0.6	-0.5	-0.4	-0.4	-0.3	-0.3	-0.3
-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.2	-0.3	-0.4	-0.4	-0.4	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	-0.3	-0.4	-0.3	-0.3	-0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8

-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.4
-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.4	-1.4	-1.2	-1.2	-1.2	-1.1	-1.1
-1.4	-1.4	-1.2	-1.2	-1.2	-1.1	-1.1
4.2	4.4	4.5	4.7	4.5	4.3	4.2



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
25.5	25.8	25.9	25.9	26.0	26.0	26.1
21.6	21.9	22.1	22.1	22.2	22.3	21.1
0.5	0.5	0.5	0.5	0.5	0.5	1.8
2.0	2.1	2.1	2.1	2.1	2.1	2.1
1.3	1.2	1.1	1.1	1.1	1.0	1.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.4	3.4	3.4	3.4	3.4	3.4	3.4
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



25.5	25.8	25.9	25.9	26.0	26.0	26.1
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.2	26.4	26.5	26.6	26.8	26.9
3.3	3.3	3.3	3.3	3.3	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(July 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

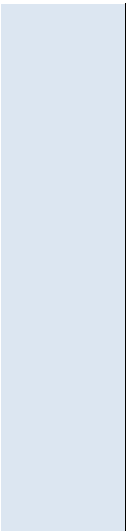
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	DK
# years of adjustment	4
Annual adjustment (change in SPB)	0.00
SPB at the end of the adjustment	2.6

Adjustment scenario

years of adjustment
 SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is 2.6, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -1.2	7 -1.2

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DK
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	36.7	30.1
Structural primary balance ('+' means 'surplus')	4.9	3.9
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	1.1	0.6
Stock-flow adjustment (total)	1.1	0.6
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.8	20.0
of which: Public pensions expenditure	9.2	9.0
Health care expenditure	7.0	6.8
Long-term care expenditure	3.7	3.7
Education & unemployment benefits expenditure	5.7	5.6
Taxes on pensions	4.8	5.1
Property income	1.0	1.0
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	4.9	3.8
Level	292.8	
<i>Potential GDP</i>		
Growth rate	1.9	2.2
Level	296.5	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.4	2.2
Inflation (SF 2023)		
GDP deflator (national currency)	2.8	7.6

Additional parameters

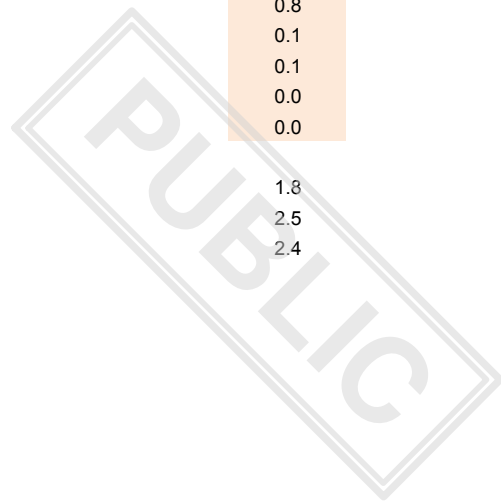
Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	2.7
Short-term nominal interest rate (T+10 target)	3.3
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.2
Share of long-term debt in total government debt	0.8
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	46.3

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.1
0.0
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.8
2.5
2.4



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
30.1	28.8								
4.1	2.6								
-0.5	0.0								
2.5	1.0								
2.5	1.0								
20.1	20.3	20.4	20.5	20.6	20.7	20.8	20.8	20.8	21.0
8.9	8.9	8.9	8.8	8.7	8.7	8.7	8.5	8.5	8.5
6.8	6.9	6.9	7.0	7.0	7.0	7.1	7.1	7.1	7.1
3.8	4.0	4.0	4.1	4.3	4.4	4.5	4.6	4.7	4.8
5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5
5.0	5.0	5.0	5.0	5.0	4.9	4.9	4.9	5.0	4.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.3	1.5	1.6	1.2	1.1	0.7	0.7	0.9	1.0	1.1
1.9	1.6	1.2	0.8	0.6	0.7	0.7	0.9	1.0	1.1
2.0	1.9								
0.2	2.1								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041

21.1	21.2	21.2	21.2	21.4	21.4	21.4	21.3	21.3
8.5	8.5	8.3	8.3	8.3	8.3	8.3	8.1	8.1
7.1	7.2	7.2	7.2	7.2	7.2	7.3	7.3	7.3
4.9	5.1	5.2	5.3	5.4	5.5	5.5	5.6	5.6
5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
5.0	5.0	5.0	5.1	5.0	5.1	5.1	5.1	5.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

1.2	1.3	1.4	1.5	1.5	1.6	1.6	1.6	1.7

1.2	1.3	1.4	1.5	1.5	1.6	1.6	1.6	1.7

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	DK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	4.9	3.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.1	0.6
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.8	20.0
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	292.8	303.9
Growth rate	4.9	3.8
<i>Potential GDP (real)</i>		
Level	296.5	302.9
<i>Output gap</i>		
Output gap	-1.3	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.8	11.7
Interest rate		
Nominal implicit interest rate on debt	1.4	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.8	7.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.59	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.8

Debt projections

	2021	2022
Gross debt	36.7	30.1
<i>Change in debt (-1+2+3)</i>		-6.6
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		4.1
(1.1) Structural primary balance (before ageing cost)		3.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.3
(2.3) Inflation effect	-2.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.6
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	3.3
Structural balance	3.1
Net expenditure growth	12.1

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	36.7	30.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.4	2.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	36.7	30.1
IIR	1.4	2.2
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
4.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.4	20.5	20.6	20.7	20.8	20.8	20.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

304.9	309.5	314.5	318.4	321.8	323.9	326.3	329.2	332.6
0.3	1.5	1.6	1.2	1.1	0.7	0.7	0.9	1.0

308.6	313.5	317.2	319.8	321.8	323.9	326.3	329.2	332.6

-1.2	-1.3	-0.9	-0.4	0.0	0.0	0.0	0.0	0.0

0.5	3.6	3.8	3.5	3.4	3.0	3.2	3.4	3.6

2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9
		2.5	2.6	2.6	2.6	2.6	2.6	2.6
		2.4	2.5	2.7	2.8	2.9	3.1	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

0.2	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	1.5	1.6	1.2	1.1	0.7	0.7	0.9	1.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
30.1	28.8	26.2	23.7	21.0	18.5	16.2	13.8	11.5
0.1	-1.4	-2.5	-2.6	-2.7	-2.4	-2.3	-2.4	-2.3
2.9	1.8	2.0	2.2	2.4	2.2	2.1	2.2	2.1
4.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0
0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.5	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2
0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	21.1	21.2	21.2	21.2	21.4	21.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

336.2	340.3	344.8	349.7	354.9	360.4	366.1
1.1	1.2	1.3	1.4	1.5	1.5	1.6
336.2	340.3	344.8	349.7	354.9	360.4	366.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.7	3.8	3.9	4.0	4.0	4.1	4.1
1.9	1.9	1.9	1.9	1.9	1.9	1.9
2.7	2.7	2.8	2.9	2.9	3.0	3.1
3.3	3.2	3.2	3.1	3.0	3.0	2.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.3	1.4	1.5	1.5	1.6

2032	2033	2034	2035	2036	2037	2038
9.3	7.3	5.5	3.6	1.8	0.2	-1.3
-2.2	-2.0	-1.9	-1.9	-1.8	-1.6	-1.5
1.9	1.8	1.7	1.8	1.7	1.6	1.5
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.8	0.9	0.9	0.9	1.0	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.2	-0.1	-0.1	-0.1	0.0	0.0
0.2	0.2	0.1	0.1	0.1	0.0	0.0

-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0
-0.3	-0.2	-0.2	-0.1	-0.1	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.7	1.7	1.6	1.7	1.6	1.5	1.5
1.7	1.7	1.6	1.7	1.6	1.5	1.5
3.7	3.8	3.9	4.0	4.0	4.0	4.0



0	0	0	0	0	0	0
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
9.3	7.3	5.5	3.6	1.8	0.2	-1.3
9.3	7.3	5.5	3.6	1.8	0.2	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

1.9	1.9	1.9	1.9	1.9	1.9	1.9
1.9	1.9	1.9	1.9	1.9	1.9	1.9
1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



9.3	7.3	5.5	3.6	1.8	0.2	-1.3
1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	4.9	3.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.1	0.6
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.8	20.0
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	292.8	303.9
Growth rate	4.9	3.8
<i>Potential GDP (real)</i>		
Level	296.5	302.9
<i>Output gap</i>		
Output gap	-1.3	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.8	11.7
Interest rates		
Nominal implicit interest rate on debt	1.4	2.2
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	7.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.59

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.8

Debt projections

	2021	2022
Gross debt	36.7	30.1
<i>Change in debt (-1+2+3)</i>		-6.6
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		4.1
(1.1) Structural primary balance (before ageing cost)		3.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.3
(2.3) Inflation effect	-2.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.6
(3.1) Base	0.6
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	3.3
Structural balance	3.1
Net expenditure growth	12.1

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	36.7	30.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.18	0.14
Share of long-term debt in total government debt	0.82	0.86
IIR	1.4	2.2
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0)

Debt	36.7	30.1
IIR	1.4	2.2
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	36.7	30.1
IIR	1.4	2.2
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
4.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.4	20.5	20.6	20.7	20.8	20.8	20.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

304.9	309.5	314.5	318.4	321.8	323.9	326.3	329.2	332.6
0.3	1.5	1.6	1.2	1.1	0.7	0.7	0.9	1.0

308.6	313.5	317.2	319.8	321.8	323.9	326.3	329.2	332.6

-1.2	-1.3	-0.9	-0.4	0.0	0.0	0.0	0.0	0.0

0.5	3.6	3.8	3.5	3.4	3.0	3.2	3.4	3.6

2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
		2.5	2.6	2.6	2.6	2.6	2.6	2.6
		2.4	2.5	2.7	2.8	2.9	3.1	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

0.2	2.1	2.1	2.2	2.3	2.4	2.4	2.5	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	1.5	1.6	1.2	1.1	0.7	0.7	0.9	1.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
30.1	28.8	26.2	23.4	20.5	17.6	14.9	12.1	9.5
0.1	-1.4	-2.6	-2.7	-2.9	-2.8	-2.7	-2.8	-2.7
2.9	1.8	2.1	2.4	2.6	2.6	2.5	2.6	2.5
4.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0
0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.5	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2
0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.2

-0.1	-0.4	-0.4	-0.3	-0.2	-0.1	-0.1	-0.1	-0.1
-0.1	-0.6	-0.6	-0.6	-0.5	-0.5	-0.4	-0.4	-0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.3	1.3	1.6	1.9	2.2	2.2	2.2	2.3	2.3
3.5	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3
1.6	6.9	3.3	3.0	2.9	3.0	3.2	3.4	3.6

		0	0	0	0	0	0	0
		1	1	1	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
30.1	28.8	26.2	23.4	20.5	17.6	14.9	12.1	9.5
	23.3	22.3	21.0	19.6	17.6	14.9	12.1	9.5
	1.6	1.2	1.0	0.5	0.0	0.0	0.0	0.0
	3.9	2.6	1.4	0.4	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.14	0.13	0.10	0.06	0.02	0.00	0.00	0.00	0.00
0.86	0.87	0.90	0.94	0.98	1.00	1.00	1.00	1.00
2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9
		1.9	1.9	1.9	1.9	1.9	1.9	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

30.1	28.8	26.2	23.4	20.5	17.6	14.9	12.1	9.5
2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

30.1	28.8	26.2	23.4	20.5	17.6	14.8	12.0	9.2
2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.0	21.1	21.2	21.2	21.2	21.4	21.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

336.2	340.3	344.8	349.7	354.9	360.4	366.1
1.1	1.2	1.3	1.4	1.5	1.5	1.6
336.2	340.3	344.8	349.7	354.9	360.4	366.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.7	3.8	3.9	4.0	4.0	4.1	4.1
1.9	1.9	1.9	1.9	1.9	3.0	3.1
2.7	2.7	2.8	2.9	2.9	3.0	3.1
3.3	3.2	3.2	3.1	3.0	3.0	2.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.3	1.4	1.5	1.5	1.6

2032	2033	2034	2035	2036	2037	2038
7.0	4.6	2.4	0.2	-1.9	-3.8	-5.7
-2.5	-2.4	-2.2	-2.2	-2.1	-2.0	-1.9
2.3	2.2	2.1	2.2	2.1	2.0	1.9
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.4	0.5	0.5	0.5	0.6	0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0
0.2	0.1	0.1	0.0	0.0	-0.1	-0.1

-0.1	-0.1	-0.1	0.0	0.0	0.0	0.1
-0.2	-0.2	-0.1	-0.1	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.2	2.1	2.0	2.1	2.1	2.0	2.0
2.2	2.1	2.0	2.1	2.1	2.0	2.0
3.7	3.8	3.9	4.0	4.0	4.0	4.0



0	0	0	0	0	0	0
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
7.0	4.6	2.4	0.2	-1.9	-3.8	-5.7
7.0	4.6	2.4	0.2	-1.9	-3.8	-5.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

1.9	1.9	1.9	1.9	1.9	3.0	3.1
1.9	1.9	1.9	1.9	1.9	3.0	3.1
1.9	1.9	1.9	1.9	1.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



7.0	4.6	2.4	0.2	-1.9	-3.8	-5.7
1.9	1.9	1.9	1.9	1.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0

6.6	4.1	1.8	-0.5	-2.7	-4.8	-6.8
1.9	1.9	1.9	1.9	2.9	3.0	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity to its maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt). **fixed shares which the user cannot change.**

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	DE
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.15

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

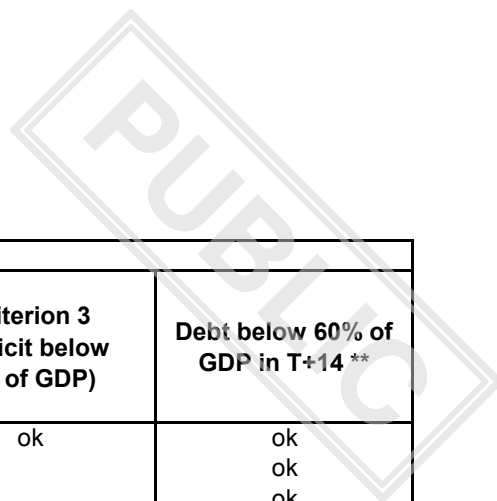
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok Not met Not met	Not met	ok	ok ok ok ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit and debt, with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.15	0.15	0.15	0.15
3.1	3.1	3.1	3.1
0.15			
0.15			
3.1			
3.1			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.15	0.05
60.8	58.6

ment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.15	0.15	0.15	0.15
0.05	0.05	0.05	0.05

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

|

chmark)		
2029	2030	2031
0.05	0.05	0.05

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	69.3	66.3
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock-flow adjustments (without exchange rate effect)	0.6	-0.9
Stock-flow adjustment (total)	0.6	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
of which: Public pensions expenditure	10.8	10.8
Health care expenditure	7.5	7.4
Long-term care expenditure	1.6	1.6
Education & unemployment benefits expenditure	4.0	3.9
Taxes on pensions	1.9	1.9
Property income	0.4	0.4
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	2.6	1.8
Level	2952.0	
<i>Potential GDP</i>		
Growth rate	0.8	0.5
Level	2996.1	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	0.9	1.0
Inflation (SF 2023)		
GDP deflator (national currency)	3.1	5.5

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	2.6
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	46.8

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.3
Long-term nominal interest rate in 2025	2.4
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-5.5	-7.7
Difference between debt level in 50th and 30th percentile of the distribution	-2.2	-3.1
Difference between debt level in 70th and 50th percentile of the distribution	2.6	3.6
Difference between debt level in 90th and 50th percentile of the distribution	6.1	8.4

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
65.2	64.1								
-1.2	-0.1								
0.0	0.0								
0.6	0.0								
0.6	0.0								
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8	23.0
10.8	10.8	10.9	11.0	11.1	11.2	11.4	11.5	11.6	11.7
7.4	7.4	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
3.9	4.0	4.0	4.0	4.0	4.1	4.1	4.2	4.2	4.2
2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.2	1.4	1.1	1.1	1.1	0.9	0.8	0.7	0.6	0.6
0.6	1.1	1.0	0.9	1.0	0.9	0.8	0.7	0.6	0.6
1.3	1.4								
6.1	2.4								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-9.0	-10.1	-11.0
-3.6	-4.1	-4.4
4.5	5.3	5.9
10.2	12.2	13.9

2033	2034	2035	2036	2037	2038	2039	2040	2041

23.1	23.2	23.2	23.3	23.4	23.4	23.5	23.5	23.5
11.8	11.9	12.0	12.0	12.0	12.0	12.0	12.0	12.0
7.6	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.8
1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8
4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

0.8	0.9	1.1	1.2	1.3	1.3	1.4	1.4	1.4

0.8	0.9	1.1	1.2	1.3	1.3	1.4	1.4	1.4

nomy, Economic Papers, No. 543.
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emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	DE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock flow adjustments (without exchange rate effect)	0.6	-0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2952.0	3004.7
Growth rate	2.6	1.8
<i>Potential GDP (real)</i>		
Level	2996.1	3011.5
<i>Output gap</i>		
Output gap	-1.5	-0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.8	7.4
Interest rate		
Nominal implicit interest rate on debt	0.9	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	3.1	5.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.8

Debt projections

	2021	2022
Gross debt	69.3	66.3
<i>Change in debt (-1+2+3)</i>		-3.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 -1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.1
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.2
(2.3) Inflation effect	-3.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.8
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.1
Other budgetary variables	
Headline balance	-2.6
Structural balance	-2.3
Net expenditure growth	4.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	69.3	66.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	0.9	1.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

3010.4	3051.3	3085.6	3118.1	3151.1	3178.9	3204.9	3227.5	3246.6
0.2	1.4	1.1	1.1	1.1	0.9	0.8	0.7	0.6

3029.1	3061.1	3092.2	3121.5	3151.1	3178.9	3204.9	3227.5	3246.6

-0.6	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0

6.3	3.8	3.6	3.6	3.6	3.4	3.4	3.3	3.2

1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		2.4	2.4	2.4	2.4	2.5	2.5	2.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	1.4	1.1	1.1	1.1	0.9	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.1	62.4	61.7	61.5	61.4	61.6	62.1
-1.0	-1.2	-0.9	-0.8	-0.6	-0.3	0.0	0.2	0.5
-1.5	-0.3	-0.3	-0.4	-0.4	-0.6	-0.8	-0.9	-1.1
-1.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.3	0.5	0.6	0.8	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.5	-1.3	-1.1	-1.1	-0.9	-0.8	-0.7	-0.6
0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	23.1	23.2	23.2	23.3	23.4	23.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4

3267.1	3292.6	3323.5	3359.7	3399.4	3442.2	3487.3
0.6	0.8	0.9	1.1	1.2	1.3	1.3
3267.1	3292.7	3323.5	3359.7	3399.4	3442.2	3487.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.5	3.7	3.7	3.8	3.8
2.3	2.3	2.4	2.5	2.5	2.6	2.6
2.6	2.6	2.7	2.8	2.8	2.9	3.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.8	0.9	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
62.7	63.4	64.2	64.9	65.7	66.6	67.5
0.6	0.7	0.7	0.7	0.8	0.9	0.9
-1.2	-1.3	-1.4	-1.5	-1.6	-1.6	-1.7
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.3	1.4	1.4	1.5	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.7	-0.7	-0.7	-0.8	-0.8	-0.7
1.4	1.4	1.5	1.5	1.6	1.6	1.7

-0.4	-0.5	-0.6	-0.7	-0.7	-0.8	-0.8
-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.6	-2.8	-2.9	-3.0	-3.1	-3.3	-3.4
-2.6	-2.8	-2.9	-3.0	-3.1	-3.3	-3.4
3.3	3.4	3.5	3.6	3.7	3.7	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
62.7	63.4	64.2	64.9	65.7	66.6	67.5
46.0	46.4	46.9	47.4	47.9	48.5	49.1
7.2	7.3	7.4	7.4	7.5	7.6	7.7
6.9	7.0	7.0	7.1	7.1	7.2	7.3
2.3	2.4	2.6	2.7	2.8	2.9	3.0
0.3	0.3	0.3	0.3	0.3	0.4	0.4
0.11	0.11	0.11	0.11	0.11	0.11	0.11
0.89	0.89	0.89	0.89	0.89	0.89	0.89
2.3	2.3	2.4	2.5	2.5	2.6	2.6
2.2	2.2	2.3	2.4	2.5	2.6	2.6
2.3	2.3	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



62.7	63.4	64.2	64.9	65.7	66.6	67.5
2.3	2.3	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock flow adjustments (without exchange rate effect)	0.6	-0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2952.0	3004.7
Growth rate	2.6	1.8
<i>Potential GDP (real)</i>		
Level	2996.1	3011.5
<i>Output gap</i>		
Output gap	-1.5	-0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.8	7.4
Interest rates		
Nominal implicit interest rate on debt	0.9	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	3.1	5.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.8

Debt projections

	2021	2022
Gross debt	69.3	66.3
<i>Change in debt (-1+2+3)</i>		-3.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.1
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.2
(2.3) Inflation effect	-3.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.8
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.1
Other budgetary variables	
Headline balance	-2.6
Structural balance	-2.3
Net expenditure growth	4.5
Average net primary expenditure growth	3.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	69.3	66.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR	0.9	1.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.15)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

3010.4	3051.3	3082.2	3111.2	3140.8	3168.4	3197.8	3224.0	3246.6
0.2	1.4	1.0	0.9	0.9	0.9	0.9	0.8	0.7

3029.1	3061.1	3092.2	3121.5	3151.1	3178.9	3204.9	3227.5	3246.6

-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	0.0

6.3	3.8	3.5	3.4	3.5	3.4	3.5	3.4	3.3

1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		2.4	2.4	2.4	2.4	2.5	2.5	2.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.1	0.0
0.2	1.4	1.0	0.9	0.9	0.8	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.6	57.7	57.1
-1.0	-1.2	-1.0	-1.1	-1.1	-1.2	-1.1	-0.8	-0.6
-1.5	-0.3	-0.2	0.0	0.1	0.3	0.2	0.1	0.0
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.5	-1.2	-1.1	-1.0	-0.9	-0.9	-0.8	-0.7
0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2

-0.1	-0.9	-0.6	-0.6	-0.6	-0.5	-0.5	-0.5	-0.4
-3.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.3	-1.2	-1.1	-1.0	-0.9	-0.8	-1.0	-1.1	-1.2
-2.0	-1.0	-1.0	-0.9	-0.8	-0.7	-0.9	-1.0	-1.2
5.8	1.3	3.1	3.1	3.1	3.1	3.4	3.3	3.2

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.6	57.7	57.1
	48.7	47.9	47.1	46.2	45.3	44.3	43.5	42.8
	6.8	6.8	6.8	6.8	6.7	6.7	6.6	6.6
	7.3	7.2	7.0	6.9	6.8	6.7	6.5	6.4
	1.1	1.0	0.9	0.8	0.7	0.9	1.0	1.1
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1
		1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



65.2	64.1	63.0	62.0	60.8	59.6	58.6	57.7	57.1
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

65.2	64.1	63.0	62.1	61.2	60.3	59.4	58.6	57.9
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	23.1	23.2	23.2	23.3	23.4	23.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4

3267.1	3292.7	3323.5	3359.7	3399.4	3442.2	3487.3
0.6	0.8	0.9	1.1	1.2	1.3	1.3
3267.1	3292.7	3323.5	3359.7	3399.4	3442.2	3487.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.5	3.7	3.7	3.8	3.8
2.2	2.3	2.4	2.4	2.5	2.5	2.6
2.6	2.6	2.7	2.8	2.8	2.9	3.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.8	0.9	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
56.7	56.3	56.1	55.8	55.6	55.5	55.5
-0.4	-0.3	-0.3	-0.3	-0.2	-0.1	0.0
-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.8	0.9	1.0	1.0	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.6
1.2	1.3	1.3	1.3	1.3	1.4	1.4

-0.3	-0.4	-0.5	-0.6	-0.6	-0.7	-0.7
-1.5	-1.4	-1.4	-1.4	-1.4	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.4	-1.5	-1.7	-1.7	-1.8	-1.9	-2.0
-1.4	-1.5	-1.7	-1.7	-1.8	-1.9	-2.0
3.3	3.4	3.5	3.6	3.7	3.7	3.8

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
56.7	56.3	56.1	55.8	55.6	55.5	55.5
42.3	41.9	41.6	41.4	41.2	41.0	43.7
6.6	6.6	6.5	6.5	6.5	6.4	3.7
6.4	6.3	6.3	6.2	6.2	6.1	6.1
1.2	1.4	1.5	1.5	1.6	1.7	1.8
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.12	0.11	0.11	0.11	0.11	0.11	0.11
0.88	0.89	0.89	0.89	0.89	0.89	0.89
2.2	2.3	2.4	2.4	2.5	2.5	2.6
2.1	2.2	2.3	2.4	2.4	2.5	2.6
2.2	2.3	2.4	2.4	2.5	2.5	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

56.7	56.3	56.1	55.8	55.6	55.5	55.5
2.2	2.3	2.4	2.4	2.5	2.5	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

57.2	56.6	56.1	55.6	55.2	54.9	54.6
2.2	2.3	2.4	2.4	2.5	2.5	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock flow adjustments (without exchange rate effect)	0.6	-0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2952.0	3004.7
Growth rate	2.6	1.8
<i>Potential GDP (real)</i>		
Level	2996.1	3011.5
<i>Output gap</i>		
Output gap	-1.5	-0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.8	7.4
Interest rates		
Nominal implicit interest rate on debt	0.9	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	3.1	5.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.8

Debt projections

	2021	2022
Gross debt	69.3	66.3
<i>Change in debt (-1+2+3)</i>		-3.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.1
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.2
(2.3) Inflation effect	-3.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.8
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	69.3	66.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.12	0.12
Share of long-term debt in total government debt	0.88	0.88
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.15)

Debt	69.3	66.3
IIR	0.9	1.0
IRR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	69.3	66.3
IIR	0.9	1.0
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

3010.4	3051.3	3082.2	3111.2	3140.8	3168.4	3197.8	3224.0	3246.6
0.2	1.4	1.0	0.9	0.9	0.9	0.9	0.8	0.7

3029.1	3061.1	3092.2	3121.5	3151.1	3178.9	3204.9	3227.5	3246.6

-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	0.0

6.3	3.8	3.5	3.4	3.5	3.4	3.5	3.4	3.3

1.3	1.4	1.6	1.7	1.8	1.9	2.2	2.2	2.3
		2.4	2.4	2.4	2.4	3.5	2.5	2.5
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.1	0.0
0.2	1.4	1.0	0.9	0.9	0.8	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.7	57.9	57.4
-1.0	-1.2	-1.0	-1.1	-1.1	-1.2	-0.9	-0.8	-0.6
-1.5	-0.3	-0.2	0.0	0.1	0.3	0.2	0.1	0.0
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.5	-1.2	-1.1	-1.0	-0.9	-0.7	-0.7	-0.6
0.8	0.9	1.0	1.0	1.1	1.1	1.3	1.2	1.3

-0.1	-0.9	-0.6	-0.6	-0.6	-0.5	-0.5	-0.5	-0.4
-3.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.7	57.9	57.4
	48.7	47.9	47.1	46.2	45.3	44.3	43.6	43.0
	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7
	7.3	7.2	7.0	6.9	6.8	6.7	6.5	6.5
	1.1	1.0	0.9	0.8	0.7	1.0	1.0	1.1
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

	1.4	1.6	1.7	1.8	1.9	2.2	2.2	2.3
	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2
		1.6	1.7	1.8	1.9	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

65.2	64.1	63.0	62.0	60.8	59.6	58.7	57.9	57.4
1.3	1.4	1.6	1.7	1.8	1.9	2.2	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

65.2	64.1	63.0	62.1	61.2	60.3	59.4	58.6	57.9
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	23.1	23.2	23.2	23.3	23.4	23.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4

3267.1 3292.7 3323.5 3359.7 3399.4 3442.2 3487.3
0.6 0.8 0.9 1.1 1.2 1.3 1.3

3267.1 3292.7 3323.5 3359.7 3399.4 3442.2 3487.3

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.3 3.4 3.5 3.7 3.7 3.8 3.8

2.3	2.4	2.4	2.5	2.5	2.6	2.6
2.6	2.6	2.7	2.8	2.8	2.9	3.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.6 0.8 0.9 1.1 1.2 1.3 1.3

2032	2033	2034	2035	2036	2037	2038
57.0	56.7	56.4	56.2	56.0	55.9	55.9
-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	0.0
-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.8	0.9	1.0	1.0	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
1.3	1.3	1.3	1.3	1.4	1.4	1.4

-0.3	-0.4	-0.5	-0.6	-0.6	-0.7	-0.7
-1.5	-1.4	-1.4	-1.4	-1.4	-1.4	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
57.0	56.7	56.4	56.2	56.0	55.9	55.9
42.5	42.1	41.9	41.6	41.5	41.3	41.2
6.7	6.6	6.6	6.5	6.5	6.5	6.5
6.4	6.3	6.3	6.3	6.2	6.2	6.2
1.3	1.4	1.5	1.6	1.6	1.7	1.8
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.12	0.11	0.11	0.11	0.11	0.11	0.11
0.88	0.89	0.89	0.89	0.89	0.89	0.89

2.3	2.4	2.4	2.5	2.5	2.6	2.6
2.2	2.3	2.3	2.4	2.5	2.6	2.6
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



57.0	56.7	56.4	56.2	56.0	55.9	55.9
2.3	2.4	2.4	2.5	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

57.4	56.8	56.4	55.9	55.5	55.2	55.0
2.5	2.4	2.5	2.5	2.6	2.6	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	DE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock flow adjustments (without exchange rate effect)	0.6	-0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2952.0	3004.7
Growth rate	2.6	1.8
<i>Potential GDP (real)</i>		
Level	2996.1	3011.5
<i>Output gap</i>		
Output gap	-1.5	-0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.8	7.4
Interest rates		
Nominal implicit interest rate on debt	0.9	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	3.1	5.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.8

Debt projections

	2021	2022
Gross debt	69.3	66.3
<i>Change in debt (-1+2+3)</i>		-3.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.1
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.1
(2.1) Interest expenditure		0.7

(2.2) Growth effect	-1.2
(2.3) Inflation effect	-3.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.8
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	69.3	66.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.15)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.1	0.0	0.2	0.3	0.5	0.2	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

3010.4	3051.3	3082.2	3111.2	3140.8	3168.4	3203.8	3232.8	3250.2
0.2	1.4	1.0	0.9	0.9	0.9	1.1	0.9	0.5
3029.1	3061.1	3092.2	3121.5	3151.1	3178.9	3204.9	3227.5	3246.6
-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	0.2	0.1
6.3	3.8	3.5	3.4	3.5	3.4	3.7	3.5	3.2
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		2.4	2.4	2.4	2.4	2.5	2.5	2.5
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6.1	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	0.0	0.1
0.2	1.4	1.0	0.9	0.9	0.8	1.0	0.9	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.6	58.1	58.0
-1.0	-1.2	-1.0	-1.1	-1.1	-1.2	-1.0	-0.5	-0.1
-1.5	-0.3	-0.2	0.0	0.1	0.3	0.0	-0.3	-0.5
-1.2	-0.1	0.0	0.2	0.3	0.5	0.2	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.2	0.2	0.2	0.2	0.2	0.0	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.5	-1.2	-1.1	-1.0	-0.9	-1.0	-0.8	-0.6
0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.2

-0.1	-0.9	-0.6	-0.6	-0.6	-0.5	-0.6	-0.5	-0.3
-3.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	58.6	58.1	58.0
	48.7	47.9	47.1	46.2	45.3	44.2	43.5	43.2
	6.8	6.8	6.8	6.8	6.7	6.7	6.6	6.7
	7.3	7.2	7.0	6.9	6.8	6.6	6.5	6.5
	1.1	1.0	0.9	0.8	0.7	1.0	1.3	1.5
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1
		1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

65.2	64.1	63.0	62.0	60.8	59.6	58.6	58.1	58.0
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

65.2	64.1	63.0	62.1	61.2	60.3	59.4	58.6	57.9
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	23.1	23.2	23.2	23.3	23.4	23.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4

3268.8	3292.7	3323.5	3359.7	3399.4	3442.2	3487.3
0.6	0.7	0.9	1.1	1.2	1.3	1.3
3267.1	3292.7	3323.5	3359.7	3399.4	3442.2	3487.3
0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.4	3.5	3.7	3.7	3.8	3.8
2.2	2.3	2.4	2.4	2.5	2.6	2.6
2.6	2.6	2.7	2.8	2.8	2.9	3.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.8	0.9	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
58.1	58.3	58.5	58.7	59.0	59.3	59.8
0.1	0.2	0.2	0.2	0.3	0.4	0.4
-0.6	-0.8	-0.9	-0.9	-1.0	-1.0	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.8	0.9	1.0	1.0	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.7	-0.7	-0.7	-0.7	-0.7
1.3	1.3	1.3	1.4	1.4	1.5	1.5

-0.3	-0.4	-0.5	-0.6	-0.7	-0.7	-0.7
-1.5	-1.5	-1.5	-1.5	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1	1	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
58.1	58.3	58.5	58.7	59.0	59.3	59.8
43.0	43.0	43.0	43.2	43.3	43.5	43.8
6.7	6.8	6.8	6.8	6.8	6.8	6.9
6.5	6.5	6.5	6.5	6.5	6.5	6.5
1.7	1.8	2.0	2.0	2.1	2.2	2.3
0.2	0.2	0.2	0.3	0.3	0.3	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9

2.2	2.3	2.4	2.4	2.5	2.6	2.6
2.1	2.2	2.3	2.4	2.5	2.5	2.6
2.2	2.3	2.4	2.4	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.1	58.3	58.5	58.7	59.0	59.3	59.8
2.2	2.3	2.4	2.4	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0

57.3	57.0	56.9	56.9	57.1	57.2	57.4
2.2	2.3	2.4	2.4	2.5	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-2.3	-1.6
One-off and other temporary measures	-0.1	-0.2
Stock flow adjustments (without exchange rate effect)	0.6	-0.9
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.0	21.8
Property income	0.4	0.4
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	2952.0	3004.7
Growth rate (including feedback and output-gap closure effect)	2.6	1.8
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	2996.1	3011.5
<i>Output gap</i>		
Output gap	-1.5	-0.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	5.8	7.4
Interest rates and inflation		
Nominal implicit interest rate on debt	0.9	1.0
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	3.1	5.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.8

Debt projections

	2021	2022
Gross debt	69.3	66.3
<i>Change in debt (-1+2+3)</i>		-3.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-1.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.1
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.1

(2.1) Interest expenditure	0.7
(2.2) Growth effect	-1.2
(2.3) Inflation effect	-3.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.8
(3.1) Base	-0.9
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.1
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	69.3	66.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	0.9	1.0
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.15)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

Extension (annual adjustment of 0.05)

Debt	69.3	66.3
IIR	0.9	1.0
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.9	21.9	22.1	22.2	22.4	22.5	22.7	22.8
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

3010.4	3051.3	3082.2	3111.2	3140.8	3168.4	3182.0	3192.0	3198.5
0.2	1.4	1.0	0.9	0.9	0.9	0.4	0.3	0.2
						0.3	0.2	0.1

3029.1	3061.1	3092.2	3121.5	3151.1	3178.9	3189.0	3195.6	3198.5

-0.6	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.1	0.0

6.3	3.8	3.5	3.4	3.5	3.4	3.0	2.9	2.8

1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.3	2.4
		2.4	2.4	2.4	2.4	3.0	3.0	3.0
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.1	0.0
0.2	1.4	1.0	0.9	0.9	0.8	0.3	0.2	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	59.0	58.5	58.3
-1.0	-1.2	-1.0	-1.1	-1.1	-1.2	-0.7	-0.5	-0.2
-1.5	-0.3	-0.2	0.0	0.1	0.3	0.2	0.1	0.0
-1.2	-0.1	0.0	0.2	0.3	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.5	-1.2	-1.1	-1.0	-0.9	-0.5	-0.4	-0.2

0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4
-0.1	-0.9	-0.6	-0.6	-0.6	-0.5	-0.2	-0.2	-0.1
-3.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
65.2	64.1	63.0	62.0	60.8	59.6	59.0	58.5	58.3
	48.7	47.9	47.1	46.2	45.3	44.5	44.0	43.6
	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.8
	7.3	7.2	7.0	6.9	6.8	6.7	6.6	6.6
	1.1	1.0	0.9	0.8	0.7	0.9	1.1	1.2
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.3	2.4
	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.2
		1.6	1.7	1.8	1.9	2.1	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

65.2	64.1	63.0	62.0	60.8	59.6	59.0	58.5	58.3
1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.3	2.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

65.2	64.1	63.0	62.1	61.2	60.3	59.4	58.6	57.9
1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.0	23.1	23.2	23.2	23.3	23.4	23.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4

3202.7	3211.7	3225.7	3244.8	3266.8	3291.7	3318.3
0.1	0.3	0.4	0.6	0.7	0.8	0.8
0.1	0.3	0.4	0.6	0.7	0.8	0.8

3202.7	3211.7	3225.7	3244.8	3266.8	3291.7	3318.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.8	2.9	3.0	3.1	3.2	3.3	3.3
2.5	2.6	2.7	2.8	2.9	3.0	3.0
3.1	3.1	3.2	3.3	3.3	3.4	3.5
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.7	0.8	0.8

2032	2033	2034	2035	2036	2037	2038
58.3	58.4	58.6	58.8	59.1	59.4	59.9
0.0	0.1	0.2	0.2	0.3	0.4	0.5
-0.2	-0.3	-0.4	-0.4	-0.5	-0.5	-0.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.8	0.9	1.0	1.0	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1

1.4	1.5	1.5	1.6	1.6	1.7	1.7
-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-0.5
-1.5	-1.5	-1.5	-1.5	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
58.3	58.4	58.6	58.8	59.1	59.4	59.9
43.4	43.3	43.3	43.4	43.6	43.8	44.1
6.8	6.8	6.8	6.8	6.8	6.9	6.9
6.5	6.5	6.5	6.5	6.5	6.6	6.6
1.4	1.5	1.7	1.8	1.9	2.0	2.1
0.2	0.2	0.2	0.2	0.2	0.2	0.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.5	2.6	2.7	2.8	2.9	3.0	3.0
2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.5	2.6	2.7	2.8	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.3	58.4	58.6	58.8	59.1	59.4	59.9
2.5	2.6	2.7	2.8	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.6	57.4	57.3	57.2	57.2	57.3	57.5
2.4	2.5	2.6	2.7	2.8	2.9	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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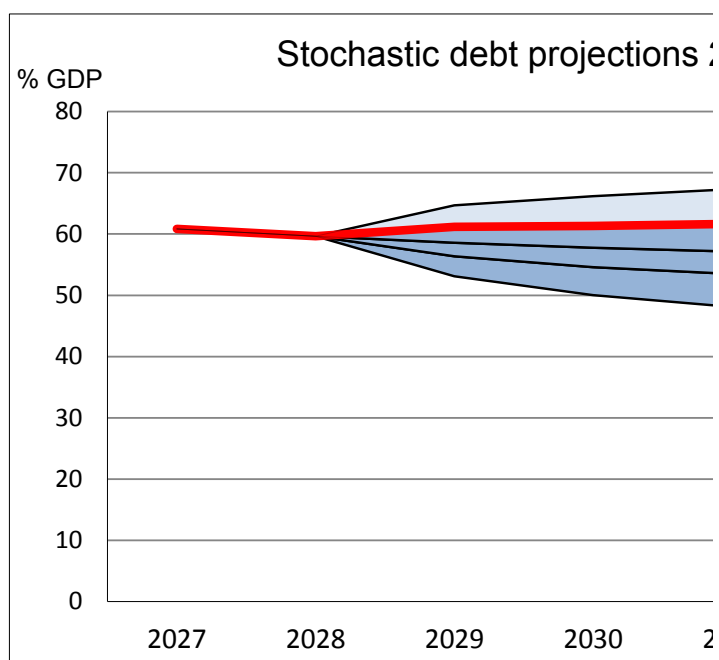
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	DE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	69.3	66.3	65.2	64.1
Distribution of debt paths				
p10	69.3	66.3	65.2	64.1
p30	69.3	66.3	65.2	64.1
p50 - Adjustment scenario	69.3	66.3	65.2	64.1
p70	69.3	66.3	65.2	64.1
p90	69.3	66.3	65.2	64.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	60.8	59.6	53.1	50.0
p30_p10	0.0	0.0	3.3	4.6
p50_p30	0.0	0.0	2.2	3.1
p70_p50	0.0	0.0	2.6	3.6
p90_p70	0.0	0.0	3.5	4.8
p10	60.8	59.6	53.1	50.0
p30	60.8	59.6	56.4	54.6
p50	60.8	59.6	58.6	57.7
p70	60.8	59.6	61.2	61.3
p90	60.8	59.6	64.7	66.2

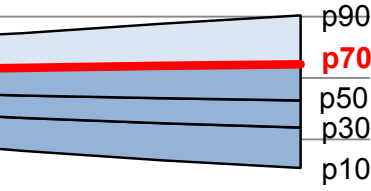
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
63.0	62.0	60.8	59.6	58.6	57.7	57.1	56.7	56.3	56.1
63.0	62.0	60.8	59.6	53.1	50.0	48.1	46.6	45.3	
63.0	62.0	60.8	59.6	56.4	54.6	53.5	52.6	51.9	
63.0	62.0	60.8	59.6	58.6	57.7	57.1	56.7	56.3	
63.0	62.0	60.8	59.6	61.2	61.3	61.7	62.0	62.2	
63.0	62.0	60.8	59.6	64.7	66.2	67.3	68.9	70.2	

2031	2032	2033
48.1	46.6	45.3
5.4	6.0	6.6
3.6	4.1	4.4
4.5	5.3	5.9
5.7	6.9	8.0
48.1	46.6	45.3
53.5	52.6	51.9
57.1	56.7	56.3
61.7	62.0	62.2
67.3	68.9	70.2



2035	2036	2037	2038	2039	2040	2041
55.8	55.6	55.5	55.5	55.5	55.5	55.6

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

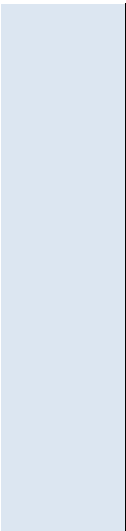
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour-coded sheets.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock increases linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	CZ
# years of adjustment	4
Annual adjustment (change in SPB)	0.40
SPB at the end of the adjustment	0.5

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is 0.5, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan, indicating that the Member State is not in a position to maintain the structural primary balance at the beginning of the plan.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4	7
0.5	1.0

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CZ
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	42.0	44.1
Structural primary balance ('+' means 'surplus')	-3.8	-2.1
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	1.8	2.8
Stock-flow adjustment (total)	1.7	2.7
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.4	20.2
of which: Public pensions expenditure	9.5	9.3
Health care expenditure	5.8	5.7
Long-term care expenditure	1.6	1.6
Education & unemployment benefits expenditure	3.5	3.5
Taxes on pensions	0.0	0.0
Property income	0.6	0.6
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	3.6	2.5
Level	192.7	
<i>Potential GDP</i>		
Growth rate	0.5	2.1
Level	195.5	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.1	3.1
Inflation (SF 2023)		
GDP deflator (national currency)	3.3	8.6

Additional parameters

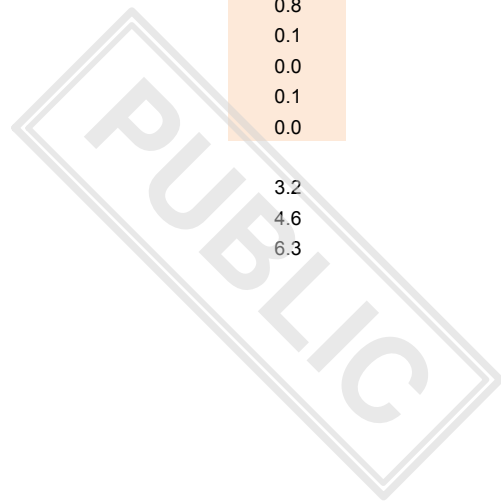
Fiscal multiplier	0.75
Budget balance elasticity	0.4
Long-term nominal interest rate (T+10 target)	4.7
Short-term nominal interest rate (T+10 target)	4.1
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	40.8

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.0
0.1
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

3.2
4.6
6.3



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
42.9	43.1								
-1.4	-1.1								
0.0	0.0								
-0.2	0.5								
-0.3	0.5								
20.1	20.0	20.1	20.2	20.3	20.3	20.4	20.6	20.7	20.8
9.1	8.9	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.9
5.8	5.8	5.8	5.9	5.9	6.0	6.0	6.0	6.1	6.1
1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0
3.6	3.6	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.2	2.6	2.2	1.6	1.5	1.1	1.2	1.3	1.3	1.3
1.5	1.6	1.8	1.1	1.1	1.1	1.2	1.3	1.3	1.3
3.3	3.3								
11.3	5.5								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
20.9	21.1	21.2	21.4	21.6	21.8	22.0	22.2	22.5
8.9	9.0	9.1	9.2	9.3	9.5	9.6	9.8	10.0
6.1	6.2	6.2	6.2	6.2	6.3	6.3	6.3	6.3
2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4
3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1.4	1.5	1.6	1.6	1.5	1.4	1.3	1.3	1.3
1.4	1.5	1.7	1.6	1.5	1.4	1.3	1.3	1.3

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	CZ
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.8	-2.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.8	2.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.4	20.2
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	192.7	197.5
Growth rate	3.6	2.5
<i>Potential GDP (real)</i>		
Level	195.5	199.6
<i>Output gap</i>		
Output gap	-1.4	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.0	11.2
Interest rate		
Nominal implicit interest rate on debt	2.1	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	3.3	8.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.40	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.5

Debt projections

	2021	2022
Gross debt	42.0	44.1
<i>Change in debt (-1+2+3)</i>		2.1
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.5
(1.1) Structural primary balance (before ageing cost)		-2.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.1
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.7
(3.1) Base	2.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	-0.1
Other budgetary variables	
Headline balance	-3.6
Structural balance	-3.2
Net expenditure growth	6.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	42.0	44.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.1	3.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	42.0	44.1
IIR	2.1	3.1
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.0	20.1	20.2	20.3	20.3	20.4	20.6	20.7
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

197.9	203.1	207.6	210.9	214.1	216.5	219.2	222.0	224.9
0.2	2.6	2.2	1.6	1.5	1.1	1.2	1.3	1.3

202.5	205.7	209.4	211.8	214.1	216.5	219.2	222.0	224.9

-2.3	-1.3	-0.9	-0.4	0.0	0.0	0.0	0.0	0.0

11.5	8.3	7.5	6.5	6.0	5.3	5.0	4.7	4.4

3.3	3.3	3.5	3.7	3.9	4.0	4.1	4.2	4.3
		4.6	4.6	4.7	4.7	4.7	4.7	4.7
		6.3	6.0	5.7	5.4	5.0	4.7	4.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.3	5.5	5.2	4.8	4.4	4.1	3.7	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	2.6	2.2	1.6	1.5	1.1	1.2	1.3	1.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
42.9	43.1	43.0	43.3	43.8	44.7	45.9	47.4	49.1
-1.2	0.2	-0.1	0.3	0.5	0.9	1.2	1.5	1.8
-2.3	-1.6	-1.5	-1.4	-1.4	-1.4	-1.5	-1.7	-1.8
-1.4	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.2	-2.0	-1.6	-1.1	-0.9	-0.5	-0.4	-0.2	0.0
1.3	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.9

2032	2033	2034	2035	2036	2037	2038
-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.8	20.9	21.1	21.2	21.4	21.6	21.8
0.6	0.6	0.6	0.6	0.6	0.6	0.6

227.8	231.0	234.5	238.4	242.1	245.6	249.0
1.3	1.4	1.5	1.6	1.6	1.5	1.4
227.8	231.0	234.5	238.4	242.1	245.6	249.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	4.0	4.1	4.2	4.1	4.0	3.9
4.4	4.4	4.5	4.5	4.5	4.5	4.5
4.7	4.7	4.7	4.6	4.6	4.6	4.5
4.1	4.0	3.9	3.8	3.6	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.3	1.4	1.5	1.6	1.6	1.5	1.4

2032	2033	2034	2035	2036	2037	2038
51.2	53.5	55.8	58.3	61.0	64.1	67.4
2.1	2.2	2.3	2.5	2.7	3.0	3.3
-1.9	-2.0	-2.2	-2.3	-2.5	-2.7	-2.9
-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.9	1.0	1.2	1.3	1.5	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.2	0.2	0.1	0.2	0.3	0.4
2.1	2.2	2.3	2.4	2.5	2.7	2.8

-0.6	-0.7	-0.8	-0.9	-0.9	-0.9	-0.9
-1.3	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.0	-4.2	-4.5	-4.7	-5.0	-5.4	-5.7
-4.0	-4.2	-4.5	-4.7	-5.0	-5.4	-5.7
3.9	4.0	4.1	4.2	4.1	3.9	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
51.2	53.5	55.8	58.3	61.0	64.1	67.4
40.7	42.5	44.3	46.2	48.3	50.6	53.2
5.7	6.0	6.2	6.5	6.8	7.1	7.5
0.8	0.8	0.9	0.9	0.9	1.0	1.0
3.9	4.2	4.4	4.7	4.9	5.3	5.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98
4.4	4.4	4.5	4.5	4.5	4.5	4.5
4.4	4.4	4.5	4.5	4.5	4.5	4.5
4.4	4.4	4.5	4.5	4.5	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



51.2	53.5	55.8	58.3	61.0	64.1	67.4
4.4	4.4	4.5	4.5	4.5	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Country	CZ
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.8	-2.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	1.8	2.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.4	20.2
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	192.7	197.5
Growth rate	3.6	2.5
<i>Potential GDP (real)</i>		
Level	195.5	199.6
<i>Output gap</i>		
Output gap	-1.4	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.0	11.2
Interest rates		
Nominal implicit interest rate on debt	2.1	3.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	3.3	8.6
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.40

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.5

Debt projections

	2021	2022
Gross debt	42.0	44.1
<i>Change in debt (-1+2+3)</i>		2.1
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.5
(1.1) Structural primary balance (before ageing cost)		-2.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.1
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-3.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	2.7
(3.1) Base	2.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	-0.1
Other budgetary variables	
Headline balance	-3.6
Structural balance	-3.2
Net expenditure growth	6.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	42.0	44.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.02	0.02
Share of long-term debt in total government debt	0.98	0.98
IIR	2.1	3.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0.4)

Debt	42.0	44.1
IIR	2.1	3.1
IIR difference STATA - Excel		

Extension (annual adjustment of 0.3)

Debt	42.0	44.1
IIR	2.1	3.1
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.4	-1.1	-0.7	-0.3	0.1	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.0	20.1	20.2	20.3	20.3	20.4	20.6	20.7
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

197.9	203.1	207.0	209.5	212.0	214.5	217.8	221.3	224.9
0.2	2.6	1.9	1.2	1.2	1.2	1.5	1.6	1.6

202.5	205.7	209.4	211.8	214.1	216.5	219.2	222.0	224.9

-2.3	-1.3	-1.1	-1.1	-1.0	-1.0	-0.6	-0.3	0.0

11.5	8.3	7.2	6.1	5.6	5.3	5.3	5.0	4.7

3.3	3.3	3.5	3.7	3.8	4.0	4.1	4.1	4.2
		4.6	4.6	4.7	4.7	4.7	4.7	4.7
		6.3	6.0	5.7	5.4	5.0	4.7	4.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.3	5.5	5.2	4.8	4.4	4.1	3.7	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-0.7	-0.7	-0.6	-0.3	0.0
0.2	2.6	1.9	1.3	1.2	0.8	1.2	1.3	1.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
42.9	43.1	42.8	42.6	42.2	41.6	40.9	40.5	40.2
-1.2	0.2	-0.3	-0.2	-0.4	-0.6	-0.6	-0.5	-0.3
-2.3	-1.6	-1.2	-0.8	-0.3	0.1	0.1	0.1	0.1
-1.4	-1.1	-0.7	-0.3	0.1	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.5	0.5	0.4	0.4	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.2	-2.0	-1.5	-1.0	-0.7	-0.5	-0.5	-0.3	-0.2
1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.6	1.6

-0.1	-1.0	-0.8	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6
-4.5	-2.2	-2.1	-2.0	-1.8	-1.7	-1.5	-1.3	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.6	-3.0	-2.6	-2.2	-1.9	-1.5	-1.5	-1.5	-1.5
-2.7	-2.4	-2.2	-1.8	-1.5	-1.1	-1.2	-1.4	-1.5
11.1	6.4	6.0	5.0	4.6	4.2	4.9	4.7	4.3

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
42.9	43.1	42.8	42.6	42.2	41.6	40.9	40.5	40.2
	35.3	35.6	35.6	35.5	35.1	34.4	33.9	33.5
	3.7	3.9	4.0	4.2	4.3	4.4	4.4	4.5
	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6
	3.4	2.6	2.2	1.8	1.5	1.5	1.5	1.5
	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
3.3	3.3	3.5	3.7	3.8	4.0	4.1	4.1	4.2
	3.2	3.5	3.7	3.8	3.9	4.0	4.1	4.2
		3.5	3.7	3.8	4.0	4.1	4.1	4.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

42.9	43.1	42.8	42.6	42.2	41.6	40.9	40.5	40.2
3.3	3.3	3.5	3.7	3.8	4.0	4.1	4.1	4.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.9	43.1	42.8	42.8	42.6	42.3	41.8	41.2	40.5
3.3	3.3	3.5	3.7	3.8	4.0	4.1	4.2	4.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.8	20.9	21.1	21.2	21.4	21.6	21.8
0.6	0.6	0.6	0.6	0.6	0.6	0.6

227.8	231.0	234.5	238.4	242.1	245.6	249.0
1.3	1.4	1.5	1.6	1.6	1.5	1.4
227.8	231.0	234.5	238.4	242.1	245.6	249.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	4.0	4.1	4.2	4.1	4.0	3.9
4.3	4.4	4.4	4.4	4.5	4.5	4.5
4.7	4.7	4.7	4.6	4.6	4.6	4.5
4.1	4.0	3.9	3.8	3.6	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.3	1.4	1.5	1.6	1.6	1.5	1.4

2032	2033	2034	2035	2036	2037	2038
40.3	40.6	40.9	41.4	42.2	43.2	44.4
0.1	0.3	0.4	0.5	0.7	1.0	1.3
0.0	-0.1	-0.3	-0.4	-0.6	-0.8	-1.0
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.7	0.9	1.0	1.2	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.2	0.3
1.7	1.7	1.7	1.7	1.8	1.8	1.9

-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.6
-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.7	-1.8	-2.0	-2.2	-2.4	-2.6	-2.9
-1.7	-1.8	-2.0	-2.2	-2.4	-2.6	-2.9
3.9	4.0	4.1	4.2	4.1	3.9	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
40.3	40.6	40.9	41.4	42.2	43.2	44.4
33.3	33.4	33.6	33.9	34.3	35.0	37.7
4.7	4.7	4.7	4.8	4.8	4.9	3.2
0.6	0.6	0.6	0.7	0.7	0.7	0.7
1.6	1.8	2.0	2.1	2.3	2.6	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98

4.3	4.4	4.4	4.4	4.5	4.5	4.5
4.3	4.4	4.4	4.5	4.5	4.5	4.5
4.3	4.4	4.4	4.4	4.5	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



40.3	40.6	40.9	41.4	42.2	43.2	44.4
4.3	4.4	4.4	4.4	4.5	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

39.9	39.3	38.7	38.4	38.3	38.4	38.8
4.3	4.4	4.4	4.4	4.4	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is projected to evolve linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is projected to remain constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is affected by the shock (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	CY
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.00

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fanchart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

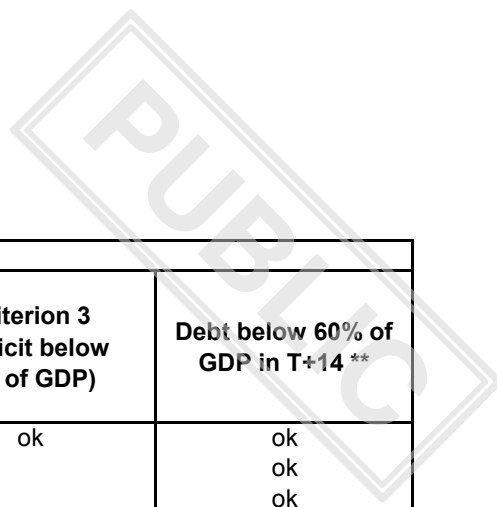
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	ok ok ok ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.00	0.00	0.00	0.00
5.2	4.8	4.6	4.5
0.00			
0.00			
4.8			
4.8			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.00	0.00
87.1	84.0

ment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

chmark)		
2029	2030	2031
0.00	0.00	0.00

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	101.2	86.5
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock-flow adjustments (without exchange rate effect)	-4.6	-1.4
Stock-flow adjustment (total)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
of which: Public pensions expenditure	9.6	9.7
Health care expenditure	3.0	2.9
Long-term care expenditure	0.4	0.4
Education & unemployment benefits expenditure	5.1	5.1
Taxes on pensions	0.0	0.0
Property income	0.5	0.5
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.6	5.6
Level	22.9	
<i>Potential GDP</i>		
Growth rate	3.0	3.5
Level	22.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.8	1.7
Inflation (SF 2023)		
GDP deflator (national currency)	2.9	6.4

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.7
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	39.3

Share of outstanding debt in total debt in 2024	0.9
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.0
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.7
Long-term nominal interest rate in 2025	4.3
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-8.6	-12.0
Difference between debt level in 50th and 30th percentile of the distribution	-3.5	-5.1
Difference between debt level in 70th and 50th percentile of the distribution	3.5	4.9
Difference between debt level in 90th and 50th percentile of the distribution	8.5	12.3

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
80.4	72.5								
2.2	2.6								
0.0	0.0								
1.7	-1.6								
1.7	-1.6								
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3	18.4
9.8	9.9	10.0	10.1	10.1	10.1	9.9	10.0	10.1	10.2
2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
5.0	5.0	4.9	4.9	4.9	4.8	4.8	4.7	4.7	4.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7	1.7
3.2	3.0	2.4	2.0	1.9	1.8	1.7	1.7	1.7	1.7
1.6	1.7								
5.0	2.8								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-14.2	-15.7	-17.8
-6.4	-6.9	-7.9
5.3	6.7	7.0
14.4	16.4	18.3

2033	2034	2035	2036	2037	2038	2039	2040	2041

18.5	18.5	18.6	18.6	18.6	18.6	18.4	18.5	18.5
10.3	10.3	10.4	10.4	10.4	10.4	10.1	10.2	10.2
3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1
0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4.7	4.7	4.7	4.8	4.8	4.8	4.8	4.7	4.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3

1.8	2.0	2.1	2.2	2.4	2.4	2.4	2.4	2.4

1.8	2.0	2.1	2.2	2.4	2.4	2.4	2.4	2.4

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	22.9	24.2
Growth rate	6.6	5.6
<i>Potential GDP (real)</i>		
Level	22.8	23.6
<i>Output gap</i>		
Output gap	0.7	2.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.7	12.4
Interest rate		
Nominal implicit interest rate on debt	1.8	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.9	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.6

Debt projections

	2021	2022
Gross debt	101.2	86.5
<i>Change in debt (-1+2+3)</i>		-14.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		3.6
(1.1) Structural primary balance (before ageing cost)		2.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-9.7
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-5.1
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	2.1
Structural balance	0.7
Net expenditure growth	2.8

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	101.2	86.5
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.8	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

24.8	25.5	25.9	26.3	26.7	27.2	27.6	28.1	28.6
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

24.3	25.1	25.7	26.2	26.7	27.2	27.6	28.1	28.6

1.8	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0

7.5	5.6	4.7	4.3	4.2	4.6	4.5	4.5	4.5

1.6	1.7	1.8	2.1	2.4	2.6	2.9	3.1	3.3
		4.3	4.4	4.4	4.5	4.5	4.6	4.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1

5.0	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.4	63.2	59.6	56.0	52.4	49.1	46.1
-6.1	-8.0	-5.1	-4.2	-3.6	-3.6	-3.6	-3.3	-3.0
3.2	3.4	3.1	2.8	2.5	2.5	2.7	2.6	2.5
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.1	0.1	-0.2	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.7	-3.0	-2.0	-1.5	-1.1	-1.1	-0.9	-0.7	-0.5
1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.4	18.5	18.5	18.6	18.6	18.6	18.6
0.4	0.4	0.4	0.4	0.4	0.4	0.3

29.1	29.6	30.2	30.8	31.5	32.3	33.0
1.7	1.8	2.0	2.1	2.2	2.4	2.4
29.1	29.6	30.2	30.8	31.5	32.3	33.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.4	4.5	4.6	4.7	4.8	4.9	4.9
3.5	3.6	3.7	3.7	3.8	3.8	3.9
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.8	2.0	2.1	2.2	2.4	2.4

2032	2033	2034	2035	2036	2037	2038
43.3	40.6	38.0	35.5	33.1	30.7	28.3
-2.8	-2.7	-2.6	-2.5	-2.4	-2.4	-2.4
2.4	2.3	2.2	2.2	2.1	2.1	2.1
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.3	0.3	0.4	0.5	0.5	0.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3
1.5	1.5	1.4	1.4	1.3	1.2	1.1

-0.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.7
-1.2	-1.1	-1.0	-0.9	-0.9	-0.8	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	0.8	0.8	0.8	0.8	0.9	0.9
0.9	0.8	0.8	0.8	0.8	0.9	0.9
4.3	4.4	4.5	4.6	4.7	4.9	4.8



0	0	0	0	0	0	0
1	1	1	1	1	1	1
2032	2033	2034	2035	2036	2037	2038
43.3	40.6	38.0	35.5	33.1	30.7	28.3
39.6	37.3	35.0	32.8	30.6	28.5	26.4
3.3	3.1	2.8	2.6	2.4	2.1	1.8
0.3	0.3	0.2	0.1	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.99	0.99	0.99	1.00	1.00	1.00	1.00
3.5	3.6	3.7	3.7	3.8	3.8	3.9
3.5	3.6	3.7	3.7	3.8	3.9	3.9
3.5	3.6	3.7	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



43.3	40.6	38.0	35.5	33.1	30.7	28.3
3.5	3.6	3.7	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	22.9	24.2
Growth rate	6.6	5.6
<i>Potential GDP (real)</i>		
Level	22.8	23.6
<i>Output gap</i>		
Output gap	0.7	2.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.7	12.4
Interest rates		
Nominal implicit interest rate on debt	1.8	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.9	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.6

Debt projections

	2021	2022
Gross debt	101.2	86.5
<i>Change in debt (-1+2+3)</i>		-14.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		3.6
(1.1) Structural primary balance (before ageing cost)		2.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-9.7
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-5.1
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	2.1
Structural balance	0.7
Net expenditure growth	2.8
Average net primary expenditure growth	4.8
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	101.2	86.5
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.05	0.04
Share of long-term debt in total government debt	0.95	0.96
IIR	1.8	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

24.8	25.5	25.9	26.3	26.7	27.2	27.6	28.1	28.6
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

24.3	25.1	25.7	26.2	26.7	27.2	27.6	28.1	28.6

1.8	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0

7.5	5.6	4.7	4.3	4.2	4.6	4.5	4.5	4.5

1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		4.3	4.4	4.4	4.5	4.5	4.6	4.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1

5.0	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.7	48.3	45.1
-6.1	-8.0	-5.1	-4.3	-3.7	-3.7	-3.8	-3.4	-3.2
3.2	3.4	3.1	2.9	2.6	2.6	2.9	2.8	2.7
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.7	-3.0	-2.0	-1.5	-1.1	-1.1	-0.9	-0.7	-0.5
1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.5

-1.9	-2.1	-1.3	-1.0	-0.8	-1.0	-0.9	-0.9	-0.8
-4.1	-2.2	-2.0	-1.8	-1.7	-1.6	-1.5	-1.4	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.8	2.1	1.9	1.5	1.2	1.1	1.4	1.2	1.1
0.9	1.3	1.4	1.3	1.2	1.1	1.4	1.2	1.1
8.2	4.9	5.2	4.8	4.6	4.5	4.5	4.4	4.4

0	0	0



0	0	0	0	0	0	0
1	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.7	48.3	45.1
	66.9	60.0	54.6	51.1	47.4	44.5	42.0	39.0
	3.9	6.1	7.4	7.3	7.4	6.7	5.9	5.7
	1.7	1.3	1.0	0.9	0.7	0.6	0.5	0.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.96	0.98	0.98	0.98	0.99	0.99	0.99	0.99	0.99

1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



80.4	72.5	67.3	63.0	59.3	55.5	51.7	48.3	45.1
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

80.4	72.5	67.3	63.0	59.3	55.5	52.0	48.7	45.5
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.4	18.5	18.5	18.6	18.6	18.6	18.6
0.4	0.4	0.4	0.4	0.4	0.4	0.3

29.1 29.6 30.2 30.8 31.5 32.3 33.0
1.7 1.8 2.0 2.1 2.2 2.4 2.4

29.1 29.6 30.2 30.8 31.5 32.3 33.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0

4.4 4.5 4.6 4.7 4.8 4.9 4.9

3.5 3.6 3.6 3.7 3.8 3.8 3.8

4.7 4.7 4.6 4.6 4.6 4.5 4.5

3.0 3.0 2.9 2.9 2.8 2.8 2.7

0.1 0.1 0.1 0.1 0.1 0.1 0.1

2.6 2.6 2.6 2.5 2.5 2.5 2.4

1.0 1.0 1.0 1.0 1.0 1.0 1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0

1.7 1.8 2.0 2.1 2.2 2.4 2.4

2032	2033	2034	2035	2036	2037	2038
42.2	39.3	36.6	33.9	31.3	28.7	26.2
-2.9	-2.8	-2.7	-2.7	-2.6	-2.6	-2.5
2.6	2.5	2.4	2.3	2.3	2.2	2.2
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.2	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3
1.5	1.4	1.4	1.3	1.2	1.1	1.1

-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
-1.2	-1.1	-1.0	-0.9	-0.8	-0.8	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.1	1.0	1.0	1.0	1.0	1.1	1.2
1.1	1.0	1.0	1.0	1.0	1.1	1.2
4.3	4.4	4.5	4.6	4.7	4.9	4.8

0	0	0	0	0	0	0



0	0	0	0	0	0	0
1	1	1	1	1	1	1

2032	2033	2034	2035	2036	2037	2038
42.2	39.3	36.6	33.9	31.3	28.7	26.2
38.9	36.4	33.9	31.6	29.3	27.0	25.3
3.0	2.8	2.5	2.3	2.0	1.7	0.9
0.3	0.2	0.1	0.1	0.1	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.99	1.00	1.00	1.00	1.00	1.00	1.00

3.5	3.6	3.6	3.7	3.8	3.8	3.8
3.5	3.6	3.6	3.7	3.8	3.8	3.9
3.5	3.6	3.6	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



42.2	39.3	36.6	33.9	31.3	28.7	26.2
3.5	3.6	3.6	3.7	3.8	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

42.6	39.8	37.1	34.5	31.9	29.4	26.9
3.5	3.6	3.6	3.7	3.8	3.8	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	22.9	24.2
Growth rate	6.6	5.6
<i>Potential GDP (real)</i>		
Level	22.8	23.6
<i>Output gap</i>		
Output gap	0.7	2.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.7	12.4
Interest rates		
Nominal implicit interest rate on debt	1.8	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.9	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.6

Debt projections

	2021	2022
Gross debt	101.2	86.5
<i>Change in debt (-1+2+3)</i>		-14.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		3.6
(1.1) Structural primary balance (before ageing cost)		2.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-9.7
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-5.1
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	101.2	86.5
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.05	0.04
Share of long-term debt in total government debt	0.95	0.96
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IRR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

24.8	25.5	25.9	26.3	26.7	27.2	27.6	28.1	28.6
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

24.3	25.1	25.7	26.2	26.7	27.2	27.6	28.1	28.6

1.8	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0

7.5	5.6	4.7	4.3	4.2	4.6	4.5	4.5	4.5

1.6	1.7	1.8	2.1	2.3	2.6	3.0	3.2	3.4
		4.3	4.4	4.4	4.5	5.5	4.6	4.7
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1

5.0	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.3	2.7	1.9	1.5	1.4	1.8	1.7	1.7	1.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.5	45.3
-6.1	-8.0	-5.1	-4.3	-3.7	-3.7	-3.7	-3.4	-3.2
3.2	3.4	3.1	2.9	2.6	2.6	2.9	2.8	2.7
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.7	-3.0	-2.0	-1.5	-1.1	-1.1	-0.8	-0.6	-0.5
1.3	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.6

-1.9	-2.1	-1.3	-1.0	-0.8	-1.0	-0.9	-0.9	-0.8
-4.1	-2.2	-2.0	-1.8	-1.7	-1.6	-1.5	-1.4	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

0	0	0	0	0	0	0
1	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.5	45.3
	66.9	60.0	54.6	51.1	47.4	44.5	42.0	39.1
	3.9	6.1	7.4	7.3	7.4	6.8	5.9	5.8
	1.7	1.3	1.0	0.9	0.7	0.6	0.5	0.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.96	0.98	0.98	0.98	0.99	0.99	0.99	0.99	0.99

1.7	1.8	2.1	2.3	2.6	3.0	3.2	3.4
1.7	1.8	2.1	2.3	2.6	3.0	3.2	3.4
	1.8	2.1	2.3	2.6	3.0	3.2	3.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.5	45.3
1.6	1.7	1.8	2.1	2.3	2.6	3.0	3.2	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

80.4	72.5	67.3	63.0	59.3	55.5	52.0	48.7	45.5
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.4	18.5	18.5	18.6	18.6	18.6	18.6
0.4	0.4	0.4	0.4	0.4	0.4	0.3

29.1	29.6	30.2	30.8	31.5	32.3	33.0
1.7	1.8	2.0	2.1	2.2	2.4	2.4
29.1	29.6	30.2	30.8	31.5	32.3	33.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.4	4.5	4.6	4.7	4.8	4.9	4.9
3.6	3.6	3.7	3.8	3.8	3.9	3.9
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.8	2.0	2.1	2.2	2.4	2.4

2032	2033	2034	2035	2036	2037	2038
42.4	39.6	36.9	34.2	31.7	29.1	26.6
-2.9	-2.8	-2.7	-2.6	-2.6	-2.6	-2.5
2.6	2.5	2.4	2.3	2.3	2.2	2.2
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.2	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
1.5	1.5	1.4	1.3	1.3	1.2	1.1

-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
-1.2	-1.1	-1.0	-0.9	-0.8	-0.8	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



0	0	0	0	0	0	0
1	1	1	1	1	1	1

2032	2033	2034	2035	2036	2037	2038
42.4	39.6	36.9	34.2	31.7	29.1	26.6
39.0	36.5	34.1	31.8	29.5	27.3	25.1
3.1	2.8	2.6	2.3	2.1	1.8	1.4
0.3	0.2	0.1	0.1	0.1	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.99	0.99	1.00	1.00	1.00	1.00	1.00

3.6	3.6	3.7	3.8	3.8	3.9	3.9
3.6	3.6	3.7	3.8	3.8	3.9	3.9
3.6	3.6	3.7	3.8	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



42.4	39.6	36.9	34.2	31.7	29.1	26.6
3.6	3.6	3.7	3.8	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

42.7	39.9	37.3	34.7	32.1	29.6	27.1
3.6	3.7	3.8	3.8	3.9	3.9	4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	22.9	24.2
Growth rate	6.6	5.6
<i>Potential GDP (real)</i>		
Level	22.8	23.6
<i>Output gap</i>		
Output gap	0.7	2.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.7	12.4
Interest rates		
Nominal implicit interest rate on debt	1.8	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.9	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.6

Debt projections

	2021	2022
Gross debt	101.2	86.5
<i>Change in debt (-1+2+3)</i>		-14.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		3.6
(1.1) Structural primary balance (before ageing cost)		2.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-9.7
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-5.1
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	101.2	86.5
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.0
Share of long-term debt in total government debt	0.9	1.0
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
2.2	2.6	2.6	2.6	2.6	2.6	2.4	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

24.8	25.5	25.9	26.3	26.7	27.2	27.7	28.2	28.7
2.3	2.7	1.9	1.5	1.4	1.8	1.9	1.9	1.6
24.3	25.1	25.7	26.2	26.7	27.2	27.6	28.1	28.6
1.8	1.5	1.0	0.5	0.0	0.0	0.2	0.3	0.2
7.5	5.6	4.7	4.3	4.2	4.6	4.7	4.6	4.3
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		4.3	4.4	4.4	4.5	4.5	4.6	4.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1
5.0	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
2.3	2.7	1.9	1.5	1.4	1.8	1.9	1.9	1.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.7	45.9
-6.1	-8.0	-5.1	-4.3	-3.7	-3.7	-3.7	-3.1	-2.8
3.2	3.4	3.1	2.9	2.6	2.6	2.8	2.4	2.3
2.2	2.6	2.6	2.6	2.6	2.6	2.4	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.5	-0.3	0.0	0.0	-0.1	-0.2	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.7	-3.0	-2.0	-1.5	-1.1	-1.1	-1.0	-0.7	-0.5
1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.5

-1.9	-2.1	-1.3	-1.0	-0.8	-1.0	-1.0	-0.9	-0.8
-4.1	-2.2	-2.0	-1.8	-1.7	-1.6	-1.5	-1.4	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

0	0	0	0	0	0	0
1	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.7	45.9
	66.9	60.0	54.6	51.1	47.4	44.4	42.0	39.3
	3.9	6.1	7.4	7.3	7.4	6.8	6.2	6.2
	1.7	1.3	1.0	0.9	0.7	0.6	0.5	0.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
	1.8	2.1	2.3	2.6	2.9	3.1	3.3
	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

80.4	72.5	67.3	63.0	59.3	55.5	51.8	48.7	45.9
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

80.4	72.5	67.3	63.0	59.3	55.5	52.0	48.7	45.5
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.4	18.5	18.5	18.6	18.6	18.6	18.6
0.4	0.4	0.4	0.4	0.4	0.4	0.3

29.1	29.6	30.2	30.8	31.5	32.3	33.0
1.6	1.7	2.0	2.1	2.2	2.4	2.4
29.1	29.6	30.2	30.8	31.5	32.3	33.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
4.3	4.4	4.6	4.7	4.8	4.9	4.9
3.5	3.6	3.7	3.7	3.8	3.9	3.9
4.7	4.7	4.6	4.6	4.6	4.5	4.5
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.8	2.0	2.1	2.2	2.4	2.4

2032	2033	2034	2035	2036	2037	2038
43.5	41.2	38.9	36.7	34.6	32.6	30.5
-2.4	-2.3	-2.2	-2.2	-2.1	-2.1	-2.0
2.1	2.0	1.9	1.8	1.8	1.7	1.7
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.2	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.3	-0.4	-0.3	-0.3	-0.3	-0.3
1.5	1.5	1.4	1.4	1.3	1.3	1.2

-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.7
-1.2	-1.1	-1.0	-1.0	-0.9	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



0	0	0	0	0	0	0
1	1	1	1	1	1	1
2032	2033	2034	2035	2036	2037	2038
43.5	41.2	38.9	36.7	34.6	32.6	30.5
39.5	37.4	35.4	33.5	31.6	29.8	28.0
3.6	3.4	3.2	3.1	2.9	2.6	2.4
0.4	0.3	0.3	0.2	0.2	0.2	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.5	3.6	3.7	3.7	3.8	3.9	3.9
3.5	3.6	3.7	3.8	3.8	3.9	3.9
3.5	3.6	3.7	3.7	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



43.5	41.2	38.9	36.7	34.6	32.6	30.5
3.5	3.6	3.7	3.7	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.7	40.2	37.9	35.8	33.7	31.7	29.7
3.5	3.6	3.7	3.7	3.8	3.9	3.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-0.6	2.2
One-off and other temporary measures	0.1	0.0
Stock flow adjustments (without exchange rate effect)	-4.6	-1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	18.0
Property income	0.5	0.5
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	22.9	24.2
Growth rate (including feedback and output-gap closure effect)	6.6	5.6
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	22.8	23.6
<i>Output gap</i>		
Output gap	0.7	2.7
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.7	12.4
Interest rates and inflation		
Nominal implicit interest rate on debt	1.8	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.9	6.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.6

Debt projections

	2021	2022
Gross debt	101.2	86.5
<i>Change in debt (-1+2+3)</i>		-14.7
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		3.6
(1.1) Structural primary balance (before ageing cost)		2.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-9.7

(2.1) Interest expenditure	1.5
(2.2) Growth effect	-5.1
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-1.4
(3.1) Base	-1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	101.2	86.5
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.0
Share of long-term debt in total government debt	0.9	1.0
IIR	1.8	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	101.2	86.5
IIR	1.8	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.1	18.2	18.2	18.3	18.3	18.3	18.0	18.2	18.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

24.8	25.5	25.9	26.3	26.7	27.2	27.5	27.8	28.2
2.3	2.7	1.9	1.5	1.4	1.8	1.2	1.2	1.2
						1.2	1.2	1.2

24.3	25.1	25.7	26.2	26.7	27.2	27.5	27.8	28.2

1.8	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0

7.5	5.6	4.7	4.3	4.2	4.6	4.0	4.0	3.9

1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.2	3.5
		4.3	4.4	4.4	4.5	5.0	5.1	5.2
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1

5.0	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.3	2.7	1.9	1.5	1.4	1.8	1.2	1.2	1.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	52.1	48.9	46.1
-6.1	-8.0	-5.1	-4.3	-3.7	-3.7	-3.5	-3.1	-2.9
3.2	3.4	3.1	2.9	2.6	2.6	2.9	2.8	2.7
2.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.8	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.7	-3.0	-2.0	-1.5	-1.1	-1.1	-0.6	-0.4	-0.2

1.3	1.3	1.3	1.3	1.4	1.5	1.6	1.6	1.6
-1.9	-2.1	-1.3	-1.0	-0.8	-1.0	-0.7	-0.6	-0.6
-4.1	-2.2	-2.0	-1.8	-1.7	-1.6	-1.5	-1.4	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		0	0	0	0	0	0	0
		1	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
80.4	72.5	67.3	63.0	59.3	55.5	52.1	48.9	46.1
	66.9	60.0	54.6	51.1	47.4	44.7	42.4	39.7
	3.9	6.1	7.4	7.3	7.4	6.8	6.0	6.0
	1.7	1.3	1.0	0.9	0.7	0.6	0.5	0.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.2	3.5
	1.7	1.8	2.1	2.3	2.6	2.9	3.2	3.5
		1.8	2.1	2.3	2.6	2.9	3.2	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

80.4	72.5	67.3	63.0	59.3	55.5	52.1	48.9	46.1
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.2	3.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

80.4	72.5	67.3	63.0	59.3	55.5	52.0	48.7	45.5
1.6	1.7	1.8	2.1	2.3	2.6	2.9	3.1	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.4	18.5	18.5	18.6	18.6	18.6	18.6
0.4	0.4	0.4	0.4	0.4	0.4	0.3

28.5	28.9	29.3	29.8	30.3	30.9	31.5
1.2	1.3	1.5	1.6	1.7	1.9	1.9
1.2	1.3	1.5	1.6	1.7	1.9	1.9

28.5	28.9	29.3	29.8	30.3	30.9	31.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	4.0	4.1	4.2	4.3	4.4	4.4
3.7	3.8	3.9	4.0	4.1	4.1	4.2
5.2	5.2	5.1	5.1	5.1	5.0	5.0
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.5	1.6	1.7	1.9	1.9

2032	2033	2034	2035	2036	2037	2038
43.4	40.9	38.4	36.0	33.7	31.4	29.1
-2.6	-2.5	-2.5	-2.4	-2.3	-2.3	-2.3
2.6	2.5	2.4	2.3	2.3	2.2	2.2
2.6	2.6	2.6	2.6	2.6	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.2	0.3	0.3	0.3	0.3
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1

1.6	1.6	1.5	1.5	1.4	1.3	1.3
-0.5	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
-1.2	-1.1	-1.0	-1.0	-0.9	-0.8	-0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



0	0	0	0	0	0	0
1	1	1	1	1	1	1
2032	2033	2034	2035	2036	2037	2038
43.4	40.9	38.4	36.0	33.7	31.4	29.1
39.9	37.6	35.4	33.3	31.2	29.2	27.2
3.3	3.1	2.8	2.6	2.4	2.1	1.8
0.3	0.2	0.2	0.1	0.1	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.7	3.8	3.9	4.0	4.1	4.1	4.2
3.7	3.8	3.9	4.0	4.1	4.1	4.2
3.7	3.8	3.9	4.0	4.1	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



43.4	40.9	38.4	36.0	33.7	31.4	29.1
3.7	3.8	3.9	4.0	4.1	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.9	40.3	37.9	35.5	33.1	30.8	28.5
3.5	3.7	3.8	3.9	4.0	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	CY
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

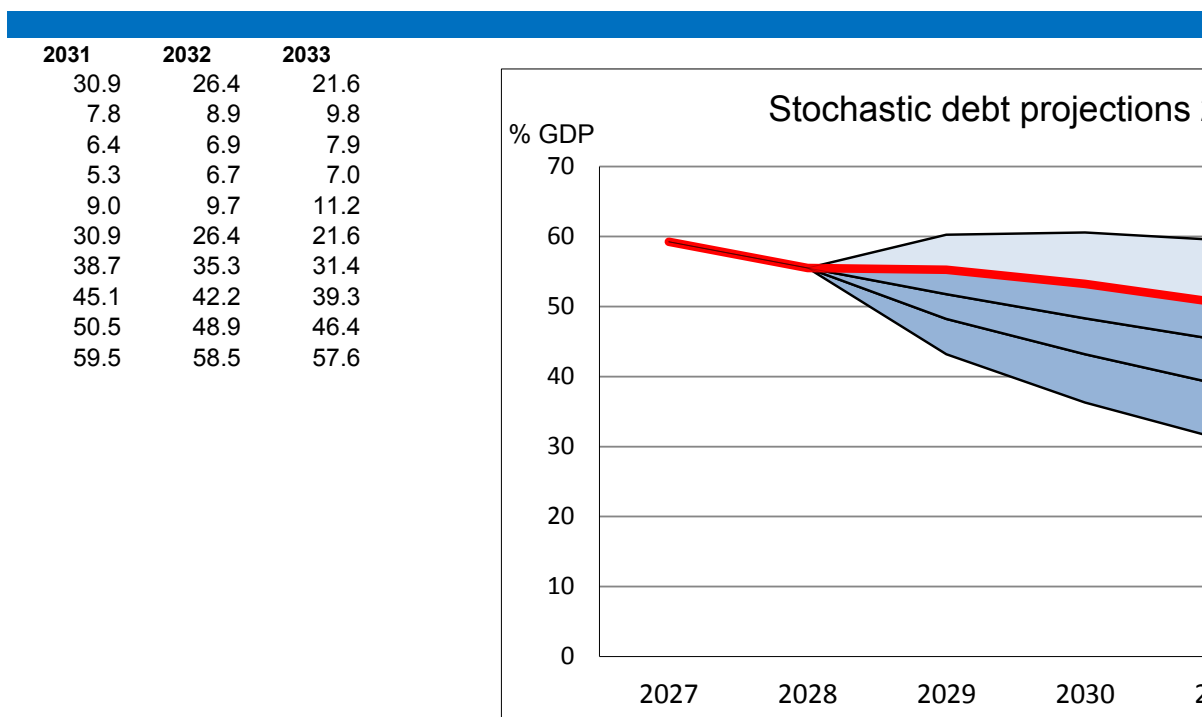
Baseline assumptions	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	101.2	86.5	80.4	72.5

Distribution of debt paths	2021	2022	2023	2024
p10	101.2	86.5	80.4	72.5
p30	101.2	86.5	80.4	72.5
p50 - Adjustment scenario	101.2	86.5	80.4	72.5
p70	101.2	86.5	80.4	72.5
p90	101.2	86.5	80.4	72.5

Graph	2027	2028	2029	2030
Stochastic debt projections 2029-2033				
p10	59.3	55.5	43.2	36.3
p30_p10	0.0	0.0	5.1	6.9
p50_p30	0.0	0.0	3.5	5.1
p70_p50	0.0	0.0	3.5	4.9
p90_p70	0.0	0.0	5.0	7.4
p10	59.3	55.5	43.2	36.3
p30	59.3	55.5	48.2	43.2
p50	59.3	55.5	51.7	48.3
p70	59.3	55.5	55.3	53.2
p90	59.3	55.5	60.3	60.6

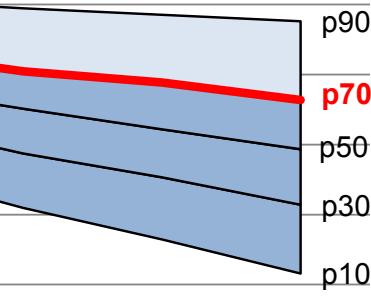
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
67.3	63.0	59.3	55.5	51.7	48.3	45.1	42.2	39.3	36.6

67.3	63.0	59.3	55.5	43.2	36.3	30.9	26.4	21.6	
67.3	63.0	59.3	55.5	48.2	43.2	38.7	35.3	31.4	
67.3	63.0	59.3	55.5	51.7	48.3	45.1	42.2	39.3	
67.3	63.0	59.3	55.5	55.3	53.2	50.5	48.9	46.4	
67.3	63.0	59.3	55.5	60.3	60.6	59.5	58.5	57.6	



2035	2036	2037	2038	2039	2040	2041
33.9	31.3	28.7	26.2	23.5	21.0	18.5

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

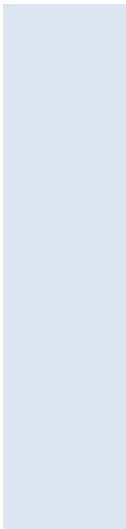
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock is applied linearly according to the path set in sheet "**Criteria results**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	BG
# years of adjustment	4
Annual adjustment (change in SPB)	0.75
SPB at the end of the adjustment	-1.4

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is lower than the SPB at the beginning of the plan, indicating that the Member State has achieved a sustainable adjustment.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4	7
-1.4	-0.9

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BG
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	23.9	22.9
Structural primary balance ('+' means 'surplus')	-3.5	-2.8
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	-1.2	0.0
Stock-flow adjustment (total)	-1.2	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.8
of which: Public pensions expenditure	9.1	8.9
Health care expenditure	4.7	4.6
Long-term care expenditure	0.3	0.3
Education & unemployment benefits expenditure	2.9	2.9
Taxes on pensions	0.0	0.0
Property income	0.8	0.8
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	7.6	3.4
Level	47.8	
<i>Potential GDP</i>		
Growth rate	2.3	2.2
Level	47.7	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.3	2.3
Inflation (SF 2023)		
GDP deflator (national currency)	7.1	15.1

Additional parameters

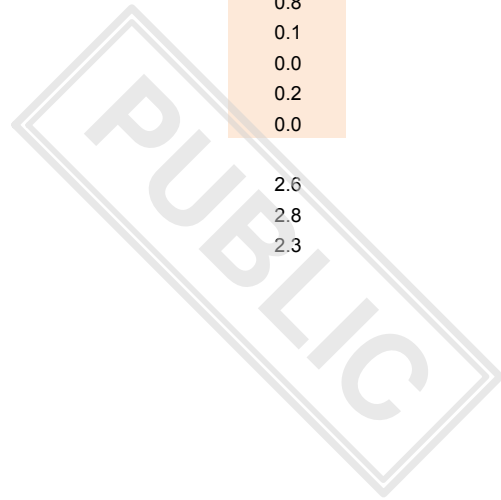
Fiscal multiplier	0.75
Budget balance elasticity	0.3
Long-term nominal interest rate (T+10 target)	2.5
Short-term nominal interest rate (T+10 target)	2.8
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	41.6

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.0
0.2
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

2.6
2.8
2.3



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
25.0	28.1								
-4.4	-4.4								
0.0	0.0								
-0.2	-0.3								
-0.2	-0.3								
16.7	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.7	16.7
8.8	8.7	8.6	8.6	8.5	8.5	8.5	8.5	8.5	8.5
4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.8	4.8	4.8
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
1.5	2.4	1.7	1.6	1.7	1.8	1.7	1.6	1.5	1.5
2.6	2.1	2.0	1.9	2.0	1.8	1.7	1.6	1.5	1.5
2.6	2.6								
10.4	3.9								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041
16.7	16.7	16.7	16.7	16.8	16.8	16.8	16.9	17.0
8.5	8.5	8.5	8.5	8.5	8.5	8.6	8.6	8.7
4.8	4.8	4.8	4.9	4.9	4.9	4.9	4.9	4.9
0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2
1.4	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2

onomy, Economic Papers, No. 543.
pean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	BG
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.5	-2.8
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	47.8	49.4
Growth rate	7.6	3.4
<i>Potential GDP (real)</i>		
Level	47.7	48.7
<i>Output gap</i>		
Output gap	0.3	1.4
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.3	19.0
Interest rate		
Nominal implicit interest rate on debt	2.3	2.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (national currency)	7.1	15.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.30	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.4

Debt projections

	2021	2022
Gross debt	23.9	22.9
<i>Change in debt (-1+2+3)</i>		-1.1
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.3
(1.1) Structural primary balance (before ageing cost)		-2.8
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.4
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-0.7
(2.3) Inflation effect	-3.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.0
(3.1) Base	0.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-2.8
Structural balance	-3.2
Net expenditure growth	15.6

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	23.9	22.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.3	2.3
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	23.9	22.9
IIR	2.3	2.3
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7

50.2	51.4	52.3	53.2	54.1	55.1	56.0	56.9	57.8
1.5	2.4	1.7	1.6	1.7	1.8	1.7	1.6	1.5

50.0	51.0	52.1	53.0	54.1	55.1	56.0	56.9	57.8

0.4	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0

12.1	6.4	5.5	5.2	5.2	5.1	4.9	4.6	4.4

2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.6
		2.8	2.8	2.7	2.7	2.6	2.6	2.5
		2.3	2.4	2.4	2.5	2.6	2.7	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.4	3.9	3.7	3.6	3.4	3.2	3.1	2.9	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	2.4	1.7	1.6	1.7	1.8	1.7	1.6	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.0	28.1	31.6	35.2	38.8	42.3	45.9	49.5	53.2
2.1	3.0	3.5	3.6	3.6	3.6	3.6	3.6	3.7
-4.3	-4.2	-4.3	-4.4	-4.4	-4.5	-4.4	-4.5	-4.5
-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.9	-0.9	-0.8	-0.8	-0.8	-0.9	-0.9	-0.9	-0.8
0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3

2032	2033	2034	2035	2036	2037	2038
-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.7	16.7	16.7	16.7	16.8	16.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

58.6	59.5	60.3	61.0	61.8	62.6	63.4
1.5	1.4	1.3	1.3	1.3	1.3	1.3
58.6	59.5	60.3	61.0	61.8	62.6	63.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.1	3.9	3.8	3.8	3.8	3.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.5	2.6	2.6	2.7	2.8	2.9	2.9
2.8	2.8	2.7	2.7	2.6	2.6	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.3	1.3	1.3	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
56.9	60.6	64.4	68.2	72.1	75.9	79.8
3.7	3.7	3.8	3.8	3.8	3.8	3.9
-4.5	-4.5	-4.5	-4.6	-4.6	-4.6	-4.7
-4.4	-4.4	-4.4	-4.4	-4.4	-4.4	-4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.8	-0.8	-0.7	-0.8	-0.8	-0.7
1.3	1.4	1.5	1.6	1.7	1.9	2.0

-0.8	-0.8	-0.8	-0.8	-0.8	-0.9	-0.9
-1.4	-1.4	-1.5	-1.6	-1.7	-1.7	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-5.9	-6.0	-6.1	-6.2	-6.3	-6.5	-6.7
-5.9	-6.0	-6.1	-6.2	-6.3	-6.5	-6.7
4.1	4.0	3.9	3.8	3.8	3.8	3.7



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
56.9	60.6	64.4	68.2	72.1	75.9	79.8
48.2	51.7	55.1	58.6	62.1	65.5	69.1
2.8	3.0	3.2	3.4	3.7	3.9	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.9	6.0	6.1	6.2	6.3	6.5	6.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



56.9	60.6	64.4	68.2	72.1	75.9	79.8
2.6	2.6	2.6	2.6	2.7	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BG
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.5	-2.8
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	17.0	16.8
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	47.8	49.4
Growth rate	7.6	3.4
<i>Potential GDP (real)</i>		
Level	47.7	48.7
<i>Output gap</i>		
Output gap	0.3	1.4
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	15.3	19.0
Interest rates		
Nominal implicit interest rate on debt	2.3	2.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.1
Inflation and exchange rate		
GDP deflator (National currency)	7.1	15.1
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.30

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.4

Debt projections

	2021	2022
Gross debt	23.9	22.9
<i>Change in debt (-1+2+3)</i>		-1.1
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.3
(1.1) Structural primary balance (before ageing cost)		-2.8
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.4
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-3.4
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-0.7
(2.3) Inflation effect	-3.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.0
(3.1) Base	0.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-2.8
Structural balance	-3.2
Net expenditure growth	15.6

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	23.9	22.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.00	0.00
Share of long-term debt in total government debt	1.00	1.00
IIR	2.3	2.3
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0.75)

Debt	23.9	22.9
IIR	2.3	2.3
IIR difference STATA - Excel		

Extension (annual adjustment of 0.5)

Debt	23.9	22.9
IIR	2.3	2.3
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.4	-4.4	-3.7	-2.9	-2.2	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7

50.2	51.4	52.0	52.7	53.6	54.4	55.6	56.7	57.8
1.5	2.4	1.2	1.3	1.6	1.6	2.1	2.0	1.9

50.0	51.0	52.1	53.0	54.1	55.1	56.0	56.9	57.8

0.4	0.7	-0.1	-0.6	-0.9	-1.2	-0.8	-0.4	0.0

12.1	6.4	4.9	4.9	5.1	4.9	5.3	5.0	4.8

2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
		2.8	2.8	2.7	2.7	2.6	2.6	2.5
		2.3	2.4	2.4	2.5	2.6	2.7	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.4	3.9	3.7	3.6	3.4	3.2	3.1	2.9	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.0	-0.4	-0.6	-0.8	-0.4	0.0
1.5	2.4	1.2	1.1	1.2	1.2	1.7	1.6	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.0	28.1	31.1	33.6	35.3	36.3	37.1	37.8	38.5
2.1	3.0	3.1	2.4	1.7	1.0	0.8	0.7	0.7
-4.3	-4.2	-3.7	-3.1	-2.5	-1.8	-1.7	-1.6	-1.5
-4.4	-4.4	-3.7	-2.9	-2.2	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.2	0.0	0.2	0.3	0.4	0.2	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.9	-0.9	-0.6	-0.7	-0.8	-0.7	-0.9	-0.8	-0.8
0.5	0.6	0.7	0.8	0.9	0.9	0.9	0.9	1.0

-0.3	-0.6	-0.3	-0.4	-0.5	-0.5	-0.7	-0.7	-0.7
-2.2	-0.9	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.8	-4.8	-4.4	-3.9	-3.3	-2.7	-2.6	-2.5	-2.4
-5.0	-5.0	-4.4	-3.7	-3.0	-2.3	-2.3	-2.4	-2.4
17.0	5.9	3.9	3.6	3.6	3.2	4.8	4.6	4.3

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
25.0	28.1	31.1	33.6	35.3	36.3	37.1	37.8	38.5
	21.7	24.7	27.5	29.7	31.4	32.3	33.1	34.0
	1.8	2.0	2.1	2.2	2.2	2.2	2.2	2.1
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	4.5	4.4	3.9	3.3	2.7	2.6	2.5	2.4
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
		2.7	2.7	2.7	2.7	2.7	2.7	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

25.0	28.1	31.1	33.6	35.3	36.3	37.1	37.8	38.5
2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

25.0	28.1	31.3	34.1	36.4	38.3	39.7	40.7	41.3
2.6	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
16.7	16.7	16.7	16.7	16.7	16.8	16.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

58.6	59.5	60.3	61.0	61.8	62.6	63.4
1.5	1.4	1.3	1.3	1.3	1.3	1.3
58.6	59.5	60.3	61.0	61.8	62.6	63.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.1	3.9	3.8	3.8	3.8	3.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.5	2.6	2.6	2.7	2.8	2.9	2.9
2.8	2.8	2.7	2.7	2.6	2.6	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.3	1.3	1.3	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
39.4	40.4	41.4	42.4	43.5	44.6	45.8
0.9	0.9	1.0	1.1	1.1	1.1	1.2
-1.5	-1.5	-1.5	-1.5	-1.6	-1.6	-1.6
-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.1	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.4
1.0	1.0	1.0	1.1	1.1	1.1	1.2

-0.6	-0.5	-0.5	-0.5	-0.5	-0.6	-0.5
-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.5	-2.5	-2.5	-2.6	-2.7	-2.7	-2.8
-2.5	-2.5	-2.5	-2.6	-2.7	-2.7	-2.8
4.1	4.0	3.9	3.8	3.8	3.8	3.7



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
39.4	40.4	41.4	42.4	43.5	44.6	45.8
34.9	35.8	36.7	37.6	38.6	39.6	39.7
2.1	2.1	2.2	2.2	2.3	2.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	2.5	2.5	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00

2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
2.6	2.6	2.6	2.6	2.7	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



39.4	40.4	41.4	42.4	43.5	44.6	45.8
2.6	2.6	2.6	2.6	2.7	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

41.7	42.0	42.3	42.8	43.4	43.9	44.6
2.6	2.6	2.6	2.6	2.7	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the plan period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	BE
# years of adjustment	4
Annual adjustment (when benchmark not binding)	1.05

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

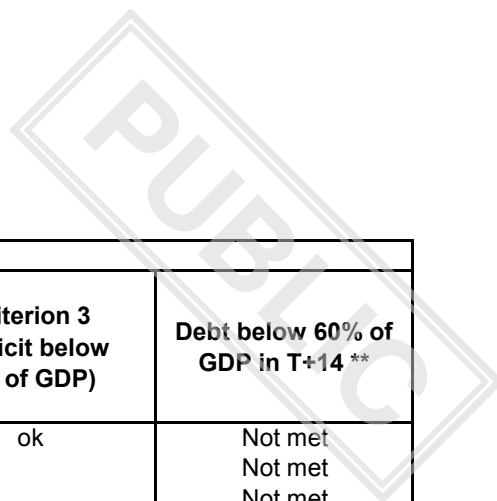
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit and debt, with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
1.05	1.05	1.05	1.05
1.9	1.7	1.7	1.6
1.05			
1.05			
1.7			
1.7			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
1.05	0.65
75.3	76.2

ment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
1.05	1.05	1.05	1.05
0.80	0.80	0.80	0.80

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.40	0.40	0.40

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	109.1	105.1
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock-flow adjustments (without exchange rate effect)	1.1	1.4
Stock-flow adjustment (total)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
of which: Public pensions expenditure	12.8	12.9
Health care expenditure	6.2	5.7
Long-term care expenditure	2.3	2.3
Education & unemployment benefits expenditure	5.4	5.4
Taxes on pensions	1.9	1.9
Property income	0.7	0.7
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.3	3.2
Level	417.4	
<i>Potential GDP</i>		
Growth rate	1.5	1.8
Level	421.4	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.6	1.5
Inflation (SF 2023)		
GDP deflator (national currency)	2.8	5.9

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.8
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	53.2

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.9
Long-term nominal interest rate in 2025	3.1
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-7.9	-11.3
Difference between debt level in 50th and 30th percentile of the distribution	-3.3	-4.7
Difference between debt level in 70th and 50th percentile of the distribution	3.8	5.3
Difference between debt level in 90th and 50th percentile of the distribution	9.1	12.8

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
106.0	107.3								
-3.1	-2.5								
-0.1	-0.2								
0.9	0.4								
0.9	0.4								
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7	25.8
13.0	13.2	13.2	13.4	13.6	13.8	14.0	14.0	14.1	14.3
5.8	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9	6.0
2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.6
5.4	5.4	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.1
1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8	0.8
1.7	1.5	1.6	1.3	1.2	1.1	1.0	0.9	0.8	0.8
1.7	1.9								
3.8	2.3								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-13.0	-15.0	-16.3
-5.3	-6.0	-6.9
6.5	7.9	8.8
15.3	18.3	20.4

2033	2034	2035	2036	2037	2038	2039	2040	2041

26.0	26.1	26.3	26.4	26.6	26.7	26.8	26.9	27.1
14.4	14.4	14.6	14.7	14.8	14.8	14.9	14.9	15.0
6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1
2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.1	3.2
5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0
2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3	1.3

0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3	1.3

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rate		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.9
Structural balance	-4.2
Net expenditure growth	7.0

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	449.4	455.6	461.5	466.5	471.2	475.6	479.5
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0

5.1	3.7	4.0	3.8	3.7	3.6	3.5	3.5	3.4

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.7	2.8
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	107.9	109.0	110.4	112.3	114.5	116.9	119.7
0.8	1.4	0.6	1.1	1.4	1.9	2.2	2.4	2.8
-3.3	-2.8	-2.6	-2.8	-3.0	-3.1	-3.3	-3.3	-3.5
-3.1	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.3	0.4	0.6	0.8	0.8	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-2.0	-1.7	-1.5	-1.2	-1.1	-0.9	-0.7
1.7	2.0	2.1	2.3	2.4	2.6	2.8	2.9	3.1

2032	2033	2034	2035	2036	2037	2038
-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

483.2	487.5	492.3	497.8	503.8	510.5	517.2
0.8	0.9	1.0	1.1	1.2	1.3	1.3
483.2	487.5	492.3	497.8	503.8	510.5	517.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.4	3.5	3.6	3.7	3.8	3.8	3.8
2.9	3.0	3.1	3.2	3.2	3.3	3.4
3.8	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.9	1.0	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
122.7	125.8	129.1	132.5	136.1	139.7	143.6
3.0	3.2	3.3	3.4	3.5	3.7	3.9
-3.6	-3.8	-3.9	-4.1	-4.2	-4.4	-4.5
-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.4	1.5	1.7	1.8	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.6
3.4	3.6	3.8	3.9	4.1	4.3	4.5

-0.9	-1.0	-1.2	-1.4	-1.5	-1.7	-1.8
-3.1	-3.1	-3.2	-3.2	-3.2	-3.3	-3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-7.0	-7.3	-7.6	-8.0	-8.3	-8.7	-9.0
-7.0	-7.3	-7.6	-8.0	-8.3	-8.7	-9.0
3.4	3.5	3.6	3.7	3.7	3.8	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
122.7	125.8	129.1	132.5	136.1	139.7	143.6
98.6	101.0	103.6	106.2	108.9	111.8	114.8
7.8	8.0	8.2	8.4	8.6	8.9	9.1
9.2	9.5	9.7	9.9	10.2	10.4	10.7
6.4	6.7	7.0	7.4	7.7	8.0	8.3
0.6	0.6	0.6	0.6	0.7	0.7	0.7
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
2.9	3.0	3.1	3.2	3.2	3.3	3.4
2.9	3.0	3.1	3.2	3.3	3.3	3.4
2.9	3.0	3.1	3.2	3.2	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



122.7	125.8	129.1	132.5	136.1	139.7	143.6
2.9	3.0	3.1	3.2	3.2	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.62

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.9
Structural balance	-4.2
Net expenditure growth	7.0
Average net primary expenditure growth	1.7
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	445.9	449.7	453.8	457.8	465.3	472.7	479.5
1.2	1.4	0.8	0.8	0.9	0.9	1.6	1.6	1.4

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.9	-1.4	-1.7	-1.9	-1.3	-0.6	0.0

5.1	3.7	3.2	3.3	3.4	3.4	4.2	4.2	4.1

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.9	-1.1	-1.3	-0.6	0.0
1.2	1.4	0.8	0.6	0.5	0.3	1.0	0.9	0.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.4	100.7	98.0
0.8	1.4	0.8	0.1	-0.8	-1.6	-2.5	-2.7	-2.7
-3.3	-2.8	-2.0	-1.2	-0.4	0.5	0.8	1.1	1.3
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.5	0.8	1.0	1.2	0.8	0.4	0.0
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.2	-1.1	-1.1	-1.0	-1.8	-1.6	-1.4
1.7	2.0	2.1	2.3	2.4	2.5	2.5	2.6	2.6

-1.2	-1.4	-0.9	-0.9	-1.0	-0.9	-1.7	-1.6	-1.4
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-5.0	-4.7	-4.1	-3.5	-2.8	-1.9	-1.8	-1.4	-1.2
-4.9	-4.5	-3.6	-2.7	-1.7	-0.8	-1.0	-1.1	-1.2
6.4	2.6	1.9	1.7	1.7	1.6	3.5	3.5	3.4

0	0	0



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.4	100.7	98.0
	88.1	89.5	90.0	89.9	89.2	87.0	84.9	82.6
	5.9	6.1	6.3	6.4	6.5	6.5	6.5	6.4
	8.2	8.3	8.4	8.4	8.3	8.1	7.9	7.7
	4.7	3.8	3.2	2.6	1.8	1.6	1.3	1.2
	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



106.0	107.3	108.1	108.2	107.5	105.9	103.4	100.7	98.0
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

483.2	487.5	492.3	497.8	503.8	510.5	517.2
0.8	0.9	1.0	1.1	1.2	1.3	1.3
483.2	487.5	492.3	497.8	503.8	510.5	517.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.4	3.5	3.6	3.7	3.8	3.8	3.8
2.8	2.8	2.9	3.0	3.0	3.1	3.2
3.8	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.9	1.0	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
96.2	94.5	92.9	91.5	90.3	89.2	88.3
-1.8	-1.7	-1.6	-1.4	-1.2	-1.1	-0.9
1.2	1.1	0.9	0.8	0.6	0.5	0.3
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.8	0.9	1.1	1.2	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.5
2.6	2.6	2.7	2.7	2.7	2.7	2.7

-0.7	-0.8	-0.9	-1.0	-1.1	-1.1	-1.1
-2.5	-2.4	-2.4	-2.3	-2.2	-2.2	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.4	-1.6	-1.7	-1.9	-2.1	-2.2	-2.4
-1.4	-1.6	-1.7	-1.9	-2.1	-2.2	-2.4
3.4	3.5	3.6	3.7	3.7	3.8	3.8

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
96.2	94.5	92.9	91.5	90.3	89.2	88.3
80.8	79.2	77.7	76.4	75.2	74.1	73.0
6.4	6.3	6.2	6.1	6.0	5.9	6.1
7.6	7.4	7.3	7.2	7.1	7.0	6.9
1.3	1.5	1.6	1.8	1.9	2.1	2.2
0.1	0.1	0.1	0.2	0.2	0.2	0.2
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
2.8	2.8	2.9	3.0	3.0	3.1	3.2
2.7	2.8	2.9	3.0	3.1	3.1	3.2
2.8	2.8	2.9	3.0	3.0	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

96.2	94.5	92.9	91.5	90.3	89.2	88.3
2.8	2.8	2.9	3.0	3.0	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0

101.0	98.5	95.7	93.6	91.7	89.8	88.2
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.62

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IRR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	445.9	449.7	453.8	457.8	465.3	472.7	479.5
1.2	1.4	0.8	0.8	0.9	0.9	1.6	1.6	1.4

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.9	-1.4	-1.7	-1.9	-1.3	-0.6	0.0

5.1	3.7	3.2	3.3	3.4	3.4	4.2	4.2	4.1

1.7	1.9	2.1	2.2	2.3	2.4	2.8	2.7	2.8
		3.1	3.2	3.3	3.4	5.4	3.6	3.7
		2.7	2.8	2.8	2.9	4.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.9	-1.1	-1.3	-0.6	0.0
1.2	1.4	0.8	0.6	0.5	0.3	1.0	0.9	0.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.7	101.2	98.6
0.8	1.4	0.8	0.1	-0.8	-1.6	-2.2	-2.6	-2.6
-3.3	-2.8	-2.0	-1.2	-0.4	0.5	0.8	1.1	1.3
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.5	0.8	1.0	1.2	0.8	0.4	0.0
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.2	-1.1	-1.1	-1.0	-1.4	-1.5	-1.2
1.7	2.0	2.1	2.3	2.4	2.5	2.8	2.7	2.7

-1.2	-1.4	-0.9	-0.9	-1.0	-0.9	-1.7	-1.6	-1.4
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.7	101.2	98.6
	88.1	89.5	90.0	89.9	89.2	87.0	85.1	83.0
	5.9	6.1	6.3	6.4	6.5	6.5	6.5	6.4
	8.2	8.3	8.4	8.4	8.3	8.1	8.0	7.8
	4.7	3.8	3.2	2.6	1.8	1.9	1.5	1.3
	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92

	1.9	2.1	2.2	2.3	2.4	2.8	2.7	2.8
	1.9	2.0	2.1	2.2	2.3	2.6	2.7	2.8
		2.1	2.2	2.3	2.4	2.8	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	103.7	101.2	98.6
1.7	1.9	2.1	2.2	2.3	2.4	2.8	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

483.2 487.5 492.3 497.8 503.8 510.5 517.2
0.8 0.9 1.0 1.1 1.2 1.3 1.3

483.2 487.5 492.3 497.8 503.8 510.5 517.2

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.4 3.5 3.6 3.7 3.8 3.8 3.8

2.9	2.9	3.0	3.1	3.1	3.2	3.2
3.8	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.8 0.9 1.0 1.1 1.2 1.3 1.3

2032	2033	2034	2035	2036	2037	2038
96.9	95.3	93.8	92.5	91.3	90.3	89.5
-1.7	-1.6	-1.5	-1.3	-1.2	-1.0	-0.8
1.2	1.1	0.9	0.8	0.6	0.5	0.3
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.8	0.9	1.1	1.2	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.5
2.7	2.8	2.8	2.8	2.8	2.8	2.8

-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.1
-2.5	-2.5	-2.4	-2.3	-2.3	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
96.9	95.3	93.8	92.5	91.3	90.3	89.5
81.2	79.8	78.4	77.1	76.0	75.0	74.2
6.4	6.3	6.2	6.1	6.0	5.9	5.9
7.6	7.5	7.4	7.2	7.1	7.0	6.9
1.4	1.6	1.7	1.9	2.0	2.2	2.3
0.1	0.1	0.1	0.2	0.2	0.2	0.2
0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92
2.9	2.9	3.0	3.1	3.1	3.2	3.2
2.9	2.9	3.0	3.1	3.2	3.2	3.3
2.9	2.9	3.0	3.1	3.1	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



96.9	95.3	93.8	92.5	91.3	90.3	89.5
2.9	2.9	3.0	3.1	3.1	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
101.3	98.9	96.3	94.2	92.4	90.6	89.1
3.1	3.0	3.1	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.4	1.2	1.2
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	445.9	449.7	453.8	457.8	466.2	473.1	477.8
1.2	1.4	0.8	0.8	0.9	0.9	1.8	1.5	1.0
436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5
0.0	-0.2	-0.9	-1.4	-1.7	-1.9	-1.1	-0.5	-0.4
5.1	3.7	3.2	3.3	3.4	3.4	4.4	4.1	3.6
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.6	-0.9	-1.1	-1.3	-0.7	-0.4
1.2	1.4	0.8	0.6	0.5	0.3	1.2	1.1	0.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.4	101.2	99.7
0.8	1.4	0.8	0.1	-0.8	-1.6	-2.6	-2.2	-1.5
-3.3	-2.8	-2.0	-1.2	-0.4	0.5	0.6	0.7	0.6
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.4	1.2	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.5	0.8	1.0	1.2	0.7	0.3	0.2
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.2	-1.1	-1.1	-1.0	-1.9	-1.5	-0.9
1.7	2.0	2.1	2.3	2.4	2.5	2.5	2.6	2.6

-1.2	-1.4	-0.9	-0.9	-1.0	-0.9	-1.9	-1.5	-1.0
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	103.4	101.2	99.7
	88.1	89.5	90.0	89.9	89.2	86.9	84.9	83.4
	5.9	6.1	6.3	6.4	6.5	6.5	6.5	6.5
	8.2	8.3	8.4	8.4	8.3	8.1	7.9	7.8
	4.7	3.8	3.2	2.6	1.8	1.7	1.7	1.8
	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6
	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	103.4	101.2	99.7
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.2	1.2	1.2	1.2	1.2	1.2	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

482.3	487.5	492.3	497.8	503.8	510.5	517.2
1.0	1.1	1.0	1.1	1.2	1.3	1.3
483.2	487.5	492.3	497.8	503.8	510.5	517.2
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
3.6	3.7	3.6	3.7	3.8	3.8	3.8
2.8	2.9	2.9	3.0	3.1	3.1	3.2
3.8	3.8	3.8	3.8	3.8	3.8	3.8
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.9	1.0	1.1	1.2	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
98.2	96.9	95.8	94.9	94.2	93.6	93.2
-1.4	-1.4	-1.1	-0.9	-0.7	-0.6	-0.4
0.6	0.6	0.4	0.3	0.1	0.0	-0.2
1.2	1.2	1.2	1.2	1.2	1.2	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.8	0.9	1.1	1.2	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.8	-0.6	-0.6	-0.6	-0.6	-0.5
2.7	2.7	2.7	2.8	2.8	2.8	2.9

-0.9	-1.0	-0.9	-1.0	-1.1	-1.2	-1.2
-2.6	-2.5	-2.4	-2.4	-2.3	-2.3	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
98.2	96.9	95.8	94.9	94.2	93.6	93.2
82.0	80.8	79.7	78.8	78.0	77.4	76.9
6.5	6.4	6.3	6.2	6.2	6.1	6.1
7.7	7.6	7.5	7.4	7.3	7.2	7.2
1.9	2.0	2.1	2.3	2.5	2.7	2.8
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.8	2.9	2.9	3.0	3.1	3.1	3.2
2.7	2.8	2.9	3.0	3.1	3.2	3.2
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



98.2	96.9	95.8	94.9	94.2	93.6	93.2
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
101.0	98.8	97.1	95.4	93.9	92.6	91.5
2.8	2.9	2.9	3.0	3.1	3.1	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate (including feedback and output-gap closure effect)	6.3	3.2
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates and inflation		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8

(2.1) Interest expenditure	1.5
(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	445.9	449.7	453.8	457.8	463.0	468.0	472.4
1.2	1.4	0.8	0.8	0.9	0.9	1.1	1.1	0.9
						0.5	0.4	0.3

436.2	442.9	449.9	455.9	461.5	466.5	468.9	471.0	472.4

0.0	-0.2	-0.9	-1.4	-1.7	-1.9	-1.3	-0.6	0.0

5.1	3.7	3.2	3.3	3.4	3.4	3.7	3.7	3.6

1.7	1.9	2.1	2.2	2.3	2.4	2.6	2.7	2.8
		3.1	3.2	3.3	3.4	4.0	4.1	4.2
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.6	-0.9	-1.1	-1.3	-0.6	0.0
1.2	1.4	0.8	0.6	0.5	0.3	0.5	0.4	0.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	104.0	101.9	99.9
0.8	1.4	0.8	0.1	-0.8	-1.6	-1.9	-2.1	-2.1
-3.3	-2.8	-2.0	-1.2	-0.4	0.5	0.8	1.1	1.3
-3.1	-2.5	-1.5	-0.4	0.6	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.5	0.8	1.0	1.2	0.8	0.4	0.0
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.2	-1.1	-1.1	-1.0	-1.2	-1.0	-0.7

1.7	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8
-1.2	-1.4	-0.9	-0.9	-1.0	-0.9	-1.2	-1.1	-0.9
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.2	107.5	105.9	104.0	101.9	99.9
	88.1	89.5	90.0	89.9	89.2	87.5	85.8	84.0
	5.9	6.1	6.3	6.4	6.5	6.5	6.5	6.5
	8.2	8.3	8.4	8.4	8.3	8.2	8.0	7.9
	4.7	3.8	3.2	2.6	1.8	1.7	1.5	1.3
	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.7	1.9	2.1	2.2	2.3	2.4	2.6	2.7	2.8
	1.9	2.0	2.1	2.2	2.3	2.5	2.6	2.8
		2.1	2.2	2.3	2.4	2.6	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	104.0	101.9	99.9
1.7	1.9	2.1	2.2	2.3	2.4	2.6	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

473.7	475.5	477.9	480.8	484.2	488.2	492.2
0.3	0.4	0.5	0.6	0.7	0.8	0.8
0.3	0.4	0.5	0.6	0.7	0.8	0.8

473.7	475.5	477.9	480.8	484.2	488.2	492.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.9	3.0	3.1	3.2	3.2	3.3	3.3
2.9	3.0	3.2	3.2	3.3	3.4	3.5
4.3	4.3	4.3	4.3	4.3	4.3	4.3
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.4	0.5	0.6	0.7	0.8	0.8

2032	2033	2034	2035	2036	2037	2038
98.7	97.7	96.8	96.1	95.6	95.2	95.1
-1.2	-1.0	-0.9	-0.7	-0.5	-0.4	-0.1
1.2	1.1	0.9	0.8	0.6	0.5	0.3
1.7	1.7	1.7	1.7	1.7	1.7	1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.6	0.8	0.9	1.1	1.2	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.1	0.1	0.2

2.8	2.9	3.0	3.0	3.1	3.2	3.2
-0.3	-0.4	-0.5	-0.6	-0.7	-0.8	-0.8
-2.6	-2.5	-2.5	-2.4	-2.4	-2.3	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
98.7	97.7	96.8	96.1	95.6	95.2	95.1
82.7	81.7	80.8	80.0	79.4	78.9	78.6
6.6	6.5	6.4	6.3	6.3	6.2	6.2
7.8	7.7	7.6	7.5	7.4	7.4	7.4
1.5	1.7	1.9	2.1	2.3	2.5	2.7
0.1	0.1	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.9	3.0	3.2	3.2	3.3	3.4	3.5
2.9	3.0	3.1	3.2	3.3	3.4	3.5
2.9	3.0	3.2	3.2	3.3	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



98.7	97.7	96.8	96.1	95.6	95.2	95.1
2.9	3.0	3.2	3.2	3.3	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
101.6	99.7	97.5	96.1	94.8	93.6	92.7
2.9	3.0	3.1	3.2	3.3	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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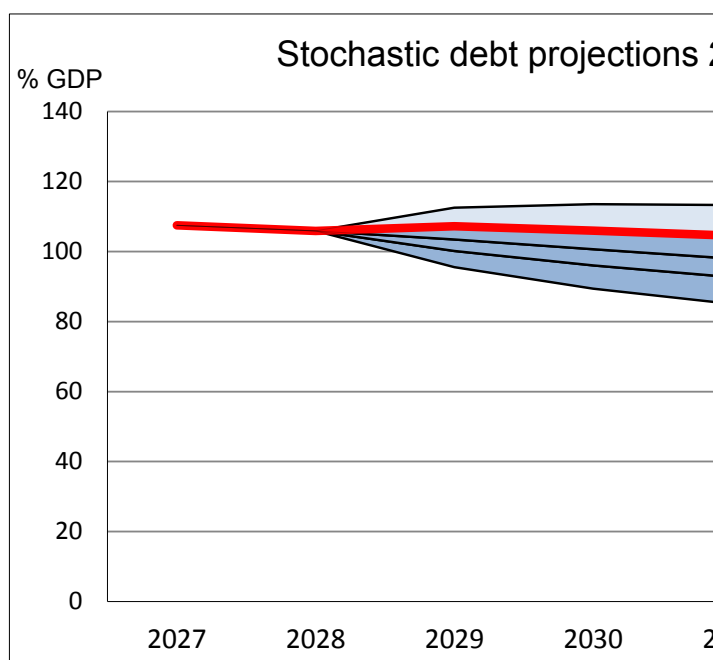
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	109.1	105.1	106.0	107.3
Distribution of debt paths				
p10	109.1	105.1	106.0	107.3
p30	109.1	105.1	106.0	107.3
p50 - Adjustment scenario	109.1	105.1	106.0	107.3
p70	109.1	105.1	106.0	107.3
p90	109.1	105.1	106.0	107.3
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	107.5	105.9	95.5	89.4
p30_p10	0.0	0.0	4.6	6.7
p50_p30	0.0	0.0	3.3	4.7
p70_p50	0.0	0.0	3.8	5.3
p90_p70	0.0	0.0	5.3	7.6
p10	107.5	105.9	95.5	89.4
p30	107.5	105.9	100.1	96.0
p50	107.5	105.9	103.4	100.7
p70	107.5	105.9	107.2	106.0
p90	107.5	105.9	112.5	113.5

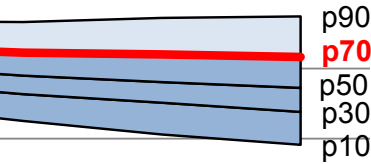
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
108.1	108.2	107.5	105.9	103.4	100.7	98.0	96.2	94.5	92.9
108.1	108.2	107.5	105.9	95.5	89.4	85.0	81.2	78.2	
108.1	108.2	107.5	105.9	100.1	96.0	92.7	90.2	87.6	
108.1	108.2	107.5	105.9	103.4	100.7	98.0	96.2	94.5	
108.1	108.2	107.5	105.9	107.2	106.0	104.5	104.0	103.3	
108.1	108.2	107.5	105.9	112.5	113.5	113.3	114.4	114.9	

2031	2032	2033
85.0	81.2	78.2
7.7	9.0	9.4
5.3	6.0	6.9
6.5	7.9	8.8
8.8	10.4	11.6
85.0	81.2	78.2
92.7	90.2	87.6
98.0	96.2	94.5
104.5	104.0	103.3
113.3	114.4	114.9



2035	2036	2037	2038	2039	2040	2041
91.5	90.3	89.2	88.3	87.7	87.2	86.8

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity to its maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is projected to evolve linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is projected to remain constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is affected by the shock (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	BE
# years of adjustment	7
Annual adjustment (when benchmark not binding)	0.40

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

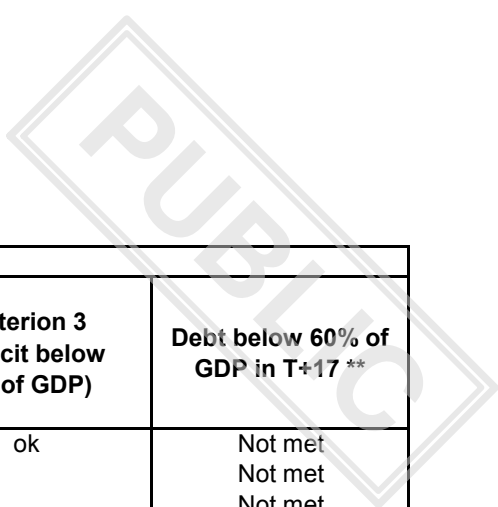
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+17 **
ok	ok	ok	Not met
ok			Not met
ok			Not met
ok			Not met

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.80	0.80	0.80	0.80
2.4	2.2	2.2	2.1
0.8			
0.6			
2.2			
2.4			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
1.05	0.65
75.3	76.2

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
1.05	1.05	1.05	1.05
0.80	0.80	0.80	0.80

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

2029	2030	2031
0.40	0.40	0.40
2.8	2.7	2.7

chmark)		
2029	2030	2031
0.40	0.40	0.40

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	109.1	105.1
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock-flow adjustments (without exchange rate effect)	1.1	1.4
Stock-flow adjustment (total)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
of which: Public pensions expenditure	12.8	12.9
Health care expenditure	6.2	5.7
Long-term care expenditure	2.3	2.3
Education & unemployment benefits expenditure	5.4	5.4
Taxes on pensions	1.9	1.9
Property income	0.7	0.7
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.3	3.2
Level	417.4	
<i>Potential GDP</i>		
Growth rate	1.5	1.8
Level	421.4	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.6	1.5
Inflation (SF 2023)		
GDP deflator (national currency)	2.8	5.9

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.8
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	53.2

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.9
Long-term nominal interest rate in 2025	3.1
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-7.9	-11.3
Difference between debt level in 50th and 30th percentile of the distribution	-3.3	-4.7
Difference between debt level in 70th and 50th percentile of the distribution	3.8	5.3
Difference between debt level in 90th and 50th percentile of the distribution	9.1	12.8

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
106.0	107.3								
-3.1	-2.5								
-0.1	-0.2								
0.9	0.4								
0.9	0.4								
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7	25.8
13.0	13.2	13.2	13.4	13.6	13.8	14.0	14.0	14.1	14.3
5.8	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9	6.0
2.3	2.3	2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.6
5.4	5.4	5.3	5.3	5.3	5.3	5.2	5.2	5.2	5.1
1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8	0.8
1.7	1.5	1.6	1.3	1.2	1.1	1.0	0.9	0.8	0.8
1.7	1.9								
3.8	2.3								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

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DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-13.0	-15.0	-16.3
-5.3	-6.0	-6.9
6.5	7.9	8.8
15.3	18.3	20.4

2033	2034	2035	2036	2037	2038	2039	2040	2041

26.0	26.1	26.3	26.4	26.6	26.7	26.8	26.9	27.1
14.4	14.4	14.6	14.7	14.8	14.8	14.9	14.9	15.0
6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1
2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.1	3.2
5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0
2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3	1.3

0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3	1.3

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rate		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.9
Structural balance	-4.2
Net expenditure growth	7.0

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	449.4	455.6	461.5	466.5	471.2	475.6	479.5
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0

5.1	3.7	4.0	3.8	3.7	3.6	3.5	3.5	3.4

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.7	2.8
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.4	1.6	1.4	1.3	1.1	1.0	0.9	0.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	107.9	109.0	110.4	112.3	114.5	116.9	119.7
0.8	1.4	0.6	1.1	1.4	1.9	2.2	2.4	2.8
-3.3	-2.8	-2.6	-2.8	-3.0	-3.1	-3.3	-3.3	-3.5
-3.1	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.3	0.4	0.6	0.8	0.8	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-2.0	-1.7	-1.5	-1.2	-1.1	-0.9	-0.7
1.7	2.0	2.1	2.3	2.4	2.6	2.8	2.9	3.1

2032	2033	2034	2035	2036	2037	2038	2039	2040
-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.8	26.9
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

483.2	487.5	492.3	497.8	503.8	510.5	517.2	524.1	531.0
0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3
483.2	487.5	492.3	497.8	503.8	510.5	517.2	524.1	531.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.4	3.5	3.6	3.7	3.8	3.8	3.8	3.8	3.7
2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.4	3.5
3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.9
3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.3

2032	2033	2034	2035	2036	2037	2038	2039	2040
122.7	125.8	129.1	132.5	136.1	139.7	143.6	147.7	152.0
3.0	3.2	3.3	3.4	3.5	3.7	3.9	4.1	4.3
-3.6	-3.8	-3.9	-4.1	-4.2	-4.4	-4.5	-4.6	-4.7
-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.2	1.4	1.5	1.7	1.8	1.9	2.1	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.6	-0.5	-0.4
3.4	3.6	3.8	3.9	4.1	4.3	4.5	4.7	4.9



2041

-2.5
0.0
0.0

27.1
0.7

538.1
1.3

538.1

0.0

3.7

3.5
3.9
2.6
0.1

2.4
1.0

0.0
0.0
1.3

2041
156.5
4.5
-4.8
-2.5
0.0
0.0
0.0
2.3
0.0
0.0
-0.3
5.1

-1.9
-3.5
0.0
0.0
0.0
0.0
-10.0
-10.0
3.7



1	
0	
2041	
156.5	
125.0	
9.9	
11.7	
9.2	
0.8	
0.08	
0.92	
3.5	
3.6	
3.5	
0.0	
1.0	



156.5
3.5
0.0

2041
0.1
0.1
0.1
0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.62

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.9
Structural balance	-4.2
Net expenditure growth	7.0
Average net primary expenditure growth	2.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	446.7	451.1	455.5	459.8	465.3	470.3	474.5
1.2	1.4	1.0	1.0	1.0	0.9	1.2	1.1	0.9

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.7	-1.1	-1.3	-1.4	-1.3	-1.1	-1.0

5.1	3.7	3.4	3.4	3.4	3.4	3.7	3.7	3.5

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
0.0	0.0	0.0	-0.5	-0.7	-0.9	-1.0	-0.8	-0.8
1.2	1.4	1.0	0.8	0.7	0.5	0.7	0.6	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
0.8	1.4	0.7	0.3	-0.3	-0.9	-1.6	-1.9	-2.1
-3.3	-2.8	-2.1	-1.6	-0.9	-0.2	0.3	0.8	1.3
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.4	0.6	0.8	0.9	0.8	0.7	0.6
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.4	-1.3	-1.2	-1.1	-1.3	-1.1	-0.8
1.7	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-1.2	-1.4	-1.1	-1.0	-1.0	-1.0	-1.2	-1.1	-0.9
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-5.0	-4.7	-4.3	-3.8	-3.3	-2.7	-2.2	-1.8	-1.4
-4.9	-4.5	-3.8	-3.2	-2.5	-1.8	-1.5	-1.1	-0.8
6.4	2.6	2.4	2.2	2.2	2.1	2.8	2.7	2.7

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
	88.1	89.4	89.9	89.9	89.6	88.4	87.0	85.5
	5.9	6.1	6.3	6.4	6.5	6.6	6.6	6.6
	8.2	8.3	8.4	8.4	8.4	8.3	8.1	8.0
	4.7	3.9	3.5	3.0	2.5	2.1	1.7	1.3
	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	103.4	100.7	98.0
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0



2041

1.9
0.0
0.0

27.1
0.7

538.1
1.3

538.1

0.0

3.7

3.3
3.9
2.6
0.1

2.4
1.0

0.0
0.0
1.3

2041
84.3
-0.9
0.5
1.9
0.0
0.0
0.0
1.3
0.0
0.0
-0.3
2.7

-1.1
-2.0
0.0
0.0
0.0
0.0

-2.2
-2.2
3.7

0



1
0

2041
84.3
70.0
5.5
6.6
2.0
0.2
0.1
0.9
3.3
3.4
3.3
0.0
1.0



86.8
3.3
0.0

84.6
3.3
0.0







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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.62

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.08	0.08
Share of long-term debt in total government debt	0.92	0.92
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IRR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	446.7	451.1	455.5	459.8	465.3	470.3	474.5
1.2	1.4	1.0	1.0	1.0	0.9	1.2	1.1	0.9

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.7	-1.1	-1.3	-1.4	-1.3	-1.1	-1.0

5.1	3.7	3.4	3.4	3.4	3.4	3.7	3.7	3.5

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
0.0	0.0	0.0	-0.5	-0.7	-0.9	-1.0	-0.8	-0.8
1.2	1.4	1.0	0.8	0.7	0.5	0.7	0.6	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
0.8	1.4	0.7	0.3	-0.3	-0.9	-1.6	-1.9	-2.1
-3.3	-2.8	-2.1	-1.6	-0.9	-0.2	0.3	0.8	1.3
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.4	0.6	0.8	0.9	0.8	0.7	0.6
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.4	-1.3	-1.2	-1.1	-1.3	-1.1	-0.8
1.7	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-1.2	-1.4	-1.1	-1.0	-1.0	-1.0	-1.2	-1.1	-0.9
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
	88.1	89.4	89.9	89.9	89.6	88.4	87.0	85.5
	5.9	6.1	6.3	6.4	6.5	6.6	6.6	6.6
	8.2	8.3	8.4	8.4	8.4	8.3	8.1	8.0
	4.7	3.9	3.5	3.0	2.5	2.1	1.7	1.3
	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92

	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	103.7	101.2	98.6
1.7	1.9	2.1	2.2	2.3	2.4	2.8	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0



2041

1.9
0.0
0.0

27.1
0.7

538.1
1.3

538.1

0.0

3.7

3.4
3.9
2.6
0.1

2.4
1.0

0.0
0.0
1.3

2041
85.2
-0.8
0.5
1.9
0.0
0.0
0.0
1.3
0.0
0.0
-0.3
2.8

-1.1
-2.0
0.0
0.0
0.0
0.0
0



1
0
2041
85.2
70.8
5.6
6.6
2.1
0.2
0.08
0.92
3.4
3.4
3.370
0.0
1.0



88.1
3.375
0.0
85.6
3.4
0.0



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Country	BE
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate	6.3	3.2
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8
(2.1) Interest expenditure		1.5

(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	446.7	451.1	455.5	459.8	465.3	470.3	474.5
1.2	1.4	1.0	1.0	1.0	0.9	1.2	1.1	0.9
436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5
0.0	-0.2	-0.7	-1.1	-1.3	-1.4	-1.3	-1.1	-1.0
5.1	3.7	3.4	3.4	3.4	3.4	3.7	3.7	3.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
0.0	0.0	0.0	-0.5	-0.7	-0.9	-1.0	-0.8	-0.8
1.2	1.4	1.0	0.8	0.7	0.5	0.7	0.6	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
0.8	1.4	0.7	0.3	-0.3	-0.9	-1.6	-1.9	-2.1
-3.3	-2.8	-2.1	-1.6	-0.9	-0.2	0.3	0.8	1.3
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.4	0.6	0.8	0.9	0.8	0.7	0.6
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.4	-1.3	-1.2	-1.1	-1.3	-1.1	-0.8
1.7	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7

-1.2	-1.4	-1.1	-1.0	-1.0	-1.0	-1.2	-1.1	-0.9
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
	88.1	89.4	89.9	89.9	89.6	88.4	87.0	85.5
	5.9	6.1	6.3	6.4	6.5	6.6	6.6	6.6
	8.2	8.3	8.4	8.4	8.4	8.3	8.1	8.0
	4.7	3.9	3.5	3.0	2.5	2.1	1.7	1.3
	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.0	107.3	108.1	108.2	107.5	105.9	103.4	101.2	99.7
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038	2039	2040
1.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.8	26.9
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

480.7	486.7	491.8	497.5	503.8	510.5	517.2	524.1	531.0
1.3	1.2	1.1	1.2	1.3	1.3	1.3	1.3	1.3
483.2	487.5	492.3	497.8	503.8	510.5	517.2	524.1	531.0
-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
4.0	3.9	3.7	3.7	3.8	3.8	3.8	3.8	3.7
2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.2	3.3
3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.9	3.9
3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

4.0	4.0	3.0	2.0	1.0	0.0	0.0	0.0	0.0
-0.7	-0.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
1.0	1.1	1.0	1.1	1.2	1.3	1.3	1.3	1.3

2032	2033	2034	2035	2036	2037	2038	2039	2040
99.2	97.2	95.5	94.1	92.7	91.6	90.6	89.9	89.3
-2.4	-2.0	-1.6	-1.5	-1.4	-1.2	-1.0	-0.7	-0.6
1.2	1.0	0.9	0.8	0.7	0.5	0.4	0.3	0.2
1.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.1	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-1.0	-0.7	-0.7	-0.7	-0.6	-0.5	-0.5	-0.4
2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8



2041

1.4
0.0
0.0

27.1
0.7

538.1
1.3

538.1

0.0

3.7

3.3
3.9
2.6
0.1

2.4
1.0

0.0
0.0
1.3

2041
88.9
-0.4
0.0
1.4
0.0
0.0
0.0
1.3
0.0
0.0
-0.3
2.9

-1.1
-2.1
0.0
0.0
0.0
0.0
0



1
0
2041
88.9
73.4
5.8
6.9
2.6
0.2
0.1
0.9
3.3
3.4
3.3
0.0
1.0



93.2
3.348
0.0
89.3
3.3
0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2031
Last year of no-fiscal-policy-change projections	2041

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.0	-2.7
One-off and other temporary measures	-0.2	0.0
Stock flow adjustments (without exchange rate effect)	1.1	1.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	24.8	24.4
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	417.4	431.0
Growth rate (including feedback and output-gap closure effect)	6.3	3.2
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	421.4	429.0
<i>Output gap</i>		
Output gap	-1.0	0.5
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	9.3	9.3
Interest rates and inflation		
Nominal implicit interest rate on debt	1.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.8	5.9
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.62	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		3.2

Debt projections

	2021	2022
Gross debt	109.1	105.1
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.4
(1.1) Structural primary balance (before ageing cost)		-2.7
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.8

(2.1) Interest expenditure	1.5
(2.2) Growth effect	-3.2
(2.3) Inflation effect	-6.1
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.4
(3.1) Base	1.4
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	109.1	105.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.05)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	109.1	105.1
IIR	1.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
-0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.6	24.7	24.8	25.0	25.2	25.4	25.5	25.6	25.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

436.3	442.2	446.7	451.1	455.5	459.8	465.3	470.3	474.5
1.2	1.4	1.0	1.0	1.0	0.9	1.2	1.1	0.9
						1.0	0.9	0.8

436.2	442.9	449.9	455.9	461.5	466.5	471.2	475.7	479.5

0.0	-0.2	-0.7	-1.1	-1.3	-1.4	-1.3	-1.1	-1.0

5.1	3.7	3.4	3.4	3.4	3.4	3.7	3.7	3.5

1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		3.1	3.2	3.3	3.4	3.5	3.6	3.7
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

3.8	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
0.0	0.0	0.0	-0.5	-0.7	-0.9	-1.0	-0.8	-0.8
1.2	1.4	1.0	0.8	0.7	0.5	0.7	0.6	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
0.8	1.4	0.7	0.3	-0.3	-0.9	-1.6	-1.9	-2.1
-3.3	-2.8	-2.1	-1.6	-0.9	-0.2	0.3	0.8	1.3
-3.1	-2.5	-1.7	-0.9	-0.1	0.7	1.1	1.5	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.4	0.6	0.8	0.9	0.8	0.7	0.6
0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.3	-1.8	-1.4	-1.3	-1.2	-1.1	-1.3	-1.1	-0.8

1.7	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.7
-1.2	-1.4	-1.1	-1.0	-1.0	-1.0	-1.2	-1.1	-0.9
-3.9	-2.4	-2.5	-2.5	-2.6	-2.6	-2.6	-2.6	-2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



	1	1	1	1	1	1	1
	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.0	107.3	108.1	108.4	108.0	107.2	105.5	103.7	101.6
	88.1	89.4	89.9	89.9	89.6	88.4	87.0	85.5
	5.9	6.1	6.3	6.4	6.5	6.6	6.6	6.6
	8.2	8.3	8.4	8.4	8.4	8.3	8.1	8.0
	4.7	3.9	3.5	3.0	2.5	2.1	1.7	1.3
	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
	1.9	2.0	2.1	2.2	2.4	2.5	2.6	2.7
		2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



106.0	107.3	108.1	108.2	107.5	105.9	104.0	101.9	99.9
1.7	1.9	2.1	2.2	2.3	2.4	2.6	2.7	2.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
106.0	107.3	108.0	108.4	108.4	107.9	106.9	105.4	103.5
1.7	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038	2039	2040
1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.8	26.9
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

477.4	481.0	485.1	488.0	491.5	495.5	499.6	503.7	507.8
0.6	0.7	0.8	0.6	0.7	0.8	0.8	0.8	0.8
0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8

480.8	482.6	485.1	488.0	491.5	495.5	499.6	503.7	507.8
-0.7	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.4	3.2	3.2	3.3	3.3	3.3	3.2
2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5	3.6
4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.4
3.5	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

3.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8

2032	2033	2034	2035	2036	2037	2038	2039	2040
99.8	98.0	96.2	94.8	93.7	92.7	91.9	91.3	91.0
-1.8	-1.8	-1.9	-1.3	-1.2	-1.0	-0.8	-0.6	-0.4
1.3	1.4	1.5	1.3	1.2	1.0	0.9	0.8	0.7
1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.1	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	0.0	0.0	0.0	0.1	0.2	0.3



2041

1.9
0.0
0.0

27.1
0.7

512.1
0.8
0.8

512.1

0.0

3.2

3.6
4.4
3.1
0.1

2.4
1.0

0.0
0.0
0.8

2041
90.8
-0.2
0.5
1.9
0.0
0.0
0.0
1.3
0.0
0.0
0.4

3.2
-0.7
-2.1
0.0
0.0
0.0
0.0
0



1
0
2041
90.8
75.2
6.0
7.0
2.5
0.2
0.1
0.9
3.6
3.7
3.6
0.0
1.0



95.9
3.707
0.0
91.2
3.6
0.0



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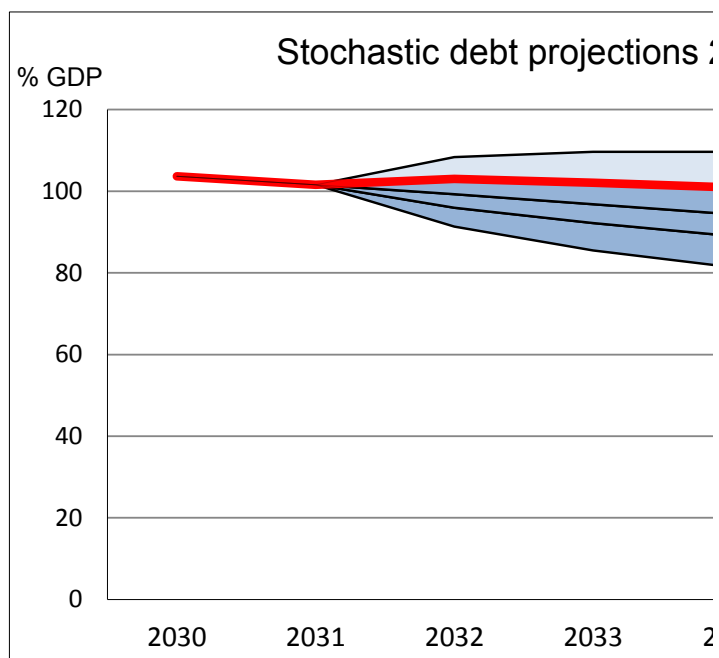
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	BE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2032
Last year of stochastic projections	2036

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	109.1	105.1	106.0	107.3
Distribution of debt paths				
p10	109.1	105.1	106.0	107.3
p30	109.1	105.1	106.0	107.3
p50 - Adjustment scenario	109.1	105.1	106.0	107.3
p70	109.1	105.1	106.0	107.3
p90	109.1	105.1	106.0	107.3
Graph				
Stochastic debt projections 2032-2036	2030	2031	2032	2033
p10	103.7	101.6	91.4	85.5
p30_p10	0.0	0.0	4.6	6.7
p50_p30	0.0	0.0	3.3	4.7
p70_p50	0.0	0.0	3.8	5.3
p90_p70	0.0	0.0	5.3	7.6
p10	103.7	101.6	91.4	85.5
p30	103.7	101.6	96.0	92.2
p50	103.7	101.6	99.2	96.8
p70	103.7	101.6	103.0	102.1
p90	103.7	101.6	108.4	109.7

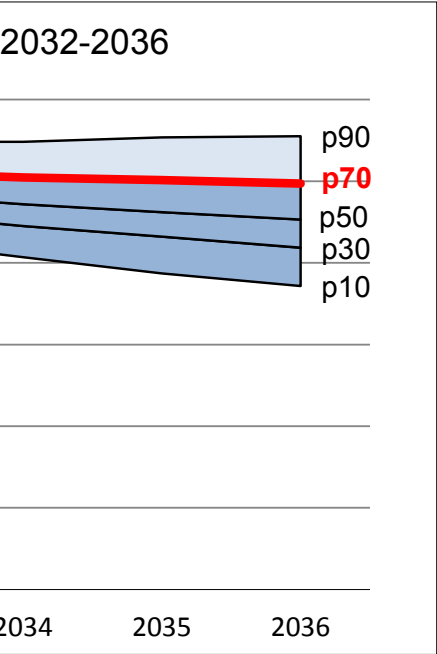
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
108.1	108.4	108.0	107.2	105.5	103.7	101.6	99.2	96.8	94.4
108.1	108.4	108.0	107.2	105.5	103.7	101.6	91.4	85.5	81.4
108.1	108.4	108.0	107.2	105.5	103.7	101.6	96.0	92.2	89.0
108.1	108.4	108.0	107.2	105.5	103.7	101.6	99.2	96.8	94.4
108.1	108.4	108.0	107.2	105.5	103.7	101.6	103.0	102.1	100.9
108.1	108.4	108.0	107.2	105.5	103.7	101.6	108.4	109.7	109.7

2034	2035	2036
81.4	77.4	74.3
7.7	9.0	9.4
5.3	6.0	6.9
6.5	7.9	8.8
8.8	10.4	11.6
81.4	77.4	74.3
89.0	86.5	83.7
94.4	92.4	90.6
100.9	100.3	99.4
109.7	110.7	111.0



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2035	2036	2037	2038	2039	2040	2041
92.4	90.6	88.9	87.5	86.2	85.2	84.3
77.4	74.3					
86.5	83.7					
92.4	90.6					
100.3	99.4					
110.7	111.0					







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PUBLIC



European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	AT
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.30

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

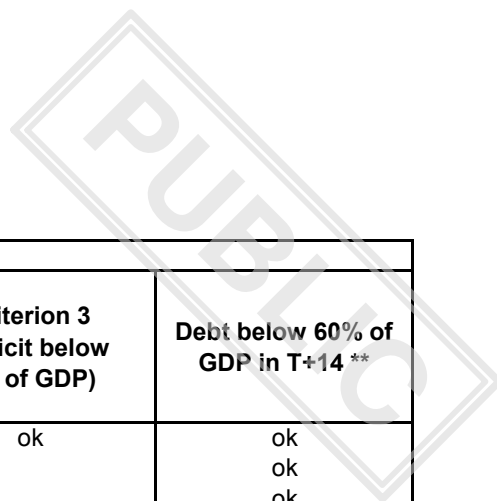
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok	ok	ok	ok
ok			ok
Not met			ok
Not met			ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.30	0.30	0.30	0.30
4.8	4.5	4.3	4.1
0.30			
0.30			
4.4			
4.4			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.30	0.10
75.5	64.4

ment of 0.5 pp. of GDP as a benchmark nor for the safeguard to ensure that the deficit is below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.30	0.30	0.30	0.30
0.10	0.10	0.10	0.10

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

|

chmark)		
2029	2030	2031
0.10	0.10	0.10

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	AT
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	82.3	78.4
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	-1.2	0.3
Stock-flow adjustment (total)	-1.3	0.5
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
of which: Public pensions expenditure	14.1	14.3
Health care expenditure	7.1	7.0
Long-term care expenditure	1.9	1.8
Education & unemployment benefits expenditure	4.6	4.5
Taxes on pensions	0.0	0.0
Property income	0.7	0.7
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	4.6	5.0
Level	330.8	
<i>Potential GDP</i>		
Growth rate	1.3	1.4
Level	338.8	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.4	1.3
Inflation (SF 2023)		
GDP deflator (national currency)	1.9	5.0

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	3.2
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	48.9

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.1
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	1.7
Long-term nominal interest rate in 2025	3.0
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-5.9	-8.2
Difference between debt level in 50th and 30th percentile of the distribution	-2.2	-3.3
Difference between debt level in 70th and 50th percentile of the distribution	2.5	3.8
Difference between debt level in 90th and 50th percentile of the distribution	6.2	8.3

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
75.4	72.7								
-1.3	-0.2								
0.0	0.0								
0.2	0.1								
0.1	0.1								
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2	29.4
14.4	14.5	14.6	14.7	14.8	14.9	15.0	15.1	15.2	15.3
7.1	7.1	7.2	7.2	7.2	7.3	7.3	7.4	7.4	7.4
1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2
4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0.4	1.6	1.3	1.2	1.2	1.3	1.3	1.2	1.1	1.2
1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.1	1.2
1.6	1.8								
7.2	4.2								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-9.7	-11.5	-12.8
-3.9	-4.5	-5.1
4.3	4.9	5.4
10.3	12.0	13.7

2033	2034	2035	2036	2037	2038	2039	2040	2041

29.6	29.7	29.8	29.8	29.8	29.8	29.8	29.8	29.8
15.4	15.4	15.4	15.4	15.4	15.3	15.2	15.1	15.1
7.5	7.5	7.6	7.6	7.6	7.7	7.7	7.8	7.8
2.3	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.6
4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5

1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.5

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	AT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	330.8	347.3
Growth rate	4.6	5.0
<i>Potential GDP (real)</i>		
Level	338.8	343.6
<i>Output gap</i>		
Output gap	-2.4	1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	6.6	10.2
Interest rate		
Nominal implicit interest rate on debt	1.4	1.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	1.9	5.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.57	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.0

Debt projections

	2021	2022
Gross debt	82.3	78.4
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 - 1.4 - 1.5 - 1.6 - 1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.6
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.7
(2.1) Interest expenditure		0.9

(2.2) Growth effect	-3.7
(2.3) Inflation effect	-3.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.5
(3.1) Base	0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Other budgetary variables	
Headline balance	-3.2
Structural balance	-3.8
Net expenditure growth	5.4

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	82.3	78.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.4	1.3
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

348.7	354.3	359.0	363.4	367.9	372.8	377.6	382.1	386.4
0.4	1.6	1.3	1.2	1.2	1.3	1.3	1.2	1.1

348.5	353.5	358.4	363.1	367.9	372.8	377.6	382.1	386.4

0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0

7.6	5.9	5.4	5.1	4.9	4.8	4.5	4.3	4.0

1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6
		3.0	3.0	3.1	3.1	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	1.6	1.3	1.2	1.2	1.3	1.3	1.2	1.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.5	69.0	67.9	67.2	66.9	67.0	67.5
-3.0	-2.7	-2.1	-1.5	-1.1	-0.7	-0.3	0.1	0.5
-1.3	-0.1	-0.3	-0.5	-0.7	-0.9	-1.1	-1.2	-1.4
-1.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.2	0.3	0.5	0.7	0.9	1.0	1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.9	-2.4	-2.0	-1.8	-1.6	-1.4	-1.1	-0.9
1.1	1.3	1.3	1.4	1.4	1.5	1.6	1.6	1.7

2032	2033	2034	2035	2036	2037	2038
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.4	29.6	29.7	29.8	29.8	29.8	29.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

391.0	395.9	401.0	406.5	412.4	418.6	425.0
1.2	1.3	1.3	1.4	1.4	1.5	1.5
391.0	395.9	401.0	406.5	412.4	418.6	425.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	3.9	3.9	3.9	4.0	4.0	4.0
2.7	2.7	2.8	2.9	2.9	3.0	3.0
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.3	1.4	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
68.3	69.2	70.3	71.5	72.8	74.0	75.3
0.8	1.0	1.1	1.2	1.2	1.2	1.3
-1.6	-1.7	-1.9	-1.9	-2.0	-2.0	-2.0
-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.4	1.5	1.7	1.7	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.8	-0.7	-0.7	-0.7	-0.7	-0.7
1.7	1.8	1.9	1.9	2.0	2.1	2.1

-0.8	-0.8	-0.9	-0.9	-1.0	-1.1	-1.1
-1.7	-1.7	-1.7	-1.7	-1.8	-1.8	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.3	-3.5	-3.7	-3.9	-4.0	-4.1	-4.1
-3.3	-3.5	-3.7	-3.9	-4.0	-4.1	-4.1
3.8	3.9	3.9	3.9	4.0	4.0	4.0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
68.3	69.2	70.3	71.5	72.8	74.0	75.3
54.0	54.7	55.4	56.3	57.3	58.2	59.3
5.2	5.3	5.3	5.4	5.5	5.6	5.7
5.7	5.8	5.8	5.9	6.0	6.1	6.2
3.0	3.2	3.4	3.5	3.6	3.7	3.8
0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.91	0.91	0.91	0.91	0.91	0.91	0.91

2.7	2.7	2.8	2.9	2.9	3.0	3.0
2.6	2.7	2.8	2.8	2.9	3.0	3.0
2.7	2.7	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



68.3	69.2	70.3	71.5	72.8	74.0	75.3
2.7	2.7	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Country	AT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	330.8	347.3
Growth rate	4.6	5.0
<i>Potential GDP (real)</i>		
Level	338.8	343.6
<i>Output gap</i>		
Output gap	-2.4	1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	6.6	10.2
Interest rates		
Nominal implicit interest rate on debt	1.4	1.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.57

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.0

Debt projections

	2021	2022
Gross debt	82.3	78.4
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.6
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.7
(2.1) Interest expenditure		0.9

(2.2) Growth effect	-3.7
(2.3) Inflation effect	-3.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.5
(3.1) Base	0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Other budgetary variables	
Headline balance	-3.2
Structural balance	-3.8
Net expenditure growth	5.4
Average net primary expenditure growth	4.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	82.3	78.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.09	0.09
Share of long-term debt in total government debt	0.91	0.91
IIR	1.4	1.3
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.3)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

348.7	354.3	358.2	362.2	366.5	371.0	376.3	381.5	386.4
0.4	1.6	1.1	1.1	1.2	1.2	1.4	1.4	1.3

348.5	353.5	358.4	363.1	367.9	372.8	377.6	382.1	386.4

0.0	0.2	-0.1	-0.3	-0.4	-0.5	-0.3	-0.2	0.0

7.6	5.9	5.2	5.0	4.9	4.7	4.7	4.4	4.2

1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
		3.0	3.0	3.1	3.1	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.0	-0.2	-0.3	-0.3	-0.2	0.0
0.4	1.6	1.1	1.0	1.0	1.1	1.3	1.2	1.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.6	59.9	58.5
-3.0	-2.7	-2.3	-2.2	-2.2	-2.2	-2.1	-1.7	-1.4
-1.3	-0.1	0.1	0.3	0.5	0.7	0.7	0.6	0.5
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.9	-2.2	-1.9	-1.7	-1.5	-1.4	-1.2	-0.9
1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5

-0.3	-1.1	-0.8	-0.7	-0.8	-0.8	-0.9	-0.8	-0.7
-5.2	-3.0	-2.8	-2.6	-2.4	-2.2	-2.0	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.4	-1.3	-1.3	-1.1	-0.9	-0.7	-0.8	-0.9	-1.0
-2.5	-1.5	-1.2	-1.0	-0.7	-0.4	-0.6	-0.8	-1.0
5.5	3.3	4.8	4.5	4.3	4.1	4.5	4.2	4.0

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.6	59.9	58.5
	57.8	56.3	54.8	53.3	51.7	50.1	48.8	47.6
	7.0	6.6	6.3	5.9	5.6	5.3	5.0	4.7
	6.4	6.2	6.0	5.8	5.6	5.4	5.3	5.1
	1.3	1.2	1.0	0.9	0.7	0.7	0.8	0.9
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91

1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5
		1.9	2.1	2.2	2.3	2.4	2.5	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



75.4	72.7	70.4	68.2	65.9	63.7	61.6	59.9	58.5
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

75.4	72.7	70.4	68.4	66.5	64.8	63.3	61.9	60.7
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.4	29.6	29.7	29.8	29.8	29.8	29.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

391.0	395.9	401.0	406.5	412.4	418.6	425.0
1.2	1.3	1.3	1.4	1.4	1.5	1.5
391.0	395.9	401.0	406.5	412.4	418.6	425.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	3.9	3.9	3.9	4.0	4.0	4.0
2.6	2.7	2.7	2.8	2.8	2.9	2.9
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.3	1.4	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
57.4	56.6	55.9	55.3	54.8	54.3	53.9
-1.0	-0.8	-0.7	-0.6	-0.5	-0.5	-0.4
0.3	0.2	0.0	0.0	-0.1	-0.1	-0.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.9	1.0	1.0	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6
1.5	1.5	1.5	1.5	1.5	1.5	1.5

-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8
-1.5	-1.5	-1.4	-1.4	-1.4	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.2	-1.3	-1.4	-1.5	-1.6	-1.6	-1.6
-1.2	-1.3	-1.4	-1.5	-1.6	-1.6	-1.6
3.8	3.9	3.9	3.9	4.0	4.0	4.0

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
57.4	56.6	55.9	55.3	54.8	54.3	53.9
46.8	46.0	45.3	44.7	44.2	43.8	43.9
4.5	4.4	4.4	4.3	4.3	4.2	3.7
5.0	4.9	4.8	4.8	4.7	4.6	4.6
1.1	1.2	1.3	1.4	1.5	1.5	1.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.91	0.91	0.91	0.91	0.91	0.91	0.91
2.6	2.7	2.7	2.8	2.8	2.9	2.9
2.6	2.6	2.7	2.8	2.8	2.9	2.9
2.6	2.7	2.7	2.8	2.8	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

57.4	56.6	55.9	55.3	54.8	54.3	53.9
2.6	2.7	2.7	2.8	2.8	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

59.7	58.8	58.0	57.4	56.8	56.3	55.8
2.6	2.7	2.7	2.8	2.8	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	AT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	330.8	347.3
Growth rate	4.6	5.0
<i>Potential GDP (real)</i>		
Level	338.8	343.6
<i>Output gap</i>		
Output gap	-2.4	1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	6.6	10.2
Interest rates		
Nominal implicit interest rate on debt	1.4	1.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.57

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.0

Debt projections

	2021	2022
Gross debt	82.3	78.4
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.6
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.7
(2.1) Interest expenditure		0.9

(2.2) Growth effect	-3.7
(2.3) Inflation effect	-3.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.5
(3.1) Base	0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	82.3	78.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.09	0.09
Share of long-term debt in total government debt	0.91	0.91
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.3)

Debt	82.3	78.4
IIR	1.4	1.3
IRR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	82.3	78.4
IIR	1.4	1.3
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

348.7	354.3	358.2	362.2	366.5	371.0	376.3	381.5	386.4
0.4	1.6	1.1	1.1	1.2	1.2	1.4	1.4	1.3

348.5	353.5	358.4	363.1	367.9	372.8	377.6	382.1	386.4

0.0	0.2	-0.1	-0.3	-0.4	-0.5	-0.3	-0.2	0.0

7.6	5.9	5.2	5.0	4.9	4.7	4.7	4.4	4.2

1.6	1.8	1.9	2.1	2.2	2.3	2.6	2.5	2.6
		3.0	3.0	3.1	3.1	4.1	3.1	3.1
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.0	-0.2	-0.3	-0.3	-0.2	0.0
0.4	1.6	1.1	1.0	1.0	1.1	1.3	1.2	1.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.1	58.7
-3.0	-2.7	-2.3	-2.2	-2.2	-2.2	-2.0	-1.7	-1.4
-1.3	-0.1	0.1	0.3	0.5	0.7	0.7	0.6	0.5
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.9	-2.2	-1.9	-1.7	-1.5	-1.3	-1.1	-0.9
1.1	1.3	1.3	1.4	1.4	1.4	1.6	1.5	1.5

-0.3	-1.1	-0.8	-0.7	-0.8	-0.8	-0.9	-0.8	-0.7
-5.2	-3.0	-2.8	-2.6	-2.4	-2.2	-2.0	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

			1	1	1	1	1	1	1
			0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.1	58.7
	57.8	56.3	54.8	53.3	51.7	50.1	48.9	47.8
	7.0	6.6	6.3	5.9	5.6	5.3	5.0	4.7
	6.4	6.2	6.0	5.8	5.6	5.4	5.3	5.1
	1.3	1.2	1.0	0.9	0.7	0.8	0.9	0.9
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91

	1.8	1.9	2.1	2.2	2.3	2.6	2.5	2.6
	1.7	1.9	2.0	2.1	2.2	2.4	2.5	2.6
		1.9	2.1	2.2	2.3	2.6	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.1	58.7
1.6	1.8	1.9	2.1	2.2	2.3	2.6	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

75.4	72.7	70.4	68.4	66.5	64.8	63.3	61.9	60.7
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.4	29.6	29.7	29.8	29.8	29.8	29.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

391.0 395.9 401.0 406.5 412.4 418.6 425.0
1.2 1.3 1.3 1.4 1.4 1.5 1.5

391.0 395.9 401.0 406.5 412.4 418.6 425.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.9 3.9 3.9 3.9 4.0 4.0 4.0

2.7	2.7	2.8	2.8	2.9	2.9	3.0
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
1.2 1.3 1.3 1.4 1.4 1.5 1.5

2032	2033	2034	2035	2036	2037	2038
57.7	56.9	56.2	55.7	55.2	54.7	54.2
-1.0	-0.8	-0.7	-0.6	-0.5	-0.5	-0.4
0.3	0.2	0.0	0.0	-0.1	-0.1	-0.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.9	1.0	1.0	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.5
1.5	1.5	1.5	1.5	1.5	1.5	1.6

-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8
-1.5	-1.5	-1.4	-1.4	-1.4	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
57.7	56.9	56.2	55.7	55.2	54.7	54.2
46.9	46.2	45.5	45.0	44.5	44.1	43.7
4.5	4.4	4.4	4.3	4.3	4.2	4.2
5.0	4.9	4.9	4.8	4.7	4.7	4.6
1.1	1.2	1.4	1.4	1.5	1.5	1.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.91	0.91	0.91	0.91	0.91	0.91	0.91

2.7	2.7	2.8	2.8	2.9	2.9	3.0
2.6	2.7	2.8	2.8	2.9	2.9	3.0
2.7	2.7	2.8	2.8	2.9	2.9	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



57.7	56.9	56.2	55.7	55.2	54.7	54.2
2.7	2.7	2.8	2.8	2.9	2.9	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

59.8	59.0	58.2	57.6	57.1	56.6	56.1
2.8	2.8	2.8	2.9	2.9	2.9	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	AT
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	330.8	347.3
Growth rate	4.6	5.0
<i>Potential GDP (real)</i>		
Level	338.8	343.6
<i>Output gap</i>		
Output gap	-2.4	1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	6.6	10.2
Interest rates		
Nominal implicit interest rate on debt	1.4	1.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.57	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.0

Debt projections

	2021	2022
Gross debt	82.3	78.4
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.6
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.7
(2.1) Interest expenditure		0.9

(2.2) Growth effect	-3.7
(2.3) Inflation effect	-3.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.5
(3.1) Base	0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	82.3	78.4
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.3)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.3	-0.2	0.1	0.4	0.7	1.0	0.8	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

348.7	354.3	358.2	362.2	366.5	371.0	377.0	382.4	386.6
0.4	1.6	1.1	1.1	1.2	1.2	1.6	1.4	1.1
348.5	353.5	358.4	363.1	367.9	372.8	377.6	382.1	386.4
0.0	0.2	-0.1	-0.3	-0.4	-0.5	-0.1	0.1	0.1
7.6	5.9	5.2	5.0	4.9	4.7	4.9	4.5	4.0
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
		3.0	3.0	3.1	3.1	3.1	3.1	3.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
7.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	0.0	-0.2	-0.3	-0.3	-0.1	0.1
0.4	1.6	1.1	1.0	1.0	1.1	1.5	1.4	1.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.2	59.4
-3.0	-2.7	-2.3	-2.2	-2.2	-2.2	-2.0	-1.4	-0.8
-1.3	-0.1	0.1	0.3	0.5	0.7	0.5	0.2	0.0
-1.3	-0.2	0.1	0.4	0.7	1.0	0.8	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	0.0	0.2	0.2	0.3	0.1	-0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.9	-2.2	-1.9	-1.7	-1.5	-1.5	-1.2	-0.8
1.1	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5

-0.3	-1.1	-0.8	-0.7	-0.8	-0.8	-1.0	-0.8	-0.6
-5.2	-3.0	-2.8	-2.6	-2.4	-2.2	-2.0	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.2	59.4
	57.8	56.3	54.8	53.3	51.7	50.0	48.8	48.0
	7.0	6.6	6.3	5.9	5.6	5.3	5.0	4.8
	6.4	6.2	6.0	5.8	5.6	5.4	5.3	5.2
	1.3	1.2	1.0	0.9	0.7	0.9	1.1	1.3
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5
		1.9	2.1	2.2	2.3	2.4	2.5	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

75.4	72.7	70.4	68.2	65.9	63.7	61.7	60.2	59.4
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.5
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

75.4	72.7	70.4	68.4	66.5	64.8	63.3	61.9	60.7
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.4	29.6	29.7	29.8	29.8	29.8	29.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

391.1	395.9	401.0	406.5	412.4	418.6	425.0
1.2	1.2	1.3	1.4	1.4	1.5	1.5
391.0	395.9	401.0	406.5	412.4	418.6	425.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8	3.9	3.9	3.9	4.0	4.0	4.0
2.6	2.7	2.7	2.8	2.8	2.9	2.9
3.2	3.2	3.2	3.3	3.3	3.4	3.4
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	1.3	1.3	1.4	1.4	1.5	1.5

2032	2033	2034	2035	2036	2037	2038
58.9	58.5	58.3	58.2	58.2	58.1	58.2
-0.5	-0.3	-0.2	-0.1	-0.1	0.0	0.0
-0.2	-0.3	-0.5	-0.5	-0.6	-0.6	-0.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.9	1.0	1.0	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6
1.5	1.5	1.5	1.6	1.6	1.6	1.6

-0.7	-0.7	-0.7	-0.8	-0.8	-0.8	-0.8
-1.5	-1.5	-1.5	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
58.9	58.5	58.3	58.2	58.2	58.1	58.2
47.5	47.1	46.8	46.7	46.6	46.5	46.5
4.6	4.5	4.5	4.5	4.5	4.5	4.5
5.1	5.0	5.0	5.0	4.9	4.9	4.9
1.5	1.7	1.8	1.9	2.0	2.0	2.1
0.1	0.2	0.2	0.2	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.6	2.7	2.7	2.8	2.8	2.9	2.9
2.6	2.6	2.7	2.8	2.8	2.9	3.0
2.6	2.7	2.7	2.8	2.8	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.9	58.5	58.3	58.2	58.2	58.1	58.2
2.6	2.7	2.7	2.8	2.8	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
59.7	59.1	58.8	58.7	58.7	58.6	58.6
2.6	2.7	2.7	2.8	2.8	2.9	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	AT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-3.3	-2.9
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.2	0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	27.6	27.7
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	330.8	347.3
Growth rate (including feedback and output-gap closure effect)	4.6	5.0
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	338.8	343.6
<i>Output gap</i>		
Output gap	-2.4	1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	6.6	10.2
Interest rates and inflation		
Nominal implicit interest rate on debt	1.4	1.3
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.9	5.0
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.57	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.0

Debt projections

	2021	2022
Gross debt	82.3	78.4
<i>Change in debt (-1+2+3)</i>		-4.0
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-2.9
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.6
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.7

(2.1) Interest expenditure	0.9
(2.2) Growth effect	-3.7
(2.3) Inflation effect	-3.9
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.5
(3.1) Base	0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	82.3	78.4
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.1	0.1
Share of long-term debt in total government debt	0.9	0.9
IIR	1.4	1.3
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.3)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	82.3	78.4
IIR	1.4	1.3
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.9	28.0	28.2	28.4	28.5	28.7	28.9	29.1	29.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

348.7	354.3	358.2	362.2	366.5	371.0	374.5	377.7	380.7
0.4	1.6	1.1	1.1	1.2	1.2	0.9	0.9	0.8
						0.8	0.7	0.6

348.5	353.5	358.4	363.1	367.9	372.8	375.7	378.3	380.7

0.0	0.2	-0.1	-0.3	-0.4	-0.5	-0.3	-0.2	0.0

7.6	5.9	5.2	5.0	4.9	4.7	4.2	3.9	3.6

1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7
		3.0	3.0	3.1	3.1	3.6	3.6	3.6
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.2	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.0	-0.2	-0.3	-0.3	-0.2	0.0
0.4	1.6	1.1	1.0	1.0	1.1	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	62.0	60.6	59.6
-3.0	-2.7	-2.3	-2.2	-2.2	-2.2	-1.7	-1.4	-1.0
-1.3	-0.1	0.1	0.3	0.5	0.7	0.7	0.6	0.5
-1.3	-0.2	0.1	0.4	0.7	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-2.9	-2.2	-1.9	-1.7	-1.5	-1.0	-0.8	-0.5

1.1	1.3	1.3	1.4	1.4	1.4	1.5	1.6	1.6
-0.3	-1.1	-0.8	-0.7	-0.8	-0.8	-0.6	-0.5	-0.5
-5.2	-3.0	-2.8	-2.6	-2.4	-2.2	-2.0	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
75.4	72.7	70.4	68.2	65.9	63.7	62.0	60.6	59.6
	57.8	56.3	54.8	53.3	51.7	50.4	49.3	48.5
	7.0	6.6	6.3	5.9	5.6	5.3	5.0	4.8
	6.4	6.2	6.0	5.8	5.6	5.5	5.3	5.2
	1.3	1.2	1.0	0.9	0.7	0.8	0.9	1.0
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7
	1.7	1.9	2.0	2.1	2.2	2.4	2.5	2.6
		1.9	2.1	2.2	2.3	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

75.4	72.7	70.4	68.2	65.9	63.7	62.0	60.6	59.6
1.6	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.4	72.7	70.4	68.4	66.5	64.8	63.3	61.9	60.7
1.6	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
29.4	29.6	29.7	29.8	29.8	29.8	29.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7

383.3	386.2	389.3	392.7	396.4	400.4	404.5
0.7	0.8	0.8	0.9	0.9	1.0	1.0
0.7	0.8	0.8	0.9	0.9	1.0	1.0

383.3	386.2	389.3	392.7	396.4	400.4	404.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.4	3.4	3.5	3.5	3.5
2.8	2.9	3.0	3.1	3.2	3.2	3.3
3.7	3.7	3.7	3.8	3.8	3.9	3.9
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.8	0.8	0.9	0.9	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
59.0	58.6	58.3	58.1	58.0	58.0	58.0
-0.6	-0.4	-0.3	-0.2	-0.1	-0.1	0.0
0.3	0.2	0.0	0.0	-0.1	-0.1	-0.1
1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.9	1.0	1.0	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.1

1.6	1.7	1.7	1.7	1.8	1.8	1.8
-0.4	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6
-1.5	-1.5	-1.5	-1.4	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
59.0	58.6	58.3	58.1	58.0	58.0	58.0
47.9	47.4	47.1	46.9	46.7	46.6	46.6
4.6	4.6	4.5	4.5	4.5	4.5	4.5
5.1	5.1	5.0	5.0	5.0	4.9	4.9
1.2	1.4	1.5	1.6	1.7	1.8	1.8
0.1	0.1	0.1	0.1	0.2	0.2	0.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.8	2.9	3.0	3.1	3.2	3.2	3.3
2.7	2.8	2.9	3.0	3.1	3.2	3.3
2.8	2.9	3.0	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



59.0	58.6	58.3	58.1	58.0	58.0	58.0
2.8	2.9	3.0	3.1	3.2	3.2	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.0	59.5	59.1	58.9	58.8	58.6	58.6
2.7	2.8	2.9	3.0	3.1	3.2	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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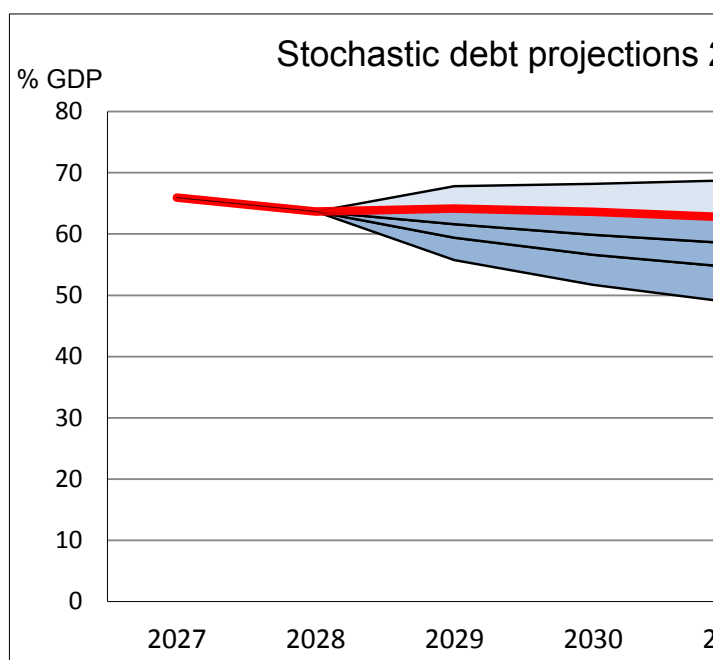
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	AT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	82.3	78.4	75.4	72.7
Distribution of debt paths				
p10	82.3	78.4	75.4	72.7
p30	82.3	78.4	75.4	72.7
p50 - Adjustment scenario	82.3	78.4	75.4	72.7
p70	82.3	78.4	75.4	72.7
p90	82.3	78.4	75.4	72.7
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	65.9	63.7	55.7	51.7
p30_p10	0.0	0.0	3.7	4.9
p50_p30	0.0	0.0	2.2	3.3
p70_p50	0.0	0.0	2.5	3.8
p90_p70	0.0	0.0	3.6	4.6
p10	65.9	63.7	55.7	51.7
p30	65.9	63.7	59.4	56.6
p50	65.9	63.7	61.6	59.9
p70	65.9	63.7	64.2	63.6
p90	65.9	63.7	67.8	68.2

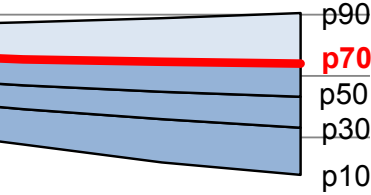
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
70.4	68.2	65.9	63.7	61.6	59.9	58.5	57.4	56.6	55.9
70.4	68.2	65.9	63.7	55.7	51.7	48.8	45.9	43.9	
70.4	68.2	65.9	63.7	59.4	56.6	54.6	53.0	51.6	
70.4	68.2	65.9	63.7	61.6	59.9	58.5	57.4	56.6	
70.4	68.2	65.9	63.7	64.2	63.6	62.7	62.3	62.0	
70.4	68.2	65.9	63.7	67.8	68.2	68.8	69.4	70.3	

2031	2032	2033
48.8	45.9	43.9
5.8	7.0	7.7
3.9	4.5	5.1
4.3	4.9	5.4
6.1	7.1	8.3
48.8	45.9	43.9
54.6	53.0	51.6
58.5	57.4	56.6
62.7	62.3	62.0
68.8	69.4	70.3



2035	2036	2037	2038	2039	2040	2041
55.3	54.8	54.3	53.9	53.5	53.1	52.9

2029-2033



2031 2032 2033





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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	SK
# years of adjustment	4
Annual adjustment (when benchmark not binding)	1.10

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

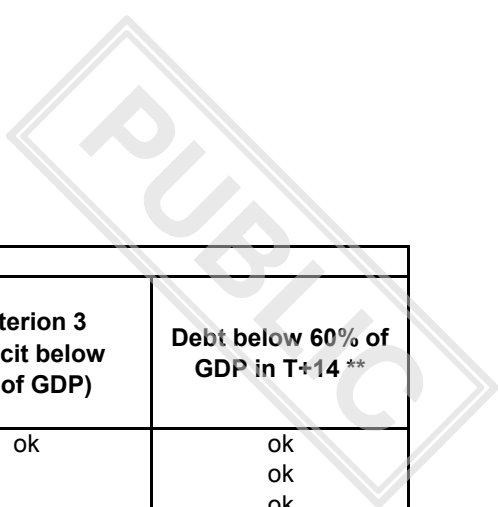
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
Not met	ok	ok	ok
Not met			ok
Not met			ok
Not met			ok

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
1.10	1.10	1.10	1.10
4.4	3.7	3.4	3.0
1.10			
1.10			
3.6			
3.6			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
1.10	0.65
71.0	66.9

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
1.10	1.10	1.10	1.10
0.65	0.65	0.65	0.65

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.65	0.65	0.65

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SK
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	61.0	57.8
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	0.8	-0.1
Stock-flow adjustment (total)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
of which: Public pensions expenditure	9.5	9.5
Health care expenditure	6.2	6.3
Long-term care expenditure	1.0	1.0
Education & unemployment benefits expenditure	3.3	3.3
Taxes on pensions	0.0	0.0
Property income	0.8	0.8
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	4.9	1.7
Level	88.2	
<i>Potential GDP</i>		
Growth rate	1.7	1.9
Level	87.9	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.0	1.8
Inflation (SF 2023)		
GDP deflator (national currency)	2.4	7.5

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.4
Long-term nominal interest rate (T+10 target)	4.1
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.0
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	43.3

Share of outstanding debt in total debt in 2024	0.9
Share of rolled over long-term debt in 2024	0.0
Share of rolled over short-term debt in 2024	0.0
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.2
Long-term nominal interest rate in 2025	3.6
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-6.6	-9.1
Difference between debt level in 50th and 30th percentile of the distribution	-2.8	-3.8
Difference between debt level in 70th and 50th percentile of the distribution	3.2	4.4
Difference between debt level in 90th and 50th percentile of the distribution	7.4	10.1

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
58.3	58.7								
-4.8	-3.3								
0.0	0.0								
0.4	-0.1								
0.4	-0.1								
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1	22.3
9.6	9.7	9.7	9.8	9.9	10.0	10.1	10.2	10.3	10.4
6.4	6.5	6.5	6.6	6.7	6.7	6.8	6.9	6.9	7.0
1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3
3.3	3.4	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
1.7	2.1	1.9	1.6	1.6	1.4	1.5	1.5	1.6	1.6
2.5	2.1	1.6	1.3	1.4	1.4	1.5	1.5	1.6	1.6
2.0	2.2								
9.8	5.7								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-10.8	-12.7	-14.1
-4.5	-5.2	-6.0
5.2	5.9	6.6
12.5	14.3	17.2

2033	2034	2035	2036	2037	2038	2039	2040	2041

22.5	22.7	22.9	23.1	23.4	23.7	24.0	24.2	24.5
10.5	10.6	10.7	10.8	11.0	11.2	11.4	11.6	11.8
7.1	7.1	7.2	7.2	7.3	7.4	7.4	7.5	7.5
1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7
3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

1.6	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2

1.6	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	88.2	89.7
Growth rate	4.9	1.7
<i>Potential GDP (real)</i>		
Level	87.9	89.6
<i>Output gap</i>		
Output gap	0.3	0.0
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	9.3
Interest rate		
Nominal implicit interest rate on debt	2.0	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (national currency)	2.4	7.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.38	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.7

Debt projections

	2021	2022
Gross debt	61.0	57.8
<i>Change in debt (-1+2+3)</i>		-3.2
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.0
(1.1) Structural primary balance (before ageing cost)		-1.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-4.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.1
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-2.0
Structural balance	-2.0
Net expenditure growth	1.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	61.0	57.8
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.0	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	61.0	57.8
IIR	2.0	1.8
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.8	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

91.2	93.1	94.9	96.4	97.9	99.3	100.8	102.3	103.9
1.7	2.1	1.9	1.6	1.6	1.4	1.5	1.5	1.6

91.9	93.8	95.3	96.6	97.9	99.3	100.8	102.3	103.9

-0.7	-0.7	-0.5	-0.2	0.0	0.0	0.0	0.0	0.0

11.7	7.9	7.3	6.6	6.2	5.6	5.3	5.0	4.7

2.0	2.2	2.3	2.5	2.6	2.7	2.9	3.0	3.1
		3.6	3.6	3.7	3.8	3.8	3.9	4.0
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9.8	5.7	5.3	4.9	4.5	4.2	3.8	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	2.1	1.9	1.6	1.6	1.4	1.5	1.5	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.7	61.3	63.2	65.7	68.6	71.9	75.7
0.5	0.4	1.0	1.5	1.9	2.5	2.9	3.3	3.8
-5.0	-3.6	-3.7	-3.8	-4.0	-4.2	-4.4	-4.6	-4.9
-4.8	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.2	0.4	0.6	0.9	1.1	1.3	1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	-3.1	-2.7	-2.3	-2.1	-1.7	-1.5	-1.3	-1.0
1.1	1.2	1.3	1.4	1.5	1.6	1.8	2.0	2.2

-0.9	-1.1	-1.0	-0.9	-0.9	-0.9	-0.9	-1.0	-1.1
-5.2	-3.1	-3.0	-2.8	-2.7	-2.5	-2.4	-2.3	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.1	-4.8	-5.0	-5.2	-5.5	-5.9	-6.2	-6.6	-7.0
-5.8	-4.5	-4.8	-5.1	-5.5	-5.9	-6.2	-6.6	-7.0
21.0	4.5	6.9	6.3	5.9	5.6	5.2	4.9	4.6

2032	2033	2034	2035	2036	2037	2038
-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.5	22.7	22.9	23.1	23.4	23.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

105.6	107.3	109.0	110.7	112.3	113.8	115.3
1.6	1.6	1.6	1.6	1.5	1.4	1.3
105.6	107.3	109.0	110.7	112.3	113.8	115.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.3	4.2	4.2	4.1	4.0	3.9	3.8
3.2	3.3	3.4	3.5	3.6	3.6	3.7
4.1	4.0	4.0	4.0	4.0	4.0	4.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.6	1.6	1.6	1.5	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
80.1	84.7	89.5	94.7	100.2	106.2	112.6
4.3	4.6	4.9	5.2	5.6	6.0	6.4
-5.1	-5.3	-5.5	-5.7	-5.9	-6.2	-6.5
-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.9	2.1	2.3	2.6	2.8	3.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.7	-0.6	-0.5	-0.4	-0.2	-0.1
2.4	2.6	2.8	3.0	3.3	3.5	3.8

-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3
-1.9	-2.0	-2.1	-2.2	-2.3	-2.4	-2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-7.4	-7.9	-8.3	-8.7	-9.2	-9.7	-10.3
-7.4	-7.9	-8.3	-8.7	-9.2	-9.7	-10.3
4.2	4.2	4.1	4.1	4.0	3.8	3.7



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
80.1	84.7	89.5	94.7	100.2	106.2	112.6
67.0	70.8	74.9	79.3	84.0	89.0	94.4
3.2	3.4	3.6	3.8	4.0	4.2	4.5
2.5	2.6	2.7	2.9	3.1	3.2	3.4
7.2	7.6	8.0	8.4	8.9	9.4	9.9
0.2	0.3	0.3	0.3	0.3	0.3	0.3
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.2	3.3	3.4	3.5	3.6	3.6	3.7
3.3	3.4	3.5	3.5	3.6	3.7	3.7
3.2	3.3	3.4	3.5	3.6	3.6	3.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



80.1	84.7	89.5	94.7	100.2	106.2	112.6
3.2	3.3	3.4	3.5	3.6	3.6	3.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	88.2	89.7
Growth rate	4.9	1.7
<i>Potential GDP (real)</i>		
Level	87.9	89.6
<i>Output gap</i>		
Output gap	0.3	0.0
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	9.3
Interest rates		
Nominal implicit interest rate on debt	2.0	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.4	7.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.38

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.7

Debt projections

	2021	2022
Gross debt	61.0	57.8
<i>Change in debt (-1+2+3)</i>		-3.2
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.0
(1.1) Structural primary balance (before ageing cost)		-1.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-4.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.1
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-2.0
Structural balance	-2.0
Net expenditure growth	1.5
Average net primary expenditure growth	3.6
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	61.0	57.8
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.04	0.04
Share of long-term debt in total government debt	0.96	0.96
IIR	2.0	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	61.0	57.8
IIR	2.0	1.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	61.0	57.8
IIR	2.0	1.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

91.2	93.1	94.1	95.0	96.1	97.3	99.4	101.6	103.9
1.7	2.1	1.0	0.9	1.1	1.3	2.2	2.2	2.3

91.9	93.8	95.3	96.6	97.9	99.3	100.8	102.3	103.9

-0.7	-0.7	-1.3	-1.7	-1.9	-2.1	-1.4	-0.7	0.0

11.7	7.9	6.4	5.9	5.7	5.5	6.0	5.7	5.4

2.0	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
		3.6	3.6	3.7	3.8	3.8	3.9	4.0
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9.8	5.7	5.3	4.9	4.5	4.2	3.8	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-1.1	-1.3	-1.4	-0.7	0.0
1.7	2.1	1.0	0.7	0.8	0.6	1.5	1.5	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.1	52.3	50.6
0.5	0.4	0.5	-0.2	-1.0	-1.8	-2.1	-1.9	-1.7
-5.0	-3.6	-2.7	-1.8	-0.8	0.3	0.3	0.4	0.4
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.5	0.6	0.7	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	-3.1	-2.2	-1.9	-1.8	-1.6	-1.8	-1.5	-1.3
1.1	1.2	1.3	1.4	1.4	1.5	1.4	1.4	1.4

-0.9	-1.1	-0.6	-0.5	-0.6	-0.7	-1.2	-1.2	-1.1
-5.2	-3.1	-3.0	-2.8	-2.6	-2.3	-2.0	-1.8	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-6.1	-4.8	-4.0	-3.1	-2.2	-1.2	-1.1	-1.1	-1.0
-5.8	-4.5	-3.5	-2.5	-1.5	-0.4	-0.6	-0.8	-1.0
21.0	4.5	4.4	3.7	3.4	3.0	5.2	4.9	4.6

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.1	52.3	50.6
	50.5	51.5	52.1	51.9	51.1	49.1	47.4	45.8
	1.6	1.7	1.9	2.0	2.0	2.1	2.1	2.1
	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
	4.6	3.9	3.0	2.1	1.2	1.1	1.0	1.0
	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.96	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
2.0	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.8
		2.3	2.4	2.6	2.6	2.7	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.3	58.7	59.2	59.0	58.0	56.2	54.1	52.3	50.6
2.0	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

58.3	58.7	59.3	59.7	59.7	59.3	58.5	57.3	55.7
2.0	2.2	2.3	2.5	2.6	2.7	2.8	2.9	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.5	22.7	22.9	23.1	23.4	23.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

105.6	107.3	109.0	110.7	112.3	113.8	115.3
1.6	1.6	1.6	1.6	1.5	1.4	1.3
105.6	107.3	109.0	110.7	112.3	113.8	115.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.3	4.2	4.2	4.1	4.0	3.9	3.8
2.9	3.0	3.1	3.1	3.2	3.3	3.3
4.1	4.0	4.0	4.0	4.0	4.0	4.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.6	1.6	1.6	1.5	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
49.7	49.1	48.8	48.8	49.1	49.7	50.7
-0.9	-0.6	-0.3	0.0	0.3	0.7	1.0
0.2	0.0	-0.2	-0.4	-0.7	-0.9	-1.2
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.2	1.5	1.7	2.0	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.6	-0.5	-0.5	-0.4	-0.3	-0.2
1.4	1.4	1.4	1.5	1.5	1.5	1.6

-0.8	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6
-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.2	-1.4	-1.7	-1.9	-2.2	-2.5	-2.8
-1.2	-1.4	-1.7	-1.9	-2.2	-2.5	-2.8
4.2	4.2	4.1	4.1	4.0	3.8	3.7

0	0	0	0	1	1	1

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
49.7	49.1	48.8	48.8	49.1	49.7	50.7
44.7	44.0	43.5	43.2	43.2	43.6	42.7
2.1	2.1	2.1	2.1	2.1	2.1	3.6
1.7	1.6	1.6	1.6	1.6	1.6	1.6
1.2	1.4	1.6	1.8	2.1	2.4	2.7
0.0	0.0	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
2.9	3.0	3.1	3.1	3.2	3.3	3.3
2.9	3.0	3.1	3.2	3.2	3.3	3.4
2.9	3.0	3.1	3.1	3.2	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

49.7	49.1	48.8	48.8	49.1	49.7	50.7
2.9	3.0	3.1	3.1	3.2	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0

54.2	52.7	51.3	50.5	50.0	49.9	50.1
3.0	3.1	3.1	3.2	3.2	3.3	3.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	88.2	89.7
Growth rate	4.9	1.7
<i>Potential GDP (real)</i>		
Level	87.9	89.6
<i>Output gap</i>		
Output gap	0.3	0.0
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	9.3
Interest rates		
Nominal implicit interest rate on debt	2.0	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.4	7.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.38

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.7

Debt projections

	2021	2022
Gross debt	61.0	57.8
<i>Change in debt (-1+2+3)</i>		-3.2
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.0
(1.1) Structural primary balance (before ageing cost)		-1.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-4.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.1
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	61.0	57.8
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.04	0.04
Share of long-term debt in total government debt	0.96	0.96
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	61.0	57.8
IIR	2.0	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	61.0	57.8
IIR	2.0	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

91.2	93.1	94.1	95.0	96.1	97.3	99.4	101.6	103.9
1.7	2.1	1.0	0.9	1.1	1.3	2.2	2.2	2.3

91.9	93.8	95.3	96.6	97.9	99.3	100.8	102.3	103.9

-0.7	-0.7	-1.3	-1.7	-1.9	-2.1	-1.4	-0.7	0.0

11.7	7.9	6.4	5.9	5.7	5.5	6.0	5.7	5.4

2.0	2.2	2.3	2.4	2.6	2.6	2.8	2.8	2.9
		3.6	3.6	3.7	3.8	4.8	3.9	4.0
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9.8	5.7	5.3	4.9	4.5	4.2	3.8	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-1.1	-1.3	-1.4	-0.7	0.0
1.7	2.1	1.0	0.7	0.8	0.6	1.5	1.5	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.3	50.7
0.5	0.4	0.5	-0.2	-1.0	-1.8	-2.0	-1.8	-1.6
-5.0	-3.6	-2.7	-1.8	-0.8	0.3	0.3	0.4	0.4
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.5	0.6	0.7	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	-3.1	-2.2	-1.9	-1.8	-1.6	-1.7	-1.5	-1.2
1.1	1.2	1.3	1.4	1.4	1.5	1.5	1.5	1.4

-0.9	-1.1	-0.6	-0.5	-0.6	-0.7	-1.2	-1.2	-1.1
-5.2	-3.1	-3.0	-2.8	-2.6	-2.3	-2.0	-1.8	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.3	50.7
	50.5	51.5	52.1	51.9	51.1	49.1	47.4	45.9
	1.6	1.7	1.9	2.0	2.0	2.1	2.1	2.1
	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
	4.6	3.9	3.0	2.1	1.2	1.1	1.0	1.0
	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.96	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

	2.2	2.3	2.4	2.6	2.6	2.8	2.8	2.9
	2.2	2.3	2.4	2.5	2.6	2.8	2.8	2.9
		2.3	2.4	2.6	2.6	2.8	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0

58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.3	50.7
2.0	2.2	2.3	2.4	2.6	2.6	2.8	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

58.3	58.7	59.3	59.7	59.7	59.3	58.5	57.3	55.7
2.0	2.2	2.3	2.5	2.6	2.7	2.8	2.9	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.5	22.7	22.9	23.1	23.4	23.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

105.6 107.3 109.0 110.7 112.3 113.8 115.3
1.6 1.6 1.6 1.6 1.5 1.4 1.3

105.6 107.3 109.0 110.7 112.3 113.8 115.3

0.0 0.0 0.0 0.0 0.0 0.0 0.0

4.3 4.2 4.2 4.1 4.0 3.9 3.8

3.0	3.0	3.1	3.2	3.2	3.3	3.4
4.1	4.0	4.0	4.0	4.0	4.0	4.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
1.6 1.6 1.6 1.6 1.5 1.4 1.3

2032	2033	2034	2035	2036	2037	2038
49.8	49.3	49.0	49.0	49.3	49.9	51.0
-0.8	-0.6	-0.3	0.0	0.3	0.7	1.0
0.2	0.0	-0.2	-0.4	-0.7	-0.9	-1.2
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.2	1.5	1.7	2.0	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.6	-0.5	-0.5	-0.4	-0.3	-0.2
1.4	1.5	1.5	1.5	1.5	1.6	1.6

-0.8	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6
-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
49.8	49.3	49.0	49.0	49.3	49.9	51.0
44.8	44.1	43.6	43.3	43.4	43.7	44.4
2.1	2.1	2.1	2.1	2.1	2.1	2.1
1.7	1.6	1.6	1.6	1.6	1.6	1.6
1.2	1.4	1.6	1.9	2.1	2.4	2.7
0.0	0.0	0.1	0.1	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.0	3.0	3.1	3.2	3.2	3.3	3.4
3.0	3.0	3.1	3.2	3.3	3.3	3.4
3.0	3.0	3.1	3.2	3.2	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



49.8	49.3	49.0	49.0	49.3	49.9	51.0
3.0	3.0	3.1	3.2	3.2	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.2	52.8	51.4	50.6	50.2	50.0	50.3
3.1	3.1	3.2	3.2	3.3	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	88.2	89.7
Growth rate	4.9	1.7
<i>Potential GDP (real)</i>		
Level	87.9	89.6
<i>Output gap</i>		
Output gap	0.3	0.0
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	9.3
Interest rates		
Nominal implicit interest rate on debt	2.0	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.4	7.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.38	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.7

Debt projections

	2021	2022
Gross debt	61.0	57.8
<i>Change in debt (-1+2+3)</i>		-3.2
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.0
(1.1) Structural primary balance (before ageing cost)		-1.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		1.0

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-4.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.1
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	61.0	57.8
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	61.0	57.8
IIR	2.0	1.8
IRR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	61.0	57.8
IIR	2.0	1.8
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.8	-3.3	-2.2	-1.1	0.0	1.1	0.8	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

91.2	93.1	94.1	95.0	96.1	97.3	99.6	101.7	103.5
1.7	2.1	1.0	0.9	1.1	1.3	2.4	2.1	1.8

91.9	93.8	95.3	96.6	97.9	99.3	100.8	102.3	103.9

-0.7	-0.7	-1.3	-1.7	-1.9	-2.1	-1.2	-0.6	-0.4

11.7	7.9	6.4	5.9	5.7	5.5	6.2	5.6	4.9

2.0	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
		3.6	3.6	3.7	3.8	3.8	3.9	4.0
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9.8	5.7	5.3	4.9	4.5	4.2	3.8	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.8	-1.1	-1.3	-1.4	-0.8	-0.4
1.7	2.1	1.0	0.7	0.8	0.6	1.6	1.7	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.9	52.1
0.5	0.4	0.5	-0.2	-1.0	-1.8	-2.0	-1.3	-0.8
-5.0	-3.6	-2.7	-1.8	-0.8	0.3	0.1	-0.1	-0.2
-4.8	-3.3	-2.2	-1.1	0.0	1.1	0.8	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.5	0.6	0.7	0.8	0.5	0.2	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	-3.1	-2.2	-1.9	-1.8	-1.6	-1.9	-1.4	-1.0
1.1	1.2	1.3	1.4	1.4	1.5	1.4	1.4	1.4

-0.9	-1.1	-0.6	-0.5	-0.6	-0.7	-1.3	-1.1	-0.9
-5.2	-3.1	-3.0	-2.8	-2.6	-2.3	-2.0	-1.8	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.9	52.1
	50.5	51.5	52.1	51.9	51.1	49.0	47.5	46.5
	1.6	1.7	1.9	2.0	2.0	2.0	2.1	2.1
	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
	4.6	3.9	3.0	2.1	1.2	1.3	1.5	1.6
	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9
	2.3	2.4	2.6	2.6	2.7	2.8	2.9
	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0

58.3	58.7	59.2	59.0	58.0	56.2	54.2	52.9	52.1
2.0	2.2	2.3	2.4	2.6	2.6	2.7	2.8	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

58.3	58.7	59.3	59.7	59.7	59.3	58.5	57.3	55.7
2.0	2.2	2.3	2.5	2.6	2.7	2.8	2.9	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.5	22.7	22.9	23.1	23.4	23.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

105.4	107.3	109.0	110.7	112.3	113.8	115.3
1.8	1.8	1.6	1.6	1.5	1.4	1.3
105.6	107.3	109.0	110.7	112.3	113.8	115.3
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
4.5	4.4	4.2	4.1	4.0	3.9	3.8
3.0	3.0	3.1	3.2	3.3	3.3	3.4
4.1	4.0	4.0	4.0	4.0	4.0	4.0
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.6	1.6	1.6	1.5	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
51.7	51.5	51.7	52.1	52.9	54.1	55.6
-0.4	-0.2	0.2	0.5	0.8	1.2	1.5
-0.4	-0.5	-0.7	-0.9	-1.2	-1.4	-1.7
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.2	1.5	1.7	2.0	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.7	-0.5	-0.5	-0.4	-0.3	-0.2
1.5	1.5	1.5	1.6	1.6	1.7	1.8

-0.9	-0.9	-0.8	-0.8	-0.7	-0.7	-0.7
-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
51.7	51.5	51.7	52.1	52.9	54.1	55.6
45.9	45.6	45.6	45.7	46.2	47.0	48.1
2.2	2.2	2.2	2.2	2.2	2.2	2.3
1.7	1.7	1.7	1.7	1.7	1.7	1.8
1.8	1.9	2.2	2.4	2.7	3.0	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.0	3.0	3.1	3.2	3.3	3.3	3.4
3.0	3.0	3.1	3.2	3.3	3.4	3.4
3.0	3.0	3.1	3.2	3.3	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



51.7	51.5	51.7	52.1	52.9	54.1	55.6
3.0	3.0	3.1	3.2	3.3	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.2	53.2	52.6	52.3	52.2	52.6	53.3
3.0	3.1	3.1	3.2	3.3	3.3	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-1.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.8	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.0	20.2
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	88.2	89.7
Growth rate (including feedback and output-gap closure effect)	4.9	1.7
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	87.9	89.6
<i>Output gap</i>		
Output gap	0.3	0.0
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	9.3
Interest rates and inflation		
Nominal implicit interest rate on debt	2.0	1.8
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.4	7.5
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.38	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		1.7

Debt projections

	2021	2022
Gross debt	61.0	57.8
<i>Change in debt (-1+2+3)</i>		-3.2
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.0
(1.1) Structural primary balance (before ageing cost)		-1.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2

(2.1) Interest expenditure	1.0
(2.2) Growth effect	-0.9
(2.3) Inflation effect	-4.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.1
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	61.0	57.8
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR	2.0	1.8
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	61.0	57.8
IIR	2.0	1.8
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	61.0	57.8
IIR	2.0	1.8
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.9	22.1
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

91.2	93.1	94.1	95.0	96.1	97.3	98.9	100.6	102.4
1.7	2.1	1.0	0.9	1.1	1.3	1.7	1.7	1.8
						1.0	1.0	1.1

91.9	93.8	95.3	96.6	97.9	99.3	100.3	101.3	102.4

-0.7	-0.7	-1.3	-1.7	-1.9	-2.1	-1.4	-0.7	0.0

11.7	7.9	6.4	5.9	5.7	5.5	5.5	5.2	4.9

2.0	2.2	2.3	2.4	2.6	2.6	2.8	2.9	3.0
		3.6	3.6	3.7	3.8	4.3	4.4	4.5
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

9.8	5.7	5.3	4.9	4.5	4.2	3.8	3.4	3.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.8	-1.1	-1.3	-1.4	-0.7	0.0
1.7	2.1	1.0	0.7	0.8	0.6	1.0	1.0	1.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.4	52.8	51.5
0.5	0.4	0.5	-0.2	-1.0	-1.8	-1.8	-1.6	-1.4
-5.0	-3.6	-2.7	-1.8	-0.8	0.3	0.3	0.4	0.4
-4.8	-3.3	-2.2	-1.1	0.0	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.5	0.6	0.7	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-5.0	-3.1	-2.2	-1.9	-1.8	-1.6	-1.5	-1.2	-1.0

1.1	1.2	1.3	1.4	1.4	1.5	1.5	1.5	1.5
-0.9	-1.1	-0.6	-0.5	-0.6	-0.7	-0.9	-0.9	-0.9
-5.2	-3.1	-3.0	-2.8	-2.6	-2.3	-2.0	-1.8	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
58.3	58.7	59.2	59.0	58.0	56.2	54.4	52.8	51.5
	50.5	51.5	52.1	51.9	51.1	49.4	47.9	46.5
	1.6	1.7	1.9	2.0	2.0	2.1	2.1	2.1
	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7
	4.6	3.9	3.0	2.1	1.2	1.1	1.1	1.0
	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2.0	2.2	2.3	2.4	2.6	2.6	2.8	2.9	3.0
	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9
		2.3	2.4	2.6	2.6	2.8	2.9	3.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0



58.3	58.7	59.2	59.0	58.0	56.2	54.4	52.8	51.5
2.0	2.2	2.3	2.4	2.6	2.6	2.8	2.9	3.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
58.3	58.7	59.3	59.7	59.7	59.3	58.5	57.3	55.7
2.0	2.2	2.3	2.5	2.6	2.7	2.8	2.9	2.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.5	22.7	22.9	23.1	23.4	23.7
0.7	0.7	0.7	0.7	0.7	0.7	0.7

103.5	104.7	105.8	106.9	107.9	108.8	109.7
1.1	1.1	1.1	1.1	1.0	0.9	0.8
1.1	1.1	1.1	1.1	1.0	0.9	0.8

103.5	104.7	105.8	106.9	107.9	108.8	109.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8	3.7	3.7	3.6	3.5	3.4	3.3
3.1	3.2	3.3	3.4	3.4	3.5	3.6
4.6	4.5	4.5	4.5	4.5	4.5	4.5
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.1	1.1	1.1	1.0	0.9	0.8

2032	2033	2034	2035	2036	2037	2038
50.9	50.6	50.6	50.9	51.6	52.6	54.0
-0.6	-0.3	0.0	0.3	0.6	1.0	1.4
0.2	0.0	-0.2	-0.4	-0.7	-0.9	-1.2
1.1	1.1	1.1	1.1	1.1	1.1	1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.2	1.5	1.7	2.0	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.3	-0.2	-0.1	0.0	0.1	0.2

1.5	1.5	1.6	1.6	1.7	1.8	1.8
-0.5	-0.5	-0.5	-0.5	-0.5	-0.4	-0.4
-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
50.9	50.6	50.6	50.9	51.6	52.6	54.0
45.7	45.2	45.0	45.0	45.4	46.0	47.0
2.2	2.2	2.1	2.1	2.2	2.2	2.2
1.7	1.7	1.7	1.7	1.7	1.7	1.7
1.3	1.5	1.7	2.0	2.3	2.6	3.0
0.0	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.1	3.2	3.3	3.4	3.4	3.5	3.6
3.0	3.1	3.2	3.4	3.5	3.5	3.6
3.1	3.2	3.3	3.4	3.4	3.5	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.9	50.6	50.6	50.9	51.6	52.6	54.0
3.1	3.2	3.3	3.4	3.4	3.5	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
54.5	53.3	52.2	51.7	51.5	51.8	52.3
3.0	3.1	3.2	3.3	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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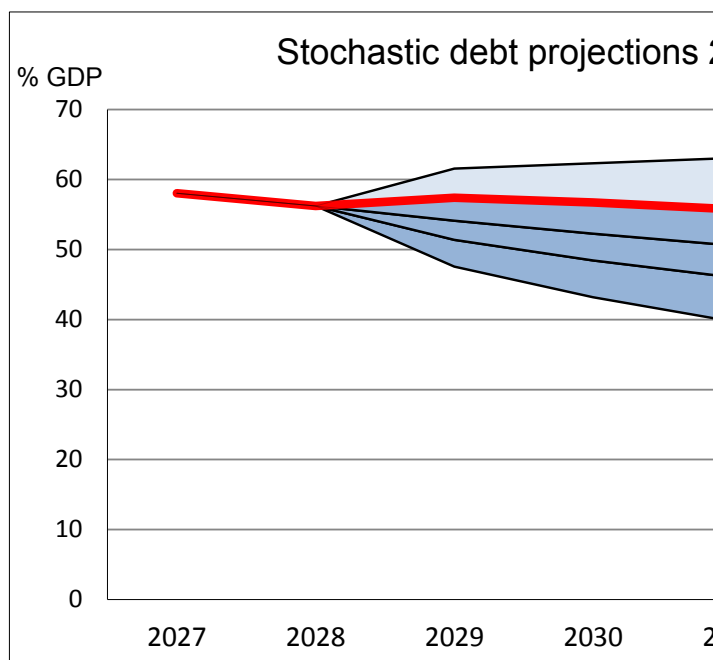
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SK
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	61.0	57.8	58.3	58.7
Distribution of debt paths				
p10	61.0	57.8	58.3	58.7
p30	61.0	57.8	58.3	58.7
p50 - Adjustment scenario	61.0	57.8	58.3	58.7
p70	61.0	57.8	58.3	58.7
p90	61.0	57.8	58.3	58.7
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	58.0	56.2	47.6	43.2
p30_p10	0.0	0.0	3.8	5.2
p50_p30	0.0	0.0	2.8	3.8
p70_p50	0.0	0.0	3.2	4.4
p90_p70	0.0	0.0	4.2	5.6
p10	58.0	56.2	47.6	43.2
p30	58.0	56.2	51.4	48.4
p50	58.0	56.2	54.1	52.3
p70	58.0	56.2	57.4	56.7
p90	58.0	56.2	61.6	62.3

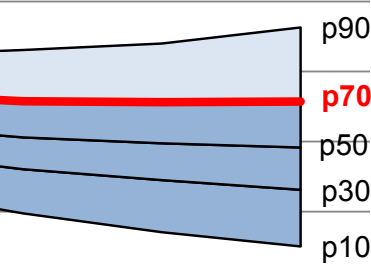
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
59.2	59.0	58.0	56.2	54.1	52.3	50.6	49.7	49.1	48.8
59.2	59.0	58.0	56.2	47.6	43.2	39.8	37.1	35.0	
59.2	59.0	58.0	56.2	51.4	48.4	46.1	44.5	43.1	
59.2	59.0	58.0	56.2	54.1	52.3	50.6	49.7	49.1	
59.2	59.0	58.0	56.2	57.4	56.7	55.8	55.6	55.7	
59.2	59.0	58.0	56.2	61.6	62.3	63.1	64.0	66.3	

2031	2032	2033
39.8	37.1	35.0
6.3	7.4	8.1
4.5	5.2	6.0
5.2	5.9	6.6
7.3	8.4	10.6
39.8	37.1	35.0
46.1	44.5	43.1
50.6	49.7	49.1
55.8	55.6	55.7
63.1	64.0	66.3



2035	2036	2037	2038	2039	2040	2041
48.8	49.1	49.7	50.7	52.1	53.8	55.8

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	SI
# years of adjustment	4
Annual adjustment (when benchmark not binding)	1.10

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

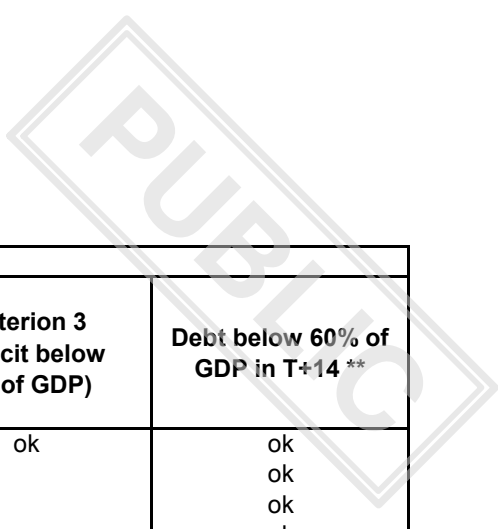
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
Not met	ok	ok	ok
Not met			ok
Not met			ok
Not met			ok

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
1.10	1.10	1.10	1.10
4.3	4.0	3.7	3.3
1.10			
1.10			
3.8			
3.8			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
1.10	0.65
83.0	76.7

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
1.10	1.10	1.10	1.10
0.65	0.65	0.65	0.65

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.65	0.65	0.65

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SI
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	74.5	69.9
Structural primary balance ('+' means 'surplus')	-4.4	-4.0
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	-1.8	1.0
Stock-flow adjustment (total)	-1.8	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.6	21.4
of which: Public pensions expenditure	10.4	10.2
Health care expenditure	6.3	6.3
Long-term care expenditure	1.1	1.1
Education & unemployment benefits expenditure	3.8	3.9
Taxes on pensions	0.1	0.1
Property income	0.6	0.6
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	8.2	5.4
Level	44.9	
<i>Potential GDP</i>		
Growth rate	2.6	3.1
Level	44.0	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.7	1.6
Inflation (SF 2023)		
GDP deflator (national currency)	2.6	7.2

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.2
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	43.4

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.0
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.0
Long-term nominal interest rate in 2025	3.6
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-6.4	-8.7
Difference between debt level in 50th and 30th percentile of the distribution	-2.5	-3.6
Difference between debt level in 70th and 50th percentile of the distribution	3.0	4.0
Difference between debt level in 90th and 50th percentile of the distribution	6.9	9.5

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
69.1	66.6								
-3.7	-2.3								
0.0	0.0								
1.1	-1.1								
1.1	-1.1								
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9	23.1
10.2	10.1	10.1	10.2	10.2	10.4	10.6	10.8	11.0	11.3
6.3	6.4	6.4	6.5	6.6	6.6	6.7	6.7	6.8	6.8
1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3
3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
1.2	2.2	2.2	2.0	2.0	2.4	2.3	2.2	2.1	2.0
3.0	3.1	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0
1.8	2.0								
7.3	4.3								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-10.2	-11.7	-13.2
-4.2	-4.9	-5.4
4.7	5.5	6.3
11.2	13.3	15.0

2033	2034	2035	2036	2037	2038	2039	2040	2041

23.5	23.7	24.1	24.4	24.7	25.1	25.5	25.8	26.1
11.5	11.8	12.1	12.4	12.6	12.9	13.3	13.6	13.8
6.9	6.9	7.0	7.0	7.0	7.1	7.1	7.1	7.2
1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6
3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	3.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

1.9	1.8	1.7	1.6	1.4	1.3	1.2	1.2	1.1

1.9	1.8	1.7	1.6	1.4	1.3	1.2	1.2	1.1

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	SI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-4.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.8	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.6	21.4
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	44.9	47.3
Growth rate	8.2	5.4
<i>Potential GDP (real)</i>		
Level	44.0	45.4
<i>Output gap</i>		
Output gap	2.1	4.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.0	13.0
Interest rate		
Nominal implicit interest rate on debt	1.7	1.6
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.6	7.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.47	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.4

Debt projections

	2021	2022
Gross debt	74.5	69.9
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-4.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.5
(2.1) Interest expenditure		1.1

(2.2) Growth effect	-3.5
(2.3) Inflation effect	-5.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.0
Structural balance	-5.0
Net expenditure growth	9.4

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	74.5	69.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.7	1.6
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	74.5	69.9
IIR	1.7	1.6
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.7	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

47.9	49.0	50.0	51.1	52.1	53.3	54.5	55.7	56.8
1.2	2.2	2.2	2.0	2.0	2.4	2.3	2.2	2.1

46.7	48.2	49.5	50.8	52.1	53.3	54.5	55.7	56.8

2.6	1.6	1.1	0.5	0.0	0.0	0.0	0.0	0.0

8.7	6.6	6.4	6.0	5.8	5.9	5.6	5.3	5.0

1.8	2.0	2.3	2.5	2.7	2.9	3.1	3.3	3.4
		3.6	3.7	3.7	3.8	3.9	4.0	4.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.3	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.2	2.2	2.2	2.0	2.0	2.4	2.3	2.2	2.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	66.0	66.0	66.8	67.8	69.4	71.6	74.3
-0.8	-2.5	-0.7	0.1	0.8	1.0	1.6	2.2	2.7
-2.5	-1.6	-1.9	-2.3	-2.7	-3.0	-3.2	-3.5	-3.8
-3.7	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.8	-0.5	-0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.3	0.6	0.9	1.1	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-3.0	-2.6	-2.2	-1.9	-1.9	-1.6	-1.3	-1.1
1.2	1.3	1.4	1.6	1.7	1.8	2.0	2.2	2.3

2032	2033	2034	2035	2036	2037	2038
-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.1	23.5	23.7	24.1	24.4	24.7	25.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6

58.0	59.1	60.2	61.2	62.2	63.0	63.9
2.0	1.9	1.8	1.7	1.6	1.4	1.3
58.0	59.1	60.2	61.2	62.2	63.0	63.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.7	4.6	4.5	4.3	4.1	3.9	3.8
3.6	3.7	3.8	3.8	3.9	3.9	4.0
4.2	4.2	4.2	4.2	4.2	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.8	1.7	1.6	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
77.5	81.2	85.3	89.9	95.0	100.7	106.8
3.2	3.7	4.1	4.6	5.1	5.6	6.2
-4.1	-4.4	-4.6	-5.0	-5.3	-5.6	-6.0
-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	2.0	2.3	2.6	3.0	3.3	3.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.7	-0.5	-0.4	-0.2	0.0	0.2
2.5	2.7	2.9	3.1	3.4	3.6	3.8

-1.4	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3
-1.9	-2.0	-2.0	-2.1	-2.2	-2.3	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.6	-7.1	-7.6	-8.1	-8.7	-9.2	-9.8
-6.6	-7.1	-7.6	-8.1	-8.7	-9.2	-9.8
4.7	4.5	4.4	4.3	4.1	3.9	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
77.5	81.2	85.3	89.9	95.0	100.7	106.8
61.4	64.2	67.3	70.8	74.8	79.2	84.0
7.7	8.1	8.5	8.9	9.4	10.0	10.6
1.8	1.9	2.0	2.1	2.2	2.3	2.4
6.4	6.9	7.4	7.9	8.4	9.0	9.6
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.6	3.7	3.8	3.8	3.9	3.9	4.0
3.6	3.7	3.8	3.9	3.9	4.0	4.0
3.6	3.7	3.8	3.8	3.9	3.9	4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



77.5	81.2	85.3	89.9	95.0	100.7	106.8
3.6	3.7	3.8	3.8	3.9	3.9	4.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-4.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.8	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.6	21.4
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	44.9	47.3
Growth rate	8.2	5.4
<i>Potential GDP (real)</i>		
Level	44.0	45.4
<i>Output gap</i>		
Output gap	2.1	4.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.0	13.0
Interest rates		
Nominal implicit interest rate on debt	1.7	1.6
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.6	7.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.47

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.4

Debt projections

	2021	2022
Gross debt	74.5	69.9
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-4.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.5
(2.1) Interest expenditure		1.1

(2.2) Growth effect	-3.5
(2.3) Inflation effect	-5.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-3.0
Structural balance	-5.0
Net expenditure growth	9.4
Average net primary expenditure growth	3.8
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	74.5	69.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.03	0.03
Share of long-term debt in total government debt	0.97	0.97
IIR	1.7	1.6
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	74.5	69.9
IIR	1.7	1.6
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	74.5	69.9
IIR	1.7	1.6
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

47.9	49.0	49.6	50.5	51.4	52.4	53.9	55.4	56.8
1.2	2.2	1.3	1.7	1.9	2.0	2.8	2.7	2.6

46.7	48.2	49.5	50.8	52.1	53.3	54.5	55.7	56.8

2.6	1.6	0.3	-0.6	-1.2	-1.6	-1.1	-0.5	0.0

8.7	6.6	5.5	5.6	5.7	5.5	6.2	5.9	5.5

1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
		3.6	3.7	3.7	3.8	3.9	4.0	4.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.3	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.2	-0.4	-0.8	-1.1	-0.5	0.0
1.2	2.2	1.3	1.2	1.2	1.5	2.3	2.2	2.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.3	50.9
-0.8	-2.5	-0.9	-1.5	-2.2	-2.9	-3.1	-2.7	-2.4
-2.5	-1.6	-1.1	-0.4	0.4	1.3	1.3	1.3	1.2
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.8	-0.1	0.3	0.6	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-3.0	-2.1	-2.0	-1.8	-1.6	-1.8	-1.5	-1.2
1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.6	1.6

-0.8	-1.4	-0.8	-1.0	-1.2	-1.2	-1.6	-1.4	-1.3
-4.8	-2.9	-2.6	-2.5	-2.3	-2.1	-1.9	-1.7	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-3.7	-2.9	-2.5	-2.0	-1.2	-0.4	-0.4	-0.4	-0.4
-4.9	-3.7	-2.7	-1.7	-0.7	0.4	0.1	-0.1	-0.4
9.8	4.3	4.3	4.0	3.7	3.3	5.5	5.2	4.9

0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.3	50.9
	54.8	53.6	52.9	51.8	50.2	47.8	45.5	43.6
	8.4	8.0	7.7	7.4	7.0	6.5	6.0	5.6
	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.3
	1.8	2.5	1.9	1.2	0.4	0.3	0.4	0.4
	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
	2.0	2.2	2.5	2.7	2.8	3.0	3.1	3.2
		2.3	2.5	2.7	2.8	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.3	50.9
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

69.1	66.6	65.8	64.8	63.5	61.9	60.1	58.0	55.4
1.8	2.0	2.3	2.5	2.7	2.9	3.0	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.1	23.5	23.7	24.1	24.4	24.7	25.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6

58.0	59.1	60.2	61.2	62.2	63.0	63.9
2.0	1.9	1.8	1.7	1.6	1.4	1.3
58.0	59.1	60.2	61.2	62.2	63.0	63.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.7	4.6	4.5	4.3	4.1	3.9	3.8
3.3	3.4	3.5	3.6	3.7	3.7	3.8
4.2	4.2	4.2	4.2	4.2	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.8	1.7	1.6	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
49.2	48.1	47.3	47.0	47.1	47.6	48.6
-1.6	-1.2	-0.8	-0.3	0.1	0.5	1.0
1.0	0.6	0.4	0.0	-0.3	-0.6	-1.0
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.4	1.7	2.0	2.4	2.7	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.5	-0.4	-0.3	-0.2	-0.1	0.0
1.6	1.6	1.6	1.6	1.7	1.7	1.7

-1.0	-0.9	-0.8	-0.8	-0.7	-0.6	-0.6
-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.7	-1.0	-1.3	-1.6	-2.0	-2.3	-2.7
-0.7	-1.0	-1.3	-1.6	-2.0	-2.3	-2.7
4.7	4.5	4.4	4.3	4.1	3.9	3.8

0	0	0	0	1	1	1

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
49.2	48.1	47.3	47.0	47.1	47.6	48.6
42.1	40.8	39.9	39.3	39.1	39.2	41.3
5.3	5.1	5.0	4.9	4.9	4.9	3.5
1.2	1.2	1.2	1.1	1.1	1.1	1.2
0.7	1.0	1.2	1.6	1.9	2.3	2.7
0.0	0.0	0.0	0.0	0.0	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.3	3.4	3.5	3.6	3.7	3.7	3.8
3.3	3.5	3.5	3.6	3.7	3.8	3.8
3.3	3.4	3.5	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

49.2	48.1	47.3	47.0	47.1	47.6	48.6
3.3	3.4	3.5	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

53.0	50.8	48.8	47.5	46.6	46.2	46.2
3.4	3.5	3.5	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Key assumptions

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<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
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<i>Output gap</i>		
Output gap	2.1	4.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.0	13.0
Interest rates		
Nominal implicit interest rate on debt	1.7	1.6
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.6	7.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

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Elasticity budget balance	0.47

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.4

Debt projections

	2021	2022
Gross debt	74.5	69.9
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-4.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.5
(2.1) Interest expenditure		1.1

(2.2) Growth effect	-3.5
(2.3) Inflation effect	-5.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	74.5	69.9
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.03	0.03
Share of long-term debt in total government debt	0.97	0.97
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	74.5	69.9
IIR	1.7	1.6
IRR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	74.5	69.9
IIR	1.7	1.6
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

47.9	49.0	49.6	50.5	51.4	52.4	53.9	55.4	56.8
1.2	2.2	1.3	1.7	1.9	2.0	2.8	2.7	2.6

46.7	48.2	49.5	50.8	52.1	53.3	54.5	55.7	56.8

2.6	1.6	0.3	-0.6	-1.2	-1.6	-1.1	-0.5	0.0

8.7	6.6	5.5	5.6	5.7	5.5	6.2	5.9	5.5

1.8	2.0	2.3	2.5	2.7	2.8	3.1	3.2	3.3
		3.6	3.7	3.7	3.8	4.9	4.0	4.1
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.3	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.2	-0.4	-0.8	-1.1	-0.5	0.0
1.2	2.2	1.3	1.2	1.2	1.5	2.3	2.2	2.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.1	53.4	51.1
-0.8	-2.5	-0.9	-1.5	-2.2	-2.9	-3.0	-2.7	-2.4
-2.5	-1.6	-1.1	-0.4	0.4	1.3	1.3	1.3	1.2
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.8	-0.1	0.3	0.6	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-3.0	-2.1	-2.0	-1.8	-1.6	-1.7	-1.4	-1.1
1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.7

-0.8	-1.4	-0.8	-1.0	-1.2	-1.2	-1.6	-1.4	-1.3
-4.8	-2.9	-2.6	-2.5	-2.3	-2.1	-1.9	-1.7	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.1	53.4	51.1
	54.8	53.6	52.9	51.8	50.2	47.8	45.6	43.7
	8.4	8.0	7.7	7.4	7.0	6.5	6.0	5.6
	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.3
	1.8	2.5	1.9	1.2	0.4	0.4	0.4	0.4
	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

	2.0	2.3	2.5	2.7	2.8	3.1	3.2	3.3
	2.0	2.2	2.5	2.7	2.8	3.1	3.2	3.3
		2.3	2.5	2.7	2.8	3.1	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

69.1	66.6	65.7	64.2	62.0	59.1	56.1	53.4	51.1
1.8	2.0	2.3	2.5	2.7	2.8	3.1	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

69.1	66.6	65.8	64.8	63.5	61.9	60.1	58.0	55.4
1.8	2.0	2.3	2.5	2.7	2.9	3.0	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.1	23.5	23.7	24.1	24.4	24.7	25.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6

58.0	59.1	60.2	61.2	62.2	63.0	63.9
2.0	1.9	1.8	1.7	1.6	1.4	1.3
58.0	59.1	60.2	61.2	62.2	63.0	63.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.7	4.6	4.5	4.3	4.1	3.9	3.8
3.4	3.5	3.6	3.7	3.7	3.8	3.8
4.2	4.2	4.2	4.2	4.2	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.8	1.7	1.6	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
49.5	48.3	47.6	47.3	47.4	48.0	49.0
-1.6	-1.1	-0.8	-0.3	0.1	0.6	1.0
1.0	0.6	0.4	0.0	-0.3	-0.6	-1.0
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.4	1.7	2.0	2.4	2.7	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	0.0
1.7	1.7	1.7	1.7	1.7	1.7	1.8

-1.0	-0.9	-0.8	-0.8	-0.7	-0.6	-0.6
-1.3	-1.3	-1.2	-1.2	-1.2	-1.1	-1.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
49.5	48.3	47.6	47.3	47.4	48.0	49.0
42.2	41.0	40.1	39.5	39.3	39.5	40.0
5.3	5.1	5.0	5.0	4.9	5.0	5.0
1.2	1.2	1.2	1.1	1.1	1.1	1.2
0.7	1.0	1.3	1.6	2.0	2.3	2.7
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.97	0.97	0.97	0.97	0.97	0.97	0.97
3.4	3.5	3.6	3.7	3.7	3.8	3.8
3.4	3.5	3.6	3.7	3.8	3.8	3.9
3.4	3.5	3.6	3.7	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



49.5	48.3	47.6	47.3	47.4	48.0	49.0
3.4	3.5	3.6	3.7	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
53.0	50.9	49.0	47.7	46.8	46.4	46.5
3.5	3.6	3.6	3.7	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-4.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.8	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.6	21.4
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	44.9	47.3
Growth rate	8.2	5.4
<i>Potential GDP (real)</i>		
Level	44.0	45.4
<i>Output gap</i>		
Output gap	2.1	4.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.0	13.0
Interest rates		
Nominal implicit interest rate on debt	1.7	1.6
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.6	7.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.47	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.4

Debt projections

	2021	2022
Gross debt	74.5	69.9
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-4.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.5
(2.1) Interest expenditure		1.1

(2.2) Growth effect	-3.5
(2.3) Inflation effect	-5.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	74.5	69.9
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)		
Debt	74.5	69.9
IIR	1.7	1.6
IRR difference STATA - Excel		
Extension (annual adjustment of 0.65)		
Debt	74.5	69.9
IIR	1.7	1.6
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.7	-2.3	-1.2	-0.1	1.0	2.1	1.8	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

47.9	49.0	49.6	50.5	51.4	52.4	54.0	55.4	56.7
1.2	2.2	1.3	1.7	1.9	2.0	3.0	2.7	2.2
46.7	48.2	49.5	50.8	52.1	53.3	54.5	55.7	56.8
2.6	1.6	0.3	-0.6	-1.2	-1.6	-0.9	-0.4	-0.3
8.7	6.6	5.5	5.6	5.7	5.5	6.4	5.8	5.1
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
		3.6	3.7	3.7	3.8	3.9	4.0	4.1
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
7.3	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	0.2	-0.4	-0.8	-1.1	-0.6	-0.3
1.2	2.2	1.3	1.2	1.2	1.5	2.4	2.3	2.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.8	52.2
-0.8	-2.5	-0.9	-1.5	-2.2	-2.9	-3.0	-2.2	-1.6
-2.5	-1.6	-1.1	-0.4	0.4	1.3	1.1	0.8	0.6
-3.7	-2.3	-1.2	-0.1	1.0	2.1	1.8	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.8	-0.1	0.3	0.6	0.8	0.4	0.2	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-3.0	-2.1	-2.0	-1.8	-1.6	-1.9	-1.4	-1.0
1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.6	1.7

-0.8	-1.4	-0.8	-1.0	-1.2	-1.2	-1.7	-1.4	-1.1
-4.8	-2.9	-2.6	-2.5	-2.3	-2.1	-1.9	-1.7	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.8	52.2
	54.8	53.6	52.9	51.8	50.2	47.7	45.6	44.2
	8.4	8.0	7.7	7.4	7.0	6.5	6.0	5.7
	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.3
	1.8	2.5	1.9	1.2	0.4	0.5	0.8	1.0
	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
2.0	2.2	2.5	2.7	2.8	3.0	3.1	3.2
	2.3	2.5	2.7	2.8	3.0	3.1	3.2
	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

69.1	66.6	65.7	64.2	62.0	59.1	56.0	53.8	52.2
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

69.1	66.6	65.8	64.8	63.5	61.9	60.1	58.0	55.4
1.8	2.0	2.3	2.5	2.7	2.9	3.0	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.1	23.5	23.7	24.1	24.4	24.7	25.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6

57.9	59.1	60.2	61.2	62.2	63.0	63.9
2.2	2.1	1.8	1.7	1.6	1.4	1.3
58.0	59.1	60.2	61.2	62.2	63.0	63.9
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
4.9	4.7	4.5	4.3	4.1	3.9	3.8
3.4	3.5	3.6	3.6	3.7	3.8	3.8
4.2	4.2	4.2	4.2	4.2	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0
2.0	1.9	1.8	1.7	1.6	1.4	1.3

2032	2033	2034	2035	2036	2037	2038
51.1	50.4	50.1	50.2	50.8	51.9	53.4
-1.1	-0.7	-0.3	0.2	0.6	1.1	1.5
0.4	0.1	-0.1	-0.5	-0.8	-1.1	-1.5
1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.4	1.7	2.0	2.4	2.7	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.6	-0.4	-0.3	-0.2	-0.1	0.0
1.7	1.7	1.7	1.7	1.8	1.8	1.9

-1.1	-1.0	-0.9	-0.8	-0.8	-0.7	-0.7
-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
51.1	50.4	50.1	50.2	50.8	51.9	53.4
43.1	42.3	41.7	41.6	41.8	42.4	43.3
5.4	5.3	5.2	5.2	5.2	5.3	5.4
1.3	1.2	1.2	1.2	1.2	1.2	1.3
1.3	1.5	1.8	2.2	2.5	2.9	3.3
0.0	0.0	0.0	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.4	3.5	3.6	3.6	3.7	3.8	3.8
3.4	3.5	3.6	3.7	3.7	3.8	3.9
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



51.1	50.4	50.1	50.2	50.8	51.9	53.4
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
53.0	51.3	50.0	49.2	48.8	48.9	49.4
3.4	3.5	3.6	3.6	3.7	3.8	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-4.4	-4.0
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-1.8	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	21.6	21.4
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	44.9	47.3
Growth rate (including feedback and output-gap closure effect)	8.2	5.4
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	44.0	45.4
<i>Output gap</i>		
Output gap	2.1	4.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.0	13.0
Interest rates and inflation		
Nominal implicit interest rate on debt	1.7	1.6
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.6	7.2
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.47	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.4

Debt projections

	2021	2022
Gross debt	74.5	69.9
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-1.9
(1.1) Structural primary balance (before ageing cost)		-4.0
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-2.0
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-7.5

(2.1) Interest expenditure	1.1
(2.2) Growth effect	-3.5
(2.3) Inflation effect	-5.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	74.5	69.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR	1.7	1.6
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 1.1)

Debt	74.5	69.9
IIR	1.7	1.6
IIR difference STATA - Excel		

Extension (annual adjustment of 0.65)

Debt	74.5	69.9
IIR	1.7	1.6
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.4	21.4	21.5	21.6	21.7	22.0	22.3	22.6	22.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

47.9	49.0	49.6	50.5	51.4	52.4	53.6	54.8	56.0
1.2	2.2	1.3	1.7	1.9	2.0	2.3	2.2	2.1
						1.8	1.7	1.6

46.7	48.2	49.5	50.8	52.1	53.3	54.2	55.1	56.0

2.6	1.6	0.3	-0.6	-1.2	-1.6	-1.1	-0.5	0.0

8.7	6.6	5.5	5.6	5.7	5.5	5.7	5.3	5.0

1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.2	3.4
		3.6	3.7	3.7	3.8	4.4	4.5	4.6
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

7.3	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.2	-0.4	-0.8	-1.1	-0.5	0.0
1.2	2.2	1.3	1.2	1.2	1.5	1.8	1.7	1.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.3	53.9	51.9
-0.8	-2.5	-0.9	-1.5	-2.2	-2.9	-2.8	-2.4	-2.1
-2.5	-1.6	-1.1	-0.4	0.4	1.3	1.3	1.3	1.2
-3.7	-2.3	-1.2	-0.1	1.0	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.2	-0.8	-0.1	0.3	0.6	0.8	0.5	0.3	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.4	-3.0	-2.1	-2.0	-1.8	-1.6	-1.5	-1.1	-0.8

1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.7
-0.8	-1.4	-0.8	-1.0	-1.2	-1.2	-1.3	-1.2	-1.1
-4.8	-2.9	-2.6	-2.5	-2.3	-2.1	-1.9	-1.7	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
69.1	66.6	65.7	64.2	62.0	59.1	56.3	53.9	51.9
	54.8	53.6	52.9	51.8	50.2	48.0	46.0	44.3
	8.4	8.0	7.7	7.4	7.0	6.5	6.1	5.7
	1.6	1.6	1.6	1.5	1.5	1.4	1.3	1.3
	1.8	2.5	1.9	1.2	0.4	0.4	0.5	0.5
	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.2	3.4
	2.0	2.2	2.5	2.7	2.8	3.0	3.2	3.4
		2.3	2.5	2.7	2.8	3.0	3.2	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

69.1	66.6	65.7	64.2	62.0	59.1	56.3	53.9	51.9
1.8	2.0	2.3	2.5	2.7	2.8	3.0	3.2	3.4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
69.1	66.6	65.8	64.8	63.5	61.9	60.1	58.0	55.4
1.8	2.0	2.3	2.5	2.7	2.9	3.0	3.2	3.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
23.1	23.5	23.7	24.1	24.4	24.7	25.1
0.6	0.6	0.6	0.6	0.6	0.6	0.6

56.8	57.7	58.4	59.1	59.8	60.3	60.8
1.5	1.4	1.3	1.2	1.1	0.9	0.8
1.5	1.4	1.3	1.2	1.1	0.9	0.8

56.8	57.7	58.4	59.1	59.8	60.3	60.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.1	3.9	3.8	3.6	3.4	3.3
3.6	3.7	3.8	3.9	4.0	4.1	4.2
4.7	4.7	4.7	4.7	4.7	4.6	4.6
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.4	1.3	1.2	1.1	0.9	0.8

2032	2033	2034	2035	2036	2037	2038
50.6	49.8	49.4	49.4	49.9	50.9	52.3
-1.3	-0.8	-0.4	0.0	0.5	1.0	1.4
1.0	0.6	0.4	0.0	-0.3	-0.6	-1.0
2.1	2.1	2.1	2.1	2.1	2.1	2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.1	1.4	1.7	2.0	2.4	2.7	3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.2	-0.1	0.1	0.2	0.3	0.5

1.8	1.8	1.8	1.9	1.9	2.0	2.1
-0.8	-0.7	-0.6	-0.6	-0.5	-0.4	-0.4
-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
50.6	49.8	49.4	49.4	49.9	50.9	52.3
43.1	42.1	41.5	41.2	41.3	41.8	42.7
5.4	5.3	5.2	5.2	5.2	5.3	5.4
1.3	1.2	1.2	1.2	1.2	1.2	1.2
0.8	1.1	1.4	1.8	2.2	2.5	3.0
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.6	3.7	3.8	3.9	4.0	4.1	4.2
3.6	3.7	3.8	3.9	4.0	4.1	4.2
3.6	3.7	3.8	3.9	4.0	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.6	49.8	49.4	49.4	49.9	50.9	52.3
3.6	3.7	3.8	3.9	4.0	4.1	4.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
53.3	51.4	49.7	48.8	48.2	48.2	48.6
3.5	3.6	3.7	3.8	3.9	4.0	4.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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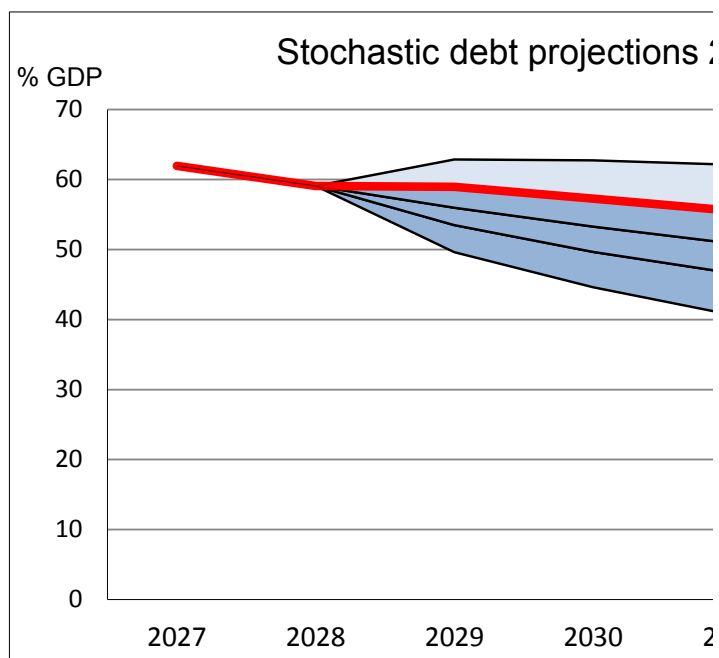
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SI
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	74.5	69.9	69.1	66.6
Distribution of debt paths				
p10	74.5	69.9	69.1	66.6
p30	74.5	69.9	69.1	66.6
p50 - Adjustment scenario	74.5	69.9	69.1	66.6
p70	74.5	69.9	69.1	66.6
p90	74.5	69.9	69.1	66.6
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	62.0	59.1	49.6	44.6
p30_p10	0.0	0.0	3.9	5.0
p50_p30	0.0	0.0	2.5	3.6
p70_p50	0.0	0.0	3.0	4.0
p90_p70	0.0	0.0	3.9	5.5
p10	62.0	59.1	49.6	44.6
p30	62.0	59.1	53.5	49.6
p50	62.0	59.1	56.0	53.3
p70	62.0	59.1	58.9	57.3
p90	62.0	59.1	62.9	62.7

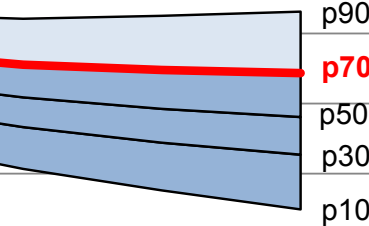
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
65.7	64.2	62.0	59.1	56.0	53.3	50.9	49.2	48.1	47.3
65.7	64.2	62.0	59.1	49.6	44.6	40.6	37.6	34.9	
65.7	64.2	62.0	59.1	53.5	49.6	46.6	44.4	42.7	
65.7	64.2	62.0	59.1	56.0	53.3	50.9	49.2	48.1	
65.7	64.2	62.0	59.1	58.9	57.3	55.5	54.8	54.3	
65.7	64.2	62.0	59.1	62.9	62.7	62.1	62.5	63.1	

2031	2032	2033
40.6	37.6	34.9
6.0	6.8	7.8
4.2	4.9	5.4
4.7	5.5	6.3
6.6	7.8	8.8
40.6	37.6	34.9
46.6	44.4	42.7
50.9	49.2	48.1
55.5	54.8	54.3
62.1	62.5	63.1



2035	2036	2037	2038	2039	2040	2041
47.0	47.1	47.6	48.6	50.1	52.0	54.2

2029-2033



2031 2032 2033



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(July 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

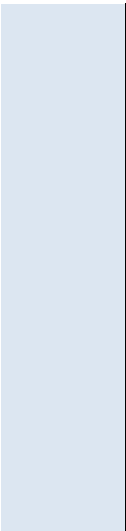
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock is applied linearly according to the path set in sheet "**Criteria results**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	SE
# years of adjustment	4
Annual adjustment (change in SPB)	0.00
SPB at the end of the adjustment	1.3

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without a change after the end of the adjustment period. Note that the SPB at the end of the adjustment period is 1.3, indicating that the Member State is not in compliance with the 3% of GDP reference value.



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EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4 -1.7	7 -1.5

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SE
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	36.5	33.0
Structural primary balance ('+' means 'surplus')	0.5	1.1
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	0.0	-0.1
Stock-flow adjustment (total)	-0.2	0.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.3	22.0
of which: Public pensions expenditure	8.3	8.1
Health care expenditure	7.4	7.2
Long-term care expenditure	3.6	3.5
Education & unemployment benefits expenditure	5.8	5.8
Taxes on pensions	2.7	2.7
Property income	1.3	1.3
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	5.4	2.6
Level	468.2	
<i>Potential GDP</i>		
Growth rate	2.0	1.8
Level	470.6	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	0.6	1.5
Inflation (SF 2023)		
GDP deflator (national currency)	2.9	5.7

Additional parameters

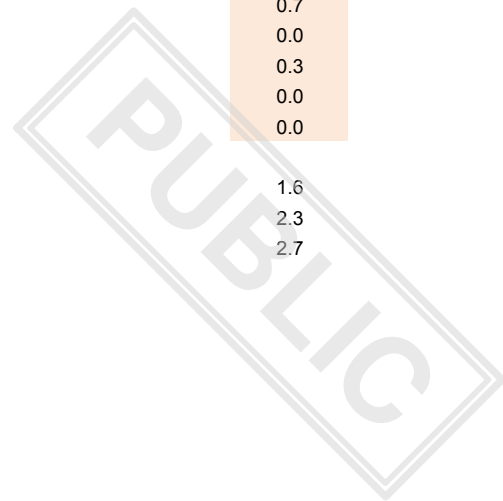
Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	2.4
Short-term nominal interest rate (T+10 target)	2.8
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.3
Share of long-term debt in total government debt	0.7
Share of long-term debt that matures every year (T+10 target)	0.0
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	47.0

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.7
0.0
0.3
0.0
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.6
2.3
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
31.4	30.7								
0.8	1.3								
0.0	0.0								
-1.0	-0.4								
-0.8	-0.4								
21.8	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.7	21.7
8.0	7.8	7.7	7.6	7.5	7.5	7.4	7.4	7.3	7.3
7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.5	7.5
3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	3.9
5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.5	5.5	5.5
2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.4
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
-0.5	1.1	2.4	2.3	2.2	1.4	1.5	1.5	1.5	1.5
1.6	1.5	1.7	1.5	1.5	1.4	1.5	1.5	1.5	1.5
2.2	1.9								
5.7	1.6								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-20.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-20.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041

21.8	21.8	21.8	21.9	21.9	21.9	21.9	21.9	22.0
7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.0	7.0
7.5	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6
4.0	4.1	4.1	4.1	4.2	4.2	4.2	4.3	4.3
5.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

1.6	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.9

1.6	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.9

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	SE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	0.5	1.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.0	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.3	22.0
Property income	1.3	1.3
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	468.2	480.6
Growth rate	5.4	2.6
<i>Potential GDP (real)</i>		
Level	470.6	479.2
<i>Output gap</i>		
Output gap	-0.5	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.4	8.5
Interest rate		
Nominal implicit interest rate on debt	0.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (national currency)	2.9	5.7
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.55	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	36.5	33.0
<i>Change in debt (-1+2+3)</i>		-3.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.2
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-2.4
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-2.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.0
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Other budgetary variables	
Headline balance	0.7
Structural balance	0.6
Net expenditure growth	6.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	36.5	33.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	0.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	36.5	33.0
IIR	0.6	1.5
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.7
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2

478.2	483.6	495.2	506.4	517.5	525.0	532.6	540.4	548.4
-0.5	1.1	2.4	2.3	2.2	1.4	1.5	1.5	1.5

486.8	494.1	502.4	510.1	517.5	525.0	532.6	540.4	548.4

-1.8	-2.1	-1.4	-0.7	0.0	0.0	0.0	0.0	0.0

5.2	2.7	4.1	4.1	4.2	3.6	3.7	3.9	4.0

2.2	1.9	1.9	1.9	2.0	2.0	2.0	1.9	1.9
		2.3	2.3	2.3	2.3	2.4	2.4	2.4
		2.7	2.7	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5.7	1.6	1.7	1.8	2.0	2.1	2.2	2.4	2.5
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	1.1	2.4	2.3	2.2	1.4	1.5	1.5	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
31.4	30.7	29.6	28.1	26.2	24.4	22.7	20.9	19.2
-1.5	-0.7	-1.1	-1.5	-1.9	-1.7	-1.7	-1.8	-1.8
-0.2	0.1	0.5	0.9	1.3	1.3	1.3	1.3	1.3
0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.3	-0.7	-0.6	-0.6	-0.4	-0.4	-0.4	-0.4
0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4

2032	2033	2034	2035	2036	2037	2038
1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.8	21.8	21.8	21.9	21.9	21.9
1.2	1.2	1.2	1.2	1.2	1.2	1.2

556.7	565.8	575.9	587.0	598.3	610.0	621.7
1.5	1.6	1.8	1.9	1.9	2.0	1.9
556.7	565.8	575.9	587.0	598.3	610.0	621.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.3	4.4	4.5	4.5	4.5	4.4
1.9	1.9	1.9	1.8	1.8	1.8	1.8
2.4	2.5	2.6	2.6	2.7	2.8	2.9
2.8	2.8	2.8	2.7	2.7	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.6	1.8	1.9	1.9	2.0	1.9

2032	2033	2034	2035	2036	2037	2038
17.4	15.7	14.1	12.5	11.0	9.6	8.2
-1.7	-1.7	-1.6	-1.6	-1.5	-1.5	-1.4
1.3	1.3	1.2	1.2	1.2	1.2	1.1
1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2
0.4	0.3	0.3	0.2	0.2	0.2	0.2

-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
-0.5	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
4.1	4.3	4.4	4.5	4.4	4.4	4.4



0	0	0	0	0	0	0
1	1	1	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
17.4	15.7	14.1	12.5	11.0	9.6	8.2
15.1	14.4	13.6	12.5	11.0	9.6	8.2
0.4	0.3	0.2	0.0	0.0	0.0	0.0
1.9	1.1	0.4	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.11	0.07	0.03	0.00	0.00	0.00	0.00
0.89	0.93	0.97	1.00	1.00	1.00	1.00

1.9	1.9	1.9	1.8	1.8	1.8	1.8
1.8	1.8	1.8	1.8	1.8	1.8	1.8
1.9	1.9	1.9	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



17.4	15.7	14.1	12.5	11.0	9.6	8.2
1.9	1.9	1.9	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	SE
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	0.5	1.1
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	0.0	-0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.3	22.0
Property income	1.3	1.3
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	468.2	480.6
Growth rate	5.4	2.6
<i>Potential GDP (real)</i>		
Level	470.6	479.2
<i>Output gap</i>		
Output gap	-0.5	0.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	8.4	8.5
Interest rates		
Nominal implicit interest rate on debt	0.6	1.5
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.0	0.0
Inflation and exchange rate		
GDP deflator (National currency)	2.9	5.7
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.55

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		2.6

Debt projections

	2021	2022
Gross debt	36.5	33.0
<i>Change in debt (-1+2+3)</i>		-3.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.2
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.2
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-2.4
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-0.9
(2.3) Inflation effect	-2.0
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.0
(3.1) Base	-0.1
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.2
Other budgetary variables	
Headline balance	0.7
Structural balance	0.6
Net expenditure growth	6.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	36.5	33.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.30	0.29
Share of long-term debt in total government debt	0.70	0.71
IIR	0.6	1.5
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0)

Debt	36.5	33.0
IIR	0.6	1.5
IIR difference STATA - Excel		

Extension (annual adjustment of 0)

Debt	36.5	33.0
IIR	0.6	1.5
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.8	21.8	21.8	21.8	21.8	21.7	21.7	21.7	21.7
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2

478.2	483.6	495.2	506.4	517.5	525.0	532.6	540.4	548.4
-0.5	1.1	2.4	2.3	2.2	1.4	1.5	1.5	1.5

486.8	494.1	502.4	510.1	517.5	525.0	532.6	540.4	548.4

-1.8	-2.1	-1.4	-0.7	0.0	0.0	0.0	0.0	0.0

5.2	2.7	4.1	4.1	4.2	3.6	3.7	3.9	4.0

2.2	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9
		2.3	2.3	2.3	2.3	2.4	2.4	2.4
		2.7	2.7	2.8	2.8	2.8	2.8	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5.7	1.6	1.7	1.8	2.0	2.1	2.2	2.4	2.5
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	1.1	2.4	2.3	2.2	1.4	1.5	1.5	1.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
31.4	30.7	29.6	28.1	26.3	24.6	22.9	21.2	19.5
-1.5	-0.7	-1.1	-1.5	-1.9	-1.7	-1.7	-1.7	-1.7
-0.2	0.1	0.5	0.9	1.3	1.3	1.3	1.3	1.3
0.8	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.3	-0.7	-0.6	-0.6	-0.4	-0.4	-0.4	-0.4
0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4

0.2	-0.3	-0.7	-0.6	-0.6	-0.4	-0.3	-0.3	-0.3
-1.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-1.0	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.9	-0.5	-0.1	0.3	0.7	0.8	0.8	0.8	0.9
0.1	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9
7.9	2.1	3.4	3.4	3.4	3.6	3.7	3.8	4.0

		1	0	0	0	0	0	0
		0	1	1	1	1	1	1

2023	2024	2025	2026	2027	2028	2029	2030	2031
31.4	30.7	29.6	28.1	26.3	24.6	22.9	21.2	19.5
	21.1	20.4	19.6	18.8	18.1	17.4	16.7	15.9
	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5
	8.7	8.4	7.8	6.8	5.9	5.0	4.1	3.1
	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.28	0.28	0.28	0.28	0.26	0.24	0.22	0.19	0.16
0.72	0.72	0.72	0.72	0.74	0.76	0.78	0.81	0.84

2.2	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9
	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
		1.9	1.9	2.0	2.0	2.0	2.0	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

31.4	30.7	29.6	28.1	26.3	24.6	22.9	21.2	19.5
2.2	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

31.4	30.7	29.6	28.1	26.3	24.6	22.9	21.2	19.6
2.2	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
21.7	21.8	21.8	21.8	21.9	21.9	21.9
1.2	1.2	1.2	1.2	1.2	1.2	1.2

556.7	565.8	575.9	587.0	598.3	610.0	621.7
1.5	1.6	1.8	1.9	1.9	2.0	1.9
556.7	565.8	575.9	587.0	598.3	610.0	621.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.3	4.4	4.5	4.5	4.5	4.4
1.9	1.9	1.9	1.9	1.8	1.8	1.8
2.4	2.5	2.6	2.6	2.7	2.8	2.9
2.8	2.8	2.8	2.7	2.7	2.6	2.6
0.0	0.0	0.0	0.0	0.0	0.0	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.6	1.8	1.9	1.9	2.0	1.9

2032	2033	2034	2035	2036	2037	2038
17.9	16.2	14.7	13.1	11.7	10.3	9.0
-1.7	-1.6	-1.6	-1.5	-1.5	-1.4	-1.3
1.3	1.2	1.2	1.1	1.1	1.1	1.1
1.3	1.3	1.3	1.3	1.3	1.3	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.1	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3
0.4	0.3	0.3	0.3	0.2	0.2	0.2

-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.2
-0.5	-0.5	-0.4	-0.4	-0.3	-0.3	-0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	0.9	0.9	0.9	0.9	0.9	0.9
0.9	0.9	0.9	0.9	0.9	0.9	0.9
4.1	4.3	4.4	4.5	4.4	4.4	4.4



0	0	0	0	0	0	0
1	1	1	1	0	0	0

2032	2033	2034	2035	2036	2037	2038
17.9	16.2	14.7	13.1	11.7	10.3	9.0
15.2	14.4	13.7	12.9	11.7	10.3	9.0
0.4	0.4	0.3	0.1	0.0	0.0	0.0
2.3	1.4	0.7	0.2	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.13	0.09	0.05	0.01	0.00	0.00	0.00
0.87	0.91	0.95	0.99	1.00	1.00	1.00
1.9	1.9	1.9	1.9	1.8	1.8	1.8
1.8	1.8	1.8	1.8	1.8	1.8	1.8
1.9	1.9	1.9	1.9	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



17.9	16.2	14.7	13.1	11.7	10.3	9.0
1.9	1.9	1.9	1.9	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0

17.9	16.3	14.7	13.2	11.8	10.4	9.1
1.9	1.9	1.9	1.9	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	RO
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.95

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

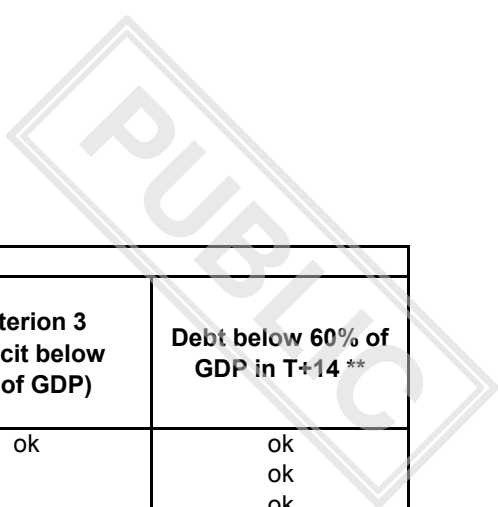
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
Not met	Not met	ok	ok
Not met			ok
Not met			ok
Not met			ok

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model.
 assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function
 erent impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the
 at smaller adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.95	0.95	0.95	0.95
5.7	5.3	5.0	4.7
0.95			
0.95			
5.2			
5.2			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the
 , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.95	0.60
64.4	58.2

iment of 0.5 pp. of GDP as a benchmark nor for the
 below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
0.95	0.95	0.95	0.95
0.60	0.60	0.60	0.60

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	0

|

chmark)		
2029	2030	2031
0.60	0.60	0.60

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	48.6	47.3
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock-flow adjustments (without exchange rate effect)	-0.9	-0.3
Stock-flow adjustment (total)	-0.6	0.1
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
of which: Public pensions expenditure	11.1	13.7
Health care expenditure	4.1	4.0
Long-term care expenditure	0.4	0.4
Education & unemployment benefits expenditure	2.4	2.4
Taxes on pensions	0.1	0.2
Property income	1.0	1.0
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	5.8	4.7
Level	183.8	
<i>Potential GDP</i>		
Growth rate	2.8	2.9
Level	189.2	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.7	2.9
Inflation (SF 2023)		
GDP deflator (national currency)	5.2	13.4

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.3
Long-term nominal interest rate (T+10 target)	9.1
Short-term nominal interest rate (T+10 target)	3.9
Long-term nominal interest rate (T+30 target)	4.5
Short-term nominal interest rate (T+30 target)	2.3
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	4.2
GDP deflator (national currency) (T+30 target)	2.5
Share of primary expenditure in GDP in 2024	36.5

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.0
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	4.0
Long-term nominal interest rate in 2025	7.6
Short-term nominal interest rate in 2025	5.5

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-7.9	-11.2
Difference between debt level in 50th and 30th percentile of the distribution	-3.1	-4.1
Difference between debt level in 70th and 50th percentile of the distribution	3.7	5.0
Difference between debt level in 90th and 50th percentile of the distribution	9.0	12.2

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
45.6	46.1								
-2.5	-2.4								
0.0	0.0								
-0.4	0.0								
-0.5	0.0								
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0	20.1
13.5	13.1	13.1	12.9	12.9	12.9	12.8	12.9	13.0	13.1
4.0	4.1	4.1	4.2	4.2	4.2	4.3	4.3	4.3	4.4
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3.2	3.5	3.0	2.8	2.7	2.3	2.3	2.2	2.2	2.2
3.3	3.2	2.7	2.5	2.4	2.3	2.3	2.2	2.2	2.2
4.3	4.1								
10.7	5.8								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-13.2	-15.1	-16.4
-5.2	-6.2	-6.9
6.4	7.5	8.5
15.6	17.4	20.5

2033	2034	2035	2036	2037	2038	2039	2040	2041
20.3	20.5	20.7	20.9	21.0	21.2	21.3	21.5	21.6
13.2	13.4	13.6	13.7	13.8	13.9	14.1	14.2	14.3
4.4	4.4	4.5	4.5	4.5	4.6	4.6	4.6	4.6
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
2.0	1.9	1.7	1.5	1.3	1.2	1.2	1.2	1.1
2.0	1.9	1.7	1.5	1.3	1.2	1.2	1.2	1.1

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	RO
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-0.9	-0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	183.8	192.5
Growth rate	5.8	4.7
<i>Potential GDP (real)</i>		
Level	189.2	194.6
<i>Output gap</i>		
Output gap	-2.9	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.3	18.7
Interest rate		
Nominal implicit interest rate on debt	2.7	2.9
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	5.2	13.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.32	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.7

Debt projections

	2021	2022
Gross debt	48.6	47.3
<i>Change in debt (-1+2+3)</i>		-1.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-5.0
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.5
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-1.9
(2.3) Inflation effect	-5.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Other budgetary variables	
Headline balance	-6.2
Structural balance	-5.8
Net expenditure growth	15.0

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	48.6	47.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.7	2.9
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

198.6	205.5	211.7	217.6	223.4	228.6	233.8	239.0	244.2
3.2	3.5	3.0	2.8	2.7	2.3	2.3	2.2	2.2

201.0	207.4	213.0	218.3	223.4	228.6	233.8	239.0	244.2

-1.2	-0.9	-0.6	-0.3	0.0	0.0	0.0	0.0	0.0

14.2	9.5	8.8	8.4	8.0	7.5	7.2	6.9	6.7

4.3	4.1	4.7	5.3	5.8	6.2	6.6	7.0	7.3
		7.6	7.8	8.0	8.2	8.4	8.7	8.9
		5.5	5.2	5.0	4.8	4.5	4.3	4.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.7	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.5	3.0	2.8	2.7	2.3	2.3	2.2	2.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.9	47.9	49.2	50.9	52.9	55.3	58.2
-1.6	0.4	0.8	1.0	1.3	1.7	2.0	2.4	2.8
-2.9	-2.7	-2.6	-2.4	-2.3	-2.3	-2.3	-2.4	-2.5
-2.5	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.1	-2.3	-1.7	-1.3	-1.0	-0.6	-0.3	0.0	0.3
1.8	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.8

2032	2033	2034	2035	2036	2037	2038
-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.5	20.7	20.9	21.0	21.2
1.0	1.0	0.9	0.9	0.9	0.9	0.9

249.5	254.6	259.4	263.8	267.8	271.2	274.5
2.2	2.0	1.9	1.7	1.5	1.3	1.2
249.5	254.6	259.4	263.8	267.8	271.2	274.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.5	6.3	6.0	5.7	5.4	5.1	5.0
7.6	7.8	8.0	8.0	8.0	8.0	7.9
9.1	8.9	8.6	8.4	8.2	7.9	7.7
3.9	3.8	3.7	3.6	3.5	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	4.0	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.0	1.9	1.7	1.5	1.3	1.2

2032	2033	2034	2035	2036	2037	2038
61.4	65.2	69.5	74.3	79.5	85.2	91.3
3.3	3.8	4.3	4.8	5.2	5.7	6.1
-2.7	-2.9	-3.1	-3.3	-3.4	-3.5	-3.7
-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.4	0.6	0.8	1.0	1.1	1.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.9	1.2	1.5	1.8	2.2	2.4
4.2	4.5	4.9	5.3	5.6	6.0	6.4

-1.2	-1.2	-1.2	-1.1	-1.1	-1.0	-1.0
-2.4	-2.4	-2.5	-2.6	-2.8	-2.9	-3.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-6.8	-7.4	-8.0	-8.5	-9.1	-9.6	-10.1
-6.8	-7.4	-8.0	-8.5	-9.1	-9.6	-10.1
6.4	6.2	5.9	5.7	5.4	5.1	4.9



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
61.4	65.2	69.5	74.3	79.5	85.2	91.3
46.8	49.6	52.8	56.4	60.4	64.8	69.6
5.8	6.1	6.5	6.9	7.4	8.0	8.6
2.0	2.1	2.3	2.4	2.6	2.8	3.0
6.6	7.1	7.7	8.2	8.7	9.2	9.7
0.3	0.3	0.3	0.3	0.3	0.4	0.4
0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.96	0.96	0.96	0.96	0.96	0.96	0.96
7.6	7.8	8.0	8.0	8.0	8.0	7.9
7.8	8.0	8.1	8.2	8.2	8.1	8.0
7.6	7.8	8.0	8.0	8.0	8.0	7.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



61.4	65.2	69.5	74.3	79.5	85.2	91.3
7.6	7.8	8.0	8.0	8.0	8.0	7.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-0.9	-0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	183.8	192.5
Growth rate	5.8	4.7
<i>Potential GDP (real)</i>		
Level	189.2	194.6
<i>Output gap</i>		
Output gap	-2.9	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.3	18.7
Interest rates		
Nominal implicit interest rate on debt	2.7	2.9
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.2	13.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.32

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.7

Debt projections

	2021	2022
Gross debt	48.6	47.3
<i>Change in debt (-1+2+3)</i>		-1.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-5.0
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.5
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-1.9
(2.3) Inflation effect	-5.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Other budgetary variables	
Headline balance	-6.2
Structural balance	-5.8
Net expenditure growth	15.0
Average net primary expenditure growth	5.2
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	48.6	47.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.04	0.04
Share of long-term debt in total government debt	0.96	0.96
IIR	2.7	2.9
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.95)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

Extension (annual adjustment of 0.6)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

198.6	205.5	210.3	214.9	219.6	224.4	230.9	237.5	244.2
3.2	3.5	2.3	2.2	2.2	2.2	2.9	2.8	2.8

201.0	207.4	213.0	218.3	223.4	228.6	233.8	239.0	244.2

-1.2	-0.9	-1.3	-1.5	-1.7	-1.8	-1.2	-0.6	0.0

14.2	9.5	8.1	7.8	7.5	7.3	7.9	7.6	7.3

4.3	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
		7.6	7.8	8.0	8.2	8.4	8.7	8.9
		5.5	5.2	5.0	4.8	4.5	4.3	4.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.7	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-1.0	-1.1	-1.2	-0.6	0.0
3.2	3.5	2.3	2.1	1.9	1.6	2.3	2.2	2.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.1	39.7
-1.6	0.4	0.4	-0.1	-0.7	-1.4	-1.6	-1.5	-1.4
-2.9	-2.7	-1.8	-1.0	-0.1	0.8	1.0	1.1	1.2
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.3	0.4	0.5	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.1	-2.3	-1.4	-1.1	-0.8	-0.6	-0.6	-0.4	-0.2
1.8	1.7	2.0	2.3	2.4	2.6	2.6	2.6	2.6

-1.3	-1.4	-1.0	-1.0	-0.9	-0.9	-1.2	-1.1	-1.1
-4.6	-2.5	-2.5	-2.4	-2.3	-2.2	-2.0	-1.9	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.7	-4.4	-3.8	-3.2	-2.5	-1.7	-1.6	-1.5	-1.5
-4.3	-4.1	-3.4	-2.7	-2.0	-1.1	-1.2	-1.3	-1.5
8.3	8.5	5.7	5.3	5.0	4.7	7.1	6.8	6.6

0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.1	39.7
	36.1	36.8	37.2	37.2	36.6	35.3	34.0	32.8
	4.1	4.2	4.3	4.3	4.3	4.2	4.1	4.0
	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	4.2	3.7	3.1	2.4	1.7	1.5	1.4	1.4
	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96

4.3	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
	4.0	4.7	5.2	5.7	6.1	6.4	6.7	7.0
		4.7	5.2	5.7	6.0	6.3	6.6	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.1	39.7
4.3	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

45.6	46.1	46.6	47.0	47.1	46.9	46.3	45.5	44.2
4.3	4.1	4.7	5.2	5.7	6.1	6.5	6.8	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.5	20.7	20.9	21.0	21.2
1.0	1.0	0.9	0.9	0.9	0.9	0.9

249.5	254.6	259.4	263.8	267.8	271.2	274.5
2.2	2.0	1.9	1.7	1.5	1.3	1.2
249.5	254.6	259.4	263.8	267.8	271.2	274.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.5	6.3	6.0	5.7	5.4	5.1	5.0
7.2	7.4	7.6	7.7	7.7	7.7	7.7
9.1	8.9	8.6	8.4	8.2	7.9	7.7
3.9	3.8	3.7	3.6	3.5	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	4.0	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.0	1.9	1.7	1.5	1.3	1.2

2032	2033	2034	2035	2036	2037	2038
38.9	38.5	38.4	38.6	39.2	40.0	41.0
-0.8	-0.4	-0.1	0.2	0.6	0.8	1.0
1.0	0.9	0.7	0.5	0.3	0.2	0.0
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.1	1.2	1.4
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.4	0.6	0.7	0.8	1.0	1.0
2.7	2.7	2.7	2.8	2.8	2.9	2.9

-0.8	-0.7	-0.7	-0.6	-0.5	-0.5	-0.5
-1.6	-1.5	-1.5	-1.5	-1.4	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.6	-1.9	-2.1	-2.3	-2.5	-2.7	-2.9
-1.6	-1.9	-2.1	-2.3	-2.5	-2.7	-2.9
6.4	6.2	5.9	5.7	5.4	5.1	4.9

0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
38.9	38.5	38.4	38.6	39.2	40.0	41.0
32.0	31.4	31.1	31.1	31.4	32.0	33.9
3.9	3.9	3.8	3.8	3.9	3.9	2.8
1.4	1.3	1.3	1.3	1.4	1.4	1.4
1.6	1.8	2.0	2.2	2.4	2.6	2.8
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.96	0.96	0.96	0.96	0.96	0.96	0.96
7.2	7.4	7.6	7.7	7.7	7.7	7.7
7.3	7.5	7.7	7.8	7.9	7.9	7.9
7.2	7.4	7.6	7.7	7.7	7.7	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



38.9	38.5	38.4	38.6	39.2	40.0	41.0
7.2	7.4	7.6	7.7	7.7	7.7	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0

42.9	41.9	41.0	40.7	40.7	40.9	41.3
7.3	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-0.9	-0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	183.8	192.5
Growth rate	5.8	4.7
<i>Potential GDP (real)</i>		
Level	189.2	194.6
<i>Output gap</i>		
Output gap	-2.9	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.3	18.7
Interest rates		
Nominal implicit interest rate on debt	2.7	2.9
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.2	13.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.32

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.7

Debt projections

	2021	2022
Gross debt	48.6	47.3
<i>Change in debt (-1+2+3)</i>		-1.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-5.0
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.5
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-1.9
(2.3) Inflation effect	-5.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	48.6	47.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.04	0.04
Share of long-term debt in total government debt	0.96	0.96
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.95)

Debt	48.6	47.3
IIR	2.7	2.9
IRR difference STATA - Excel		

Extension (annual adjustment of 0.6)

Debt	48.6	47.3
IIR	2.7	2.9
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

198.6	205.5	210.3	214.9	219.6	224.4	230.9	237.5	244.2
3.2	3.5	2.3	2.2	2.2	2.2	2.9	2.8	2.8

201.0	207.4	213.0	218.3	223.4	228.6	233.8	239.0	244.2

-1.2	-0.9	-1.3	-1.5	-1.7	-1.8	-1.2	-0.6	0.0

14.2	9.5	8.1	7.8	7.5	7.3	7.9	7.6	7.3

4.3	4.1	4.7	5.2	5.7	6.0	6.5	6.8	7.0
		7.6	7.8	8.0	8.2	9.4	8.7	8.9
		5.5	5.2	5.0	4.8	5.5	4.3	4.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.7	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-1.0	-1.1	-1.2	-0.6	0.0
3.2	3.5	2.3	2.1	1.9	1.6	2.3	2.2	2.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.2	39.9
-1.6	0.4	0.4	-0.1	-0.7	-1.4	-1.6	-1.5	-1.3
-2.9	-2.7	-1.8	-1.0	-0.1	0.8	1.0	1.1	1.2
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.3	0.4	0.5	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.1	-2.3	-1.4	-1.1	-0.8	-0.6	-0.6	-0.3	-0.1
1.8	1.7	2.0	2.3	2.4	2.6	2.7	2.7	2.7

-1.3	-1.4	-1.0	-1.0	-0.9	-0.9	-1.2	-1.1	-1.1
-4.6	-2.5	-2.5	-2.4	-2.3	-2.2	-2.0	-1.9	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.2	39.9
	36.1	36.8	37.2	37.2	36.6	35.3	34.1	32.9
	4.1	4.2	4.3	4.3	4.3	4.2	4.1	4.0
	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	4.2	3.7	3.1	2.4	1.7	1.6	1.5	1.5
	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96

	4.1	4.7	5.2	5.7	6.0	6.5	6.8	7.0
	4.0	4.7	5.2	5.7	6.1	6.5	6.8	7.1
		4.7	5.2	5.7	6.0	6.5	6.8	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

45.6	46.1	46.5	46.3	45.6	44.2	42.6	41.2	39.9
4.3	4.1	4.7	5.2	5.7	6.0	6.5	6.8	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

45.6	46.1	46.6	47.0	47.1	46.9	46.3	45.5	44.2
4.3	4.1	4.7	5.2	5.7	6.1	6.5	6.8	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.5	20.7	20.9	21.0	21.2
1.0	1.0	0.9	0.9	0.9	0.9	0.9

249.5 254.6 259.4 263.8 267.8 271.2 274.5
2.2 2.0 1.9 1.7 1.5 1.3 1.2

249.5 254.6 259.4 263.8 267.8 271.2 274.5

0.0 0.0 0.0 0.0 0.0 0.0 0.0

6.5 6.3 6.0 5.7 5.4 5.1 5.0

7.3	7.5	7.6	7.7	7.8	7.8	7.7
9.1	8.9	8.6	8.4	8.2	7.9	7.7
3.9	3.8	3.7	3.6	3.5	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	4.1	4.0	4.0	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
2.2 2.0 1.9 1.7 1.5 1.3 1.2

2032	2033	2034	2035	2036	2037	2038
39.1	38.7	38.7	38.9	39.5	40.3	41.4
-0.8	-0.4	-0.1	0.3	0.6	0.8	1.1
1.0	0.9	0.7	0.5	0.3	0.2	0.0
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.1	1.2	1.4
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.5	0.6	0.7	0.9	1.0	1.1
2.7	2.8	2.8	2.8	2.9	2.9	3.0

-0.8	-0.8	-0.7	-0.6	-0.6	-0.5	-0.5
-1.6	-1.6	-1.5	-1.5	-1.5	-1.4	-1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
39.1	38.7	38.7	38.9	39.5	40.3	41.4
32.1	31.6	31.3	31.4	31.7	32.2	32.9
3.9	3.9	3.9	3.9	3.9	4.0	4.1
1.4	1.4	1.3	1.3	1.4	1.4	1.4
1.6	1.8	2.1	2.3	2.5	2.6	2.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.96	0.96	0.96	0.96	0.96	0.96	0.96
7.3	7.5	7.6	7.7	7.8	7.8	7.7
7.4	7.6	7.8	7.9	7.9	7.9	7.9
7.3	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



39.1	38.7	38.7	38.9	39.5	40.3	41.4
7.3	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	42.0	41.2	40.9	40.9	41.2	41.6
7.5	7.6	7.7	7.8	7.8	7.8	7.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-0.9	-0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	183.8	192.5
Growth rate	5.8	4.7
<i>Potential GDP (real)</i>		
Level	189.2	194.6
<i>Output gap</i>		
Output gap	-2.9	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.3	18.7
Interest rates		
Nominal implicit interest rate on debt	2.7	2.9
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.2	13.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.32

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.7

Debt projections

	2021	2022
Gross debt	48.6	47.3
<i>Change in debt (-1+2+3)</i>		-1.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-5.0
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.5
(2.1) Interest expenditure		1.2

(2.2) Growth effect	-1.9
(2.3) Inflation effect	-5.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	48.6	47.3
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.95)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

Extension (annual adjustment of 0.6)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.2	0.9	0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

198.6	205.5	210.3	214.9	219.6	224.4	231.4	237.7	243.3
3.2	3.5	2.3	2.2	2.2	2.2	3.1	2.8	2.4
201.0	207.4	213.0	218.3	223.4	228.6	233.8	239.0	244.2
-1.2	-0.9	-1.3	-1.5	-1.7	-1.8	-1.0	-0.5	-0.3
14.2	9.5	8.1	7.8	7.5	7.3	8.1	7.5	6.9
4.3	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
		7.6	7.8	8.0	8.2	8.4	8.7	8.9
		5.5	5.2	5.0	4.8	4.5	4.3	4.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10.7	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-0.9	-1.0	-1.1	-1.2	-0.7	-0.3
3.2	3.5	2.3	2.1	1.9	1.6	2.5	2.4	2.2

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.7	41.7	41.1
-1.6	0.4	0.4	-0.1	-0.7	-1.4	-1.5	-1.0	-0.6
-2.9	-2.7	-1.8	-1.0	-0.1	0.8	0.8	0.7	0.6
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.2	0.9	0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.3	0.4	0.5	0.6	0.6	0.3	0.2	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.1	-2.3	-1.4	-1.1	-0.8	-0.6	-0.7	-0.3	0.0
1.8	1.7	2.0	2.3	2.4	2.6	2.6	2.6	2.7

-1.3	-1.4	-1.0	-1.0	-0.9	-0.9	-1.3	-1.1	-0.9
-4.6	-2.5	-2.5	-2.4	-2.3	-2.2	-2.0	-1.9	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

						0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.7	41.7	41.1
	36.1	36.8	37.2	37.2	36.6	35.2	34.1	33.5
	4.1	4.2	4.3	4.3	4.3	4.2	4.1	4.1
	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	4.2	3.7	3.1	2.4	1.7	1.7	1.9	2.1
	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
	4.0	4.7	5.2	5.7	6.1	6.4	6.7	7.1
		4.7	5.2	5.7	6.0	6.3	6.6	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

45.6	46.1	46.5	46.3	45.6	44.2	42.7	41.7	41.1
4.3	4.1	4.7	5.2	5.7	6.0	6.3	6.6	6.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

45.6	46.1	46.6	47.0	47.1	46.9	46.3	45.5	44.2
4.3	4.1	4.7	5.2	5.7	6.1	6.5	6.8	7.0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.9	0.9	0.9	0.9	0.9	0.9	0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.5	20.7	20.9	21.0	21.2
1.0	1.0	0.9	0.9	0.9	0.9	0.9

249.1	254.6	259.4	263.8	267.8	271.2	274.5
2.4	2.2	1.9	1.7	1.5	1.3	1.2
249.5	254.6	259.4	263.8	267.8	271.2	274.5
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
6.7	6.4	6.0	5.7	5.4	5.1	5.0
7.2	7.5	7.6	7.7	7.8	7.8	7.7
9.1	8.9	8.6	8.4	8.2	7.9	7.7
3.9	3.8	3.7	3.6	3.5	3.5	3.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	4.0	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
-0.2	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.0	1.9	1.7	1.5	1.3	1.2

2032	2033	2034	2035	2036	2037	2038
40.9	40.9	41.4	42.2	43.3	44.8	46.4
-0.3	0.0	0.5	0.8	1.2	1.4	1.7
0.5	0.4	0.2	0.0	-0.2	-0.3	-0.5
0.9	0.9	0.9	0.9	0.9	0.9	0.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.1	1.2	1.4
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.4	0.6	0.8	0.9	1.1	1.2
2.8	2.9	2.9	3.0	3.1	3.2	3.3

-0.9	-0.8	-0.7	-0.7	-0.6	-0.5	-0.5
-1.7	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	1	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
40.9	40.9	41.4	42.2	43.3	44.8	46.4
33.1	32.9	33.1	33.6	34.3	35.3	36.6
4.1	4.1	4.1	4.1	4.2	4.3	4.5
1.4	1.4	1.4	1.4	1.5	1.5	1.6
2.2	2.4	2.7	2.9	3.2	3.4	3.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
7.2	7.5	7.6	7.7	7.8	7.8	7.7
7.4	7.6	7.8	7.9	7.9	7.9	7.9
7.2	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



40.9	40.9	41.4	42.2	43.3	44.8	46.4
7.2	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.0	42.4	42.3	42.5	43.0	43.8	44.8
7.3	7.5	7.6	7.7	7.8	7.8	7.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-5.1	-4.6
One-off and other temporary measures	0.0	0.0
Stock flow adjustments (without exchange rate effect)	-0.9	-0.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.0	20.4
Property income	1.0	1.0
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	183.8	192.5
Growth rate (including feedback and output-gap closure effect)	5.8	4.7
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	189.2	194.6
<i>Output gap</i>		
Output gap	-2.9	-1.1
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	11.3	18.7
Interest rates and inflation		
Nominal implicit interest rate on debt	2.7	2.9
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.2	13.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.32	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.7

Debt projections

	2021	2022
Gross debt	48.6	47.3
<i>Change in debt (-1+2+3)</i>		-1.4
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-5.0
(1.1) Structural primary balance (before ageing cost)		-4.6
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		0.3
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.5

(2.1) Interest expenditure	1.2
(2.2) Growth effect	-1.9
(2.3) Inflation effect	-5.7
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	0.1
(3.1) Base	-0.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	48.6	47.3
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR	2.7	2.9
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.95)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

Extension (annual adjustment of 0.6)

Debt	48.6	47.3
IIR	2.7	2.9
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.2	19.9	19.9	19.8	19.8	19.8	19.8	19.9	20.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

198.6	205.5	210.3	214.9	219.6	224.4	229.8	235.2	240.6
3.2	3.5	2.3	2.2	2.2	2.2	2.4	2.3	2.3
						1.8	1.7	1.7

201.0	207.4	213.0	218.3	223.4	228.6	232.6	236.6	240.6

-1.2	-0.9	-1.3	-1.5	-1.7	-1.8	-1.2	-0.6	0.0

14.2	9.5	8.1	7.8	7.5	7.3	7.3	7.1	6.8

4.3	4.1	4.7	5.2	5.7	6.0	6.4	6.8	7.1
		7.6	7.8	8.0	8.2	8.9	9.2	9.4
		5.5	5.2	5.0	4.8	5.0	4.8	4.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

10.7	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-0.9	-1.0	-1.1	-1.2	-0.6	0.0
3.2	3.5	2.3	2.1	1.9	1.6	1.8	1.7	1.7

2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.8	41.6	40.5
-1.6	0.4	0.4	-0.1	-0.7	-1.4	-1.4	-1.3	-1.1
-2.9	-2.7	-1.8	-1.0	-0.1	0.8	1.0	1.1	1.2
-2.5	-2.4	-1.4	-0.5	0.5	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.3	0.4	0.5	0.6	0.6	0.4	0.2	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-4.1	-2.3	-1.4	-1.1	-0.8	-0.6	-0.4	-0.1	0.1

1.8	1.7	2.0	2.3	2.4	2.6	2.6	2.7	2.8
-1.3	-1.4	-1.0	-1.0	-0.9	-0.9	-1.0	-0.9	-0.9
-4.6	-2.5	-2.5	-2.4	-2.3	-2.2	-2.0	-1.9	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							0	0
								0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
45.6	46.1	46.5	46.3	45.6	44.2	42.8	41.6	40.5
	36.1	36.8	37.2	37.2	36.6	35.5	34.4	33.4
	4.1	4.2	4.3	4.3	4.3	4.2	4.1	4.1
	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.4
	4.2	3.7	3.1	2.4	1.7	1.6	1.5	1.5
	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4.3	4.1	4.7	5.2	5.7	6.0	6.4	6.8	7.1
	4.0	4.7	5.2	5.7	6.1	6.5	6.9	7.2
		4.7	5.2	5.7	6.0	6.4	6.8	7.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

2032	2033	2034	2035	2036	2037	2038
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.1	20.3	20.5	20.7	20.9	21.0	21.2
1.0	1.0	0.9	0.9	0.9	0.9	0.9

244.7	248.5	251.9	254.9	257.5	259.5	261.4
1.7	1.5	1.4	1.2	1.0	0.8	0.7
1.7	1.5	1.4	1.2	1.0	0.8	0.7

244.7	248.5	251.9	254.9	257.5	259.5	261.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	5.7	5.5	5.2	4.9	4.6	4.5
7.4	7.7	7.9	8.0	8.1	8.1	8.1
9.6	9.4	9.1	8.9	8.7	8.4	8.2
4.4	4.3	4.2	4.1	4.0	4.0	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	4.1	4.0	4.0	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.5	1.4	1.2	1.0	0.8	0.7

2032	2033	2034	2035	2036	2037	2038
40.0	39.9	40.2	40.8	41.7	43.0	44.5
-0.5	-0.1	0.3	0.6	1.0	1.2	1.5
1.0	0.9	0.7	0.5	0.3	0.2	0.0
1.4	1.4	1.4	1.4	1.4	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.5	0.7	0.9	1.1	1.2	1.4
0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.7	0.9	1.1	1.2	1.4	1.5

2.8	2.9	3.0	3.1	3.1	3.2	3.3
-0.7	-0.6	-0.5	-0.5	-0.4	-0.3	-0.3
-1.6	-1.6	-1.6	-1.5	-1.5	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	1	1	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
40.0	39.9	40.2	40.8	41.7	43.0	44.5
32.8	32.5	32.4	32.7	33.3	34.2	35.3
4.0	4.0	4.0	4.0	4.1	4.2	4.3
1.4	1.4	1.4	1.4	1.4	1.5	1.5
1.7	2.0	2.2	2.5	2.8	3.0	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
7.4	7.7	7.9	8.0	8.1	8.1	8.1
7.6	7.8	8.0	8.2	8.3	8.3	8.3
7.4	7.7	7.9	8.0	8.1	8.1	8.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



40.0	39.9	40.2	40.8	41.7	43.0	44.5
7.4	7.7	7.9	8.0	8.1	8.1	8.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
43.2	42.4	41.9	41.9	42.2	42.8	43.6
7.4	7.6	7.8	8.0	8.0	8.1	8.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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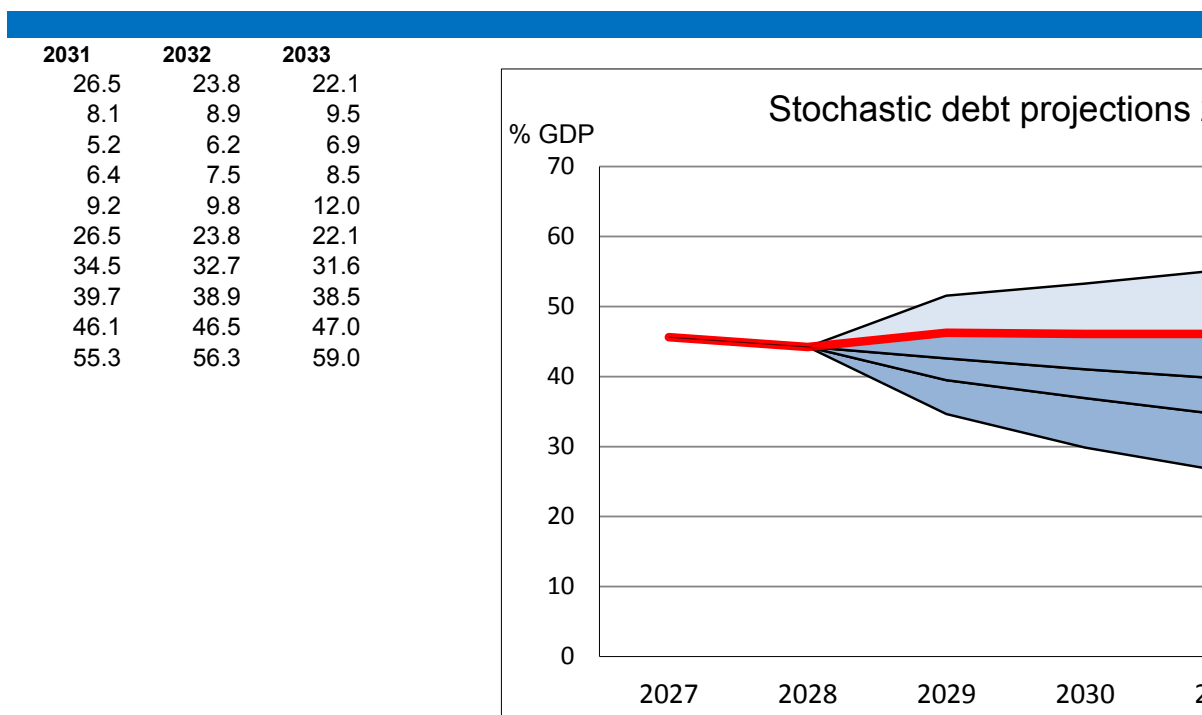
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	RO
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

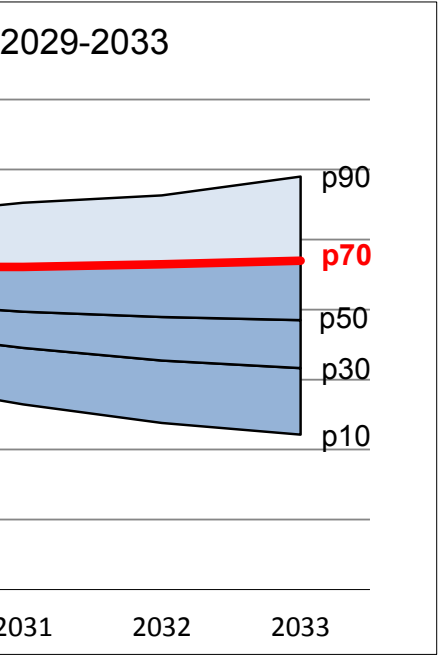
Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	48.6	47.3	45.6	46.1
Distribution of debt paths				
p10	48.6	47.3	45.6	46.1
p30	48.6	47.3	45.6	46.1
p50 - Adjustment scenario	48.6	47.3	45.6	46.1
p70	48.6	47.3	45.6	46.1
p90	48.6	47.3	45.6	46.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	45.6	44.2	34.6	29.9
p30_p10	0.0	0.0	4.9	7.1
p50_p30	0.0	0.0	3.1	4.1
p70_p50	0.0	0.0	3.7	5.0
p90_p70	0.0	0.0	5.3	7.2
p10	45.6	44.2	34.6	29.9
p30	45.6	44.2	39.5	36.9
p50	45.6	44.2	42.6	41.1
p70	45.6	44.2	46.3	46.1
p90	45.6	44.2	51.5	53.3

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
46.5	46.3	45.6	44.2	42.6	41.1	39.7	38.9	38.5	38.4

46.5	46.3	45.6	44.2	34.6	29.9	26.5	23.8	22.1	
46.5	46.3	45.6	44.2	39.5	36.9	34.5	32.7	31.6	
46.5	46.3	45.6	44.2	42.6	41.1	39.7	38.9	38.5	
46.5	46.3	45.6	44.2	46.3	46.1	46.1	46.5	47.0	
46.5	46.3	45.6	44.2	51.5	53.3	55.3	56.3	59.0	



2035	2036	2037	2038	2039	2040	2041
38.6	39.2	40.0	41.0	42.3	43.8	45.4





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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022"](#) (July 2023).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term debt, rolled-over and non-maturing debt). fixed shares which the user cannot change.

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also projected.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is projected to evolve linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is projected to remain constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is affected by the shock (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	PT
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.25

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

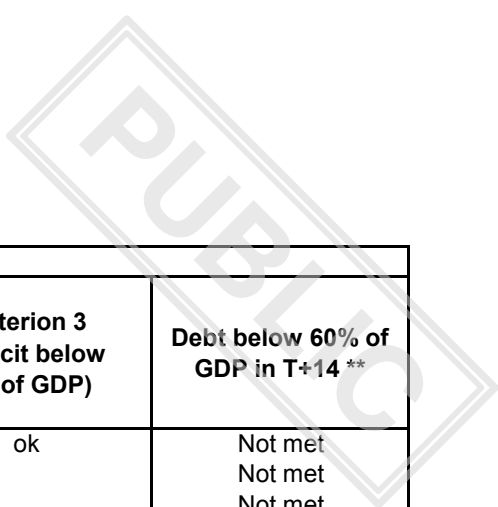
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok ok ok ok	ok	ok	Not met Not met Not met Not met

criterion in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of different impacts according to the level of debt ratio.
 criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the smallest adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.25	0.25	0.25	0.25
3.4	3.2	3.1	2.9
0.25			
0.25			
3.2			
3.2			

ent period last 4 years.
 the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the , if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.25	0.10
71.1	70.6

iment of 0.5 pp. of GDP as a benchmark nor for the below debt in T.

Technical trajectories (with safeguard/ben			
2025	2026	2027	2028
0.25	0.25	0.25	0.25
0.10	0.10	0.10	0.10

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	not relevant	0

chmark)		
2029	2030	2031
0.10	0.10	0.10

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	125.4	113.9
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock-flow adjustments (without exchange rate effect)	-3.5	1.0
Stock-flow adjustment (total)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
of which: Public pensions expenditure	13.1	13.1
Health care expenditure	5.9	5.8
Long-term care expenditure	0.4	0.4
Education & unemployment benefits expenditure	4.1	4.0
Taxes on pensions	1.1	1.1
Property income	0.7	0.7
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	5.5	6.7
Level	185.8	
<i>Potential GDP</i>		
Growth rate	2.0	1.8
Level	192.4	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.9	1.7
Inflation (SF 2023)		
GDP deflator (national currency)	1.5	4.4

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	4.1
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.2
Share of long-term debt in total government debt	0.8
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	41.6

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.2
Share of new long-term debt in 2024	0.0
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	2.7
Long-term nominal interest rate in 2025	3.4
Short-term nominal interest rate in 2025	2.7

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-10.2	-14.5
Difference between debt level in 50th and 30th percentile of the distribution	-4.1	-6.2
Difference between debt level in 70th and 50th percentile of the distribution	5.0	7.1
Difference between debt level in 90th and 50th percentile of the distribution	12.0	17.1

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
106.2	103.1								
1.3	1.9								
-0.2	0.0								
0.9	1.0								
0.9	1.0								
22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8	24.0
13.1	13.2	13.3	13.5	13.7	13.9	14.1	14.2	14.4	14.5
5.9	5.9	6.0	6.0	6.1	6.1	6.2	6.3	6.3	6.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
4.0	4.0	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.8
1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
2.4	1.8	1.2	1.0	0.8	1.0	0.8	0.7	0.5	0.4
2.0	2.1	1.6	1.4	1.3	1.0	0.8	0.7	0.5	0.4
2.1	2.7								
5.8	2.3								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 70, 1-15.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-15.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-17.1	-19.6	-22.1
-7.2	-8.0	-9.3
8.4	10.2	11.0
20.5	24.4	28.0

2033	2034	2035	2036	2037	2038	2039	2040	2041

24.2	24.3	24.4	24.5	24.5	24.6	24.6	24.6	24.6
14.6	14.6	14.6	14.6	14.6	14.5	14.4	14.4	14.3
6.4	6.5	6.5	6.6	6.7	6.7	6.8	6.8	6.9
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

0.6	0.8	1.0	1.1	1.1	1.1	1.1	1.1	1.2

0.6	0.8	1.0	1.1	1.1	1.1	1.1	1.2	1.2

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	PT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock flow adjustments (without exchange rate effect)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	185.8	198.2
Growth rate	5.5	6.7
<i>Potential GDP (real)</i>		
Level	192.4	195.8
<i>Output gap</i>		
Output gap	-3.4	1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.1	11.4
Interest rate		
Nominal implicit interest rate on debt	1.9	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	1.5	4.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.54

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.7

Debt projections

	2021	2022
Gross debt	125.4	113.9
<i>Change in debt (-1+2+3)</i>		-11.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.6
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.9
(2.1) Interest expenditure		2.0

(2.2) Growth effect	-7.5
(2.3) Inflation effect	-5.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.4
Structural balance	-0.8
Net expenditure growth	6.3

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	125.4	113.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.9	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results

Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2032	2033	2034	2035	2036	2037	2038
1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	24.2	24.3	24.4	24.5	24.5	24.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7

220.2	221.4	223.1	225.3	227.7	230.3	232.9
0.4	0.6	0.8	1.0	1.1	1.1	1.1
220.2	221.4	223.1	225.3	227.7	230.3	232.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	3.2	3.4	3.5	3.6	3.6	3.6
3.3	3.3	3.4	3.4	3.5	3.5	3.5
4.1	4.1	4.1	4.1	4.1	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.6	0.8	1.0	1.1	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
91.8	91.8	91.8	91.8	91.9	92.0	92.2
-0.1	0.0	0.0	0.0	0.1	0.1	0.2
0.3	0.1	0.0	-0.1	-0.2	-0.3	-0.3
1.9	1.9	1.9	1.9	1.9	1.9	1.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.6	1.8	1.9	2.0	2.1	2.1	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	-0.1	-0.1	-0.1	-0.1
2.9	3.0	3.0	3.0	3.1	3.1	3.1

-0.3	-0.5	-0.7	-0.9	-0.9	-1.0	-1.0
-2.4	-2.3	-2.3	-2.3	-2.3	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.6	-2.8	-3.0	-3.1	-3.3	-3.4	-3.4
-2.6	-2.8	-3.0	-3.1	-3.3	-3.4	-3.4
3.0	3.2	3.3	3.5	3.6	3.6	3.6



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
91.8	91.8	91.8	91.8	91.9	92.0	92.2
68.1	68.4	69.2	67.7	67.5	69.2	68.4
6.5	6.0	5.0	6.3	6.5	4.9	5.8
14.7	14.6	14.6	14.6	14.6	14.6	14.6
2.2	2.4	2.5	2.6	2.7	2.8	2.8
0.4	0.5	0.5	0.5	0.5	0.6	0.6
0.16	0.16	0.16	0.16	0.16	0.16	0.16
0.84	0.84	0.84	0.84	0.84	0.84	0.84
3.3	3.3	3.4	3.4	3.5	3.5	3.5
3.3	3.4	3.5	3.5	3.6	3.6	3.7
3.3	3.3	3.4	3.4	3.5	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



91.8	91.8	91.8	91.8	91.9	92.0	92.2
3.3	3.3	3.4	3.4	3.5	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock flow adjustments (without exchange rate effect)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	185.8	198.2
Growth rate	5.5	6.7
<i>Potential GDP (real)</i>		
Level	192.4	195.8
<i>Output gap</i>		
Output gap	-3.4	1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.1	11.4
Interest rates		
Nominal implicit interest rate on debt	1.9	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.5	4.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.54

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.7

Debt projections

	2021	2022
Gross debt	125.4	113.9
<i>Change in debt (-1+2+3)</i>		-11.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.6
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.9
(2.1) Interest expenditure		2.0

(2.2) Growth effect	-7.5
(2.3) Inflation effect	-5.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	-0.4
Structural balance	-0.8
Net expenditure growth	6.3
Average net primary expenditure growth	3.2
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	125.4	113.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.16	0.16
Share of long-term debt in total government debt	0.84	0.84
IIR	1.9	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

203.0	206.6	208.7	210.8	212.8	214.5	216.4	218.1	219.4
2.4	1.8	1.0	1.0	1.0	0.8	0.9	0.8	0.6

199.6	203.9	207.2	210.2	212.8	214.9	216.7	218.2	219.4

1.7	1.3	0.7	0.3	0.0	-0.2	-0.1	-0.1	0.0

8.4	4.1	3.4	3.4	3.4	3.3	3.4	3.3	3.2

2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
		3.4	3.5	3.6	3.7	3.8	3.9	4.0
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.8	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.5	0.2	0.0	-0.1	-0.1	0.0
2.4	1.8	1.0	0.8	0.6	0.8	0.8	0.7	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.5	84.8	82.5
-7.7	-3.1	-3.2	-3.2	-3.2	-3.1	-3.0	-2.7	-2.3
2.0	2.6	2.5	2.5	2.6	2.8	2.6	2.4	2.2
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.7	-0.4	-0.2	0.0	0.1	0.1	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.6	-1.5	-0.7	-0.6	-0.5	-0.3	-0.4	-0.2	-0.1
2.2	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6

-2.6	-1.8	-1.0	-1.0	-0.9	-0.7	-0.8	-0.6	-0.5
-6.2	-2.4	-2.4	-2.3	-2.3	-2.3	-2.2	-2.2	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.0	-0.2	-0.3
-0.8	-0.8	-0.6	-0.3	0.0	0.2	0.1	-0.1	-0.3
7.2	3.1	3.4	3.2	3.1	2.9	3.3	3.3	3.1

0	0	0



1	1	1	0	1	1	1
0	0	0	1	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.5	84.8	82.5
	79.5	77.2	74.4	72.0	69.9	67.8	66.2	62.4
	5.8	6.1	6.4	6.1	5.7	5.3	4.6	6.3
	16.8	16.4	15.9	15.4	14.8	14.3	13.8	13.4
	0.9	0.2	0.1	0.0	0.0	0.0	0.1	0.3
	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84

2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1
		2.7	2.8	2.9	2.9	3.0	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



106.2	103.1	99.9	96.8	93.6	90.5	87.5	84.8	82.5
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.2	103.1	99.9	96.9	94.0	91.3	88.6	86.1	83.6
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	24.2	24.3	24.4	24.5	24.5	24.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7

220.2	221.4	223.1	225.3	227.7	230.3	232.9
0.4	0.6	0.8	1.0	1.1	1.1	1.1
220.2	221.4	223.1	225.3	227.7	230.3	232.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.0	3.2	3.4	3.5	3.6	3.6	3.6
3.2	3.3	3.3	3.3	3.4	3.4	3.4
4.1	4.1	4.1	4.1	4.1	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.6	0.8	1.0	1.1	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
80.5	78.7	76.9	75.0	73.3	71.6	70.0
-1.9	-1.9	-1.8	-1.8	-1.7	-1.7	-1.6
2.1	1.9	1.8	1.7	1.6	1.5	1.5
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.1
2.6	2.5	2.5	2.5	2.5	2.4	2.4

-0.3	-0.4	-0.6	-0.7	-0.8	-0.8	-0.8
-2.1	-2.0	-2.0	-1.9	-1.8	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-0.5	-0.6	-0.7	-0.8	-0.9	-0.9	-0.9
-0.5	-0.6	-0.7	-0.8	-0.9	-0.9	-0.9
3.0	3.2	3.3	3.5	3.6	3.6	3.6

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
80.5	78.7	76.9	75.0	73.3	71.6	70.0
61.2	60.0	59.4	56.8	55.2	55.2	53.3
5.8	5.3	4.3	5.3	5.3	3.9	4.5
13.1	12.8	12.4	12.1	11.8	11.6	11.3
0.4	0.5	0.6	0.7	0.7	0.7	0.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.16	0.16	0.16	0.16	0.16	0.16	0.16
0.84	0.84	0.84	0.84	0.84	0.84	0.84
3.2	3.3	3.3	3.3	3.4	3.4	3.4
3.2	3.3	3.4	3.4	3.5	3.5	3.6
3.2	3.3	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

80.5	78.7	76.9	75.0	73.3	71.6	70.0
3.2	3.3	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0

81.3	79.1	76.8	74.7	72.6	70.5	68.5
3.2	3.3	3.3	3.3	3.4	3.4	3.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock flow adjustments (without exchange rate effect)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	185.8	198.2
Growth rate	5.5	6.7
<i>Potential GDP (real)</i>		
Level	192.4	195.8
<i>Output gap</i>		
Output gap	-3.4	1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.1	11.4
Interest rates		
Nominal implicit interest rate on debt	1.9	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.5	4.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.54

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.7

Debt projections

	2021	2022
Gross debt	125.4	113.9
<i>Change in debt (-1+2+3)</i>		-11.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.6
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.9
(2.1) Interest expenditure		2.0

(2.2) Growth effect	-7.5
(2.3) Inflation effect	-5.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	125.4	113.9
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.16	0.16
Share of long-term debt in total government debt	0.84	0.84
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	125.4	113.9
IIR	1.9	1.7
IRR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	125.4	113.9
IIR	1.9	1.7
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

203.0	206.6	208.7	210.8	212.8	214.5	216.4	218.1	219.4
2.4	1.8	1.0	1.0	1.0	0.8	0.9	0.8	0.6

199.6	203.9	207.2	210.2	212.8	214.9	216.7	218.2	219.4

1.7	1.3	0.7	0.3	0.0	-0.2	-0.1	-0.1	0.0

8.4	4.1	3.4	3.4	3.4	3.3	3.4	3.3	3.2

2.1	2.7	2.7	2.8	2.9	2.9	3.2	3.1	3.2
		3.4	3.5	3.6	3.7	4.8	3.9	4.0
		2.7	2.8	2.8	2.9	3.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.8	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.5	0.2	0.0	-0.1	-0.1	0.0
2.4	1.8	1.0	0.8	0.6	0.8	0.8	0.7	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.7	85.1	82.8
-7.7	-3.1	-3.2	-3.2	-3.2	-3.1	-2.8	-2.6	-2.3
2.0	2.6	2.5	2.5	2.6	2.8	2.6	2.4	2.2
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.7	-0.4	-0.2	0.0	0.1	0.1	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.6	-1.5	-0.7	-0.6	-0.5	-0.3	-0.2	-0.2	0.0
2.2	2.7	2.7	2.7	2.7	2.6	2.8	2.6	2.6

-2.6	-1.8	-1.0	-1.0	-0.9	-0.7	-0.8	-0.6	-0.5
-6.2	-2.4	-2.4	-2.3	-2.3	-2.3	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	0	1	1	1
		0	0	0	1	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.7	85.1	82.8
	79.5	77.2	74.4	72.0	69.9	67.8	66.4	62.6
	5.8	6.1	6.4	6.1	5.7	5.3	4.6	6.3
	16.8	16.4	15.9	15.4	14.8	14.3	13.9	13.5
	0.9	0.2	0.1	0.0	0.0	0.2	0.2	0.3
	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84

	2.7	2.7	2.8	2.9	2.9	3.2	3.1	3.2
	2.7	2.7	2.8	2.9	2.9	3.1	3.1	3.2
		2.7	2.8	2.9	2.9	3.2	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.2	103.1	99.9	96.8	93.6	90.5	87.7	85.1	82.8
2.1	2.7	2.7	2.8	2.9	2.9	3.2	3.1	3.2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.2	103.1	99.9	96.9	94.0	91.3	88.6	86.1	83.6
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	24.2	24.3	24.4	24.5	24.5	24.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7

220.2 221.4 223.1 225.3 227.7 230.3 232.9
0.4 0.6 0.8 1.0 1.1 1.1 1.1

220.2 221.4 223.1 225.3 227.7 230.3 232.9

0.0 0.0 0.0 0.0 0.0 0.0 0.0

3.0 3.2 3.4 3.5 3.6 3.6 3.6

3.2	3.3	3.3	3.4	3.4	3.5	3.5
4.1	4.1	4.1	4.1	4.1	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.4 0.6 0.8 1.0 1.1 1.1 1.1

2032	2033	2034	2035	2036	2037	2038
80.9	79.1	77.3	75.5	73.8	72.1	70.5
-1.9	-1.8	-1.8	-1.8	-1.7	-1.7	-1.6
2.1	1.9	1.8	1.7	1.6	1.5	1.5
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	-0.1	-0.1	-0.1	-0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4

-0.3	-0.4	-0.6	-0.7	-0.8	-0.8	-0.8
-2.1	-2.1	-2.0	-1.9	-1.8	-1.8	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
80.9	79.1	77.3	75.5	73.8	72.1	70.5
61.4	60.3	59.7	57.1	55.6	55.6	53.7
5.8	5.3	4.3	5.3	5.4	4.0	4.5
13.1	12.8	12.5	12.2	11.9	11.6	11.4
0.4	0.6	0.6	0.7	0.8	0.8	0.8
0.1	0.1	0.1	0.1	0.1	0.2	0.2
0.16	0.16	0.16	0.16	0.16	0.16	0.16
0.84	0.84	0.84	0.84	0.84	0.84	0.84

3.2	3.3	3.3	3.4	3.4	3.5	3.5
3.3	3.4	3.4	3.5	3.5	3.6	3.6
3.2	3.3	3.3	3.4	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



80.9	79.1	77.3	75.5	73.8	72.1	70.5
3.2	3.3	3.3	3.4	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

81.5	79.3	77.2	75.0	73.0	70.9	69.0
3.4	3.3	3.4	3.4	3.4	3.5	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Key years	
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Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock flow adjustments (without exchange rate effect)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	185.8	198.2
Growth rate	5.5	6.7
<i>Potential GDP (real)</i>		
Level	192.4	195.8
<i>Output gap</i>		
Output gap	-3.4	1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.1	11.4
Interest rates		
Nominal implicit interest rate on debt	1.9	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.5	4.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.54	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.7

Debt projections

	2021	2022
Gross debt	125.4	113.9
<i>Change in debt (-1+2+3)</i>		-11.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.6
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.9
(2.1) Interest expenditure		2.0

(2.2) Growth effect	-7.5
(2.3) Inflation effect	-5.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	125.4	113.9
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.2	0.2
Share of long-term debt in total government debt	0.8	0.8
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)		
Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		
Extension (annual adjustment of 0.1)		
Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.3	1.9	2.1	2.4	2.6	2.9	2.6	2.4	2.4
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

203.0	206.6	208.7	210.8	212.8	214.5	216.8	218.7	219.7
2.4	1.8	1.0	1.0	1.0	0.8	1.1	0.9	0.5
199.6	203.9	207.2	210.2	212.8	214.9	216.7	218.2	219.4
1.7	1.3	0.7	0.3	0.0	-0.2	0.1	0.2	0.2
8.4	4.1	3.4	3.4	3.4	3.3	3.6	3.4	3.1
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
		3.4	3.5	3.6	3.7	3.8	3.9	4.0
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
5.8	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	0.5	0.2	0.0	-0.1	0.0	0.2
2.4	1.8	1.0	0.8	0.6	0.8	1.0	0.9	0.5

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.4	85.0	83.3
-7.7	-3.1	-3.2	-3.2	-3.2	-3.1	-3.0	-2.4	-1.8
2.0	2.6	2.5	2.5	2.6	2.8	2.5	2.1	1.8
1.3	1.9	2.1	2.4	2.6	2.9	2.6	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.7	-0.4	-0.2	0.0	0.1	0.0	-0.1	-0.1
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.6	-1.5	-0.7	-0.6	-0.5	-0.3	-0.6	-0.3	0.0
2.2	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6

-2.6	-1.8	-1.0	-1.0	-0.9	-0.7	-0.9	-0.7	-0.4
-6.2	-2.4	-2.4	-2.3	-2.3	-2.3	-2.2	-2.2	-2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	0	1	1	1
		0	0	0	1	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	87.4	85.0	83.3
	79.5	77.2	74.4	72.0	69.9	67.7	66.2	62.7
	5.8	6.1	6.4	6.1	5.7	5.3	4.6	6.3
	16.8	16.4	15.9	15.4	14.8	14.3	13.8	13.5
	0.9	0.2	0.1	0.0	0.0	0.1	0.4	0.6
	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1
		2.7	2.8	2.9	2.9	3.0	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

106.2	103.1	99.9	96.8	93.6	90.5	87.4	85.0	83.3
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.0	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

106.2	103.1	99.9	96.9	94.0	91.3	88.6	86.1	83.6
2.1	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
2.4	2.4	2.4	2.4	2.4	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	24.2	24.3	24.4	24.5	24.5	24.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7

220.3	221.4	223.1	225.3	227.7	230.3	232.9
0.3	0.5	0.8	1.0	1.1	1.1	1.1
220.2	221.4	223.1	225.3	227.7	230.3	232.9
0.1	0.0	0.0	0.0	0.0	0.0	0.0
2.9	3.1	3.4	3.5	3.6	3.6	3.6
3.2	3.3	3.3	3.4	3.4	3.4	3.5
4.1	4.1	4.1	4.1	4.1	4.1	4.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.1	0.0	0.0	0.0	0.0	0.0	0.0
0.4	0.6	0.8	1.0	1.1	1.1	1.1

2032	2033	2034	2035	2036	2037	2038
81.9	80.6	79.2	77.9	76.7	75.5	74.4
-1.4	-1.3	-1.3	-1.3	-1.2	-1.2	-1.1
1.6	1.4	1.3	1.2	1.1	1.0	1.0
2.4	2.4	2.4	2.4	2.4	2.4	2.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.1	0.0	-0.1	-0.1	-0.2	-0.1
2.6	2.6	2.6	2.6	2.6	2.5	2.5

-0.2	-0.4	-0.6	-0.7	-0.8	-0.8	-0.8
-2.1	-2.1	-2.0	-2.0	-1.9	-1.9	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
81.9	80.6	79.2	77.9	76.7	75.5	74.4
61.8	61.0	60.8	58.5	57.4	57.8	56.2
5.9	5.4	4.4	5.5	5.5	4.1	4.7
13.2	13.0	12.7	12.5	12.3	12.1	11.9
0.8	1.0	1.1	1.2	1.2	1.3	1.3
0.2	0.2	0.2	0.2	0.2	0.3	0.3
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8

3.2	3.3	3.3	3.4	3.4	3.4	3.5
3.2	3.3	3.4	3.4	3.5	3.6	3.6
3.2	3.3	3.3	3.4	3.4	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



81.9	80.6	79.2	77.9	76.7	75.5	74.4
3.2	3.3	3.3	3.4	3.4	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0

81.3	79.3	77.6	76.0	74.4	72.9	71.4
3.2	3.3	3.3	3.3	3.4	3.4	3.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	1.2	1.1
One-off and other temporary measures	0.2	-0.2
Stock flow adjustments (without exchange rate effect)	-3.5	1.0
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	22.4	22.2
Property income	0.7	0.7
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	185.8	198.2
Growth rate (including feedback and output-gap closure effect)	5.5	6.7
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	192.4	195.8
<i>Output gap</i>		
Output gap	-3.4	1.3
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.1	11.4
Interest rates and inflation		
Nominal implicit interest rate on debt	1.9	1.7
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	1.5	4.4
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.54	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		6.7

Debt projections

	2021	2022
Gross debt	125.4	113.9
<i>Change in debt (-1+2+3)</i>		-11.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		1.6
(1.1) Structural primary balance (before ageing cost)		1.1
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.2
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-10.9

(2.1) Interest expenditure	2.0
(2.2) Growth effect	-7.5
(2.3) Inflation effect	-5.3
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	1.0
(3.1) Base	1.0
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	125.4	113.9
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.2	0.2
Share of long-term debt in total government debt	0.8	0.8
IIR	1.9	1.7
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	1.0	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.25)

Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		

Extension (annual adjustment of 0.1)

Debt	125.4	113.9
IIR	1.9	1.7
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

203.0	206.6	208.7	210.8	212.8	214.5	215.3	215.9	216.1
2.4	1.8	1.0	1.0	1.0	0.8	0.4	0.3	0.1
						0.3	0.2	0.0

199.6	203.9	207.2	210.2	212.8	214.9	215.6	216.0	216.1

1.7	1.3	0.7	0.3	0.0	-0.2	-0.1	-0.1	0.0

8.4	4.1	3.4	3.4	3.4	3.3	2.9	2.8	2.7

2.1	2.7	2.7	2.8	2.9	2.9	3.1	3.2	3.3
		3.4	3.5	3.6	3.7	4.3	4.4	4.5
		2.7	2.8	2.8	2.9	3.4	3.5	3.5
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

5.8	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.5	0.2	0.0	-0.1	-0.1	0.0
2.4	1.8	1.0	0.8	0.6	0.8	0.3	0.2	0.0

2023	2024	2025	2026	2027	2028	2029	2030	2031
106.2	103.1	99.9	96.8	93.6	90.5	88.0	85.9	84.2
-7.7	-3.1	-3.2	-3.2	-3.2	-3.1	-2.4	-2.1	-1.8
2.0	2.6	2.5	2.5	2.6	2.8	2.6	2.4	2.2
1.3	1.9	2.1	2.4	2.6	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.9	-0.7	-0.4	-0.2	0.0	0.1	0.1	0.0	0.0
0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-6.6	-1.5	-0.7	-0.6	-0.5	-0.3	0.2	0.3	0.5

2032	2033	2034	2035	2036	2037	2038
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
24.0	24.2	24.3	24.4	24.5	24.5	24.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7

215.8	216.0	216.6	217.6	218.8	220.2	221.6
-0.1	0.1	0.3	0.5	0.6	0.6	0.6
-0.1	0.1	0.3	0.5	0.6	0.6	0.6

215.8	216.0	216.6	217.6	218.8	220.2	221.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	2.7	2.9	3.0	3.1	3.1	3.1
3.4	3.5	3.6	3.6	3.7	3.7	3.8
4.6	4.6	4.6	4.6	4.6	4.6	4.6
3.5	3.5	3.4	3.4	3.3	3.3	3.2
0.1	0.1	0.1	0.1	0.1	0.1	0.1

2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	0.1	0.3	0.5	0.6	0.6	0.6

2032	2033	2034	2035	2036	2037	2038
82.8	81.6	80.3	79.1	78.0	76.9	75.9
-1.3	-1.3	-1.2	-1.2	-1.1	-1.1	-1.0
2.1	1.9	1.8	1.7	1.6	1.5	1.5
2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.8	1.0	1.1	1.2	1.3	1.3	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	0.7	0.6	0.5	0.5	0.5	0.5

2.8	2.8	2.8	2.8	2.8	2.8	2.8
0.1	-0.1	-0.2	-0.4	-0.4	-0.5	-0.5
-2.2	-2.1	-2.0	-2.0	-1.9	-1.9	-1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
82.8	81.6	80.3	79.1	78.0	76.9	75.9
62.7	62.0	61.9	59.6	58.5	59.0	57.5
6.0	5.4	4.5	5.6	5.6	4.2	4.8
13.4	13.2	13.0	12.8	12.6	12.4	12.2
0.6	0.7	0.9	1.0	1.0	1.1	1.1
0.1	0.1	0.2	0.2	0.2	0.2	0.2
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.8	0.8	0.8	0.8	0.8	0.8	0.8
3.4	3.5	3.6	3.6	3.7	3.7	3.8
3.4	3.5	3.6	3.7	3.8	3.8	3.9
3.4	3.5	3.6	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



82.8	81.6	80.3	79.1	78.0	76.9	75.9
3.4	3.5	3.6	3.6	3.7	3.7	3.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.8	80.1	78.4	76.8	75.3	73.8	72.4
3.3	3.4	3.5	3.5	3.6	3.7	3.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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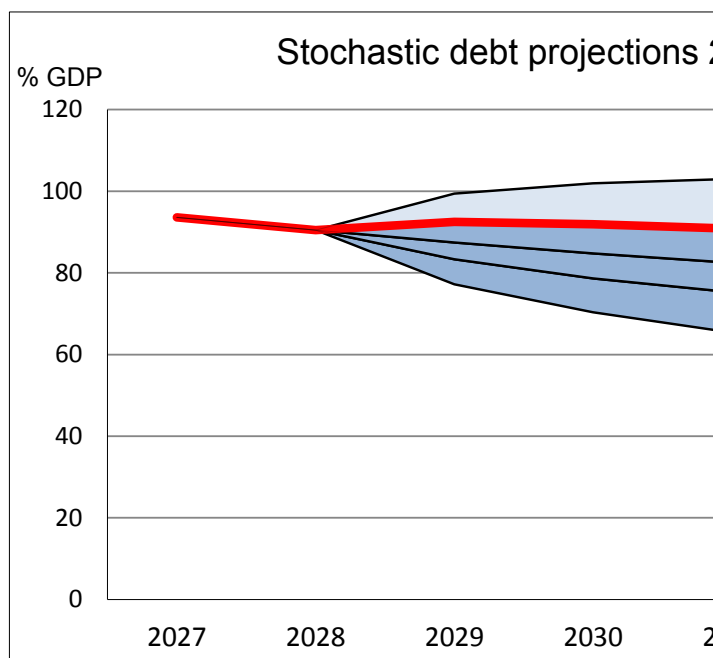
Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PT
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

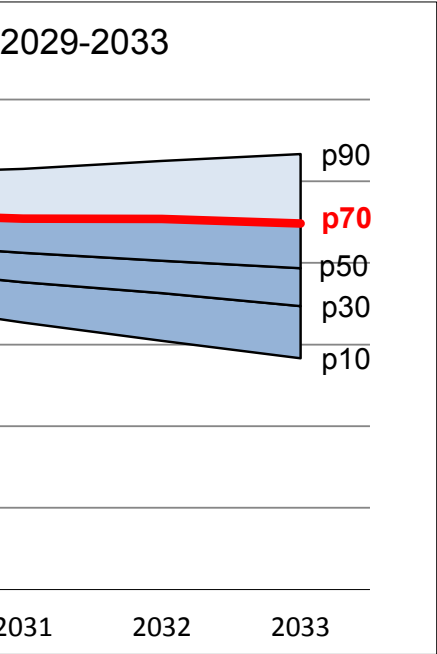
Baseline assumptions				
	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	125.4	113.9	106.2	103.1
Distribution of debt paths				
p10	125.4	113.9	106.2	103.1
p30	125.4	113.9	106.2	103.1
p50 - Adjustment scenario	125.4	113.9	106.2	103.1
p70	125.4	113.9	106.2	103.1
p90	125.4	113.9	106.2	103.1
Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	93.6	90.5	77.2	70.4
p30_p10	0.0	0.0	6.1	8.3
p50_p30	0.0	0.0	4.1	6.2
p70_p50	0.0	0.0	5.0	7.1
p90_p70	0.0	0.0	6.9	10.0
p10	93.6	90.5	77.2	70.4
p30	93.6	90.5	83.3	78.6
p50	93.6	90.5	87.5	84.8
p70	93.6	90.5	92.5	91.9
p90	93.6	90.5	99.4	101.9

2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
99.9	96.8	93.6	90.5	87.5	84.8	82.5	80.5	78.7	76.9
99.9	96.8	93.6	90.5	77.2	70.4	65.4	60.9	56.6	
99.9	96.8	93.6	90.5	83.3	78.6	75.3	72.6	69.4	
99.9	96.8	93.6	90.5	87.5	84.8	82.5	80.5	78.7	
99.9	96.8	93.6	90.5	92.5	91.9	90.9	90.8	89.6	
99.9	96.8	93.6	90.5	99.4	101.9	103.0	105.0	106.6	

2031	2032	2033
65.4	60.9	56.6
9.9	11.7	12.8
7.2	8.0	9.3
8.4	10.2	11.0
12.1	14.2	17.0
65.4	60.9	56.6
75.3	72.6	69.4
82.5	80.5	78.7
90.9	90.8	89.6
103.0	105.0	106.6



2035	2036	2037	2038	2039	2040	2041
75.0	73.3	71.6	70.0	68.4	66.9	65.4







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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States. **With the provisions included in the draft Regulation, it applies a minimum amount of 0.5 pp. of GDP as a benchmark when the deficit exceeds 3% of GDP and provides indications on whether the debt decline safeguard is met.**

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are updated automatically with changes in the macroeconomic assumptions or the adjustment parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains five main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (F7 in yellow). Note that the count cannot be changed.

2. The second table "EGR criteria" reports whether the chosen adjustment fulfils the EGR criteria (in cells D11:J16). In this NEW version of the table the table has been extended (L11:N16) to report whether the adjustment ensures that the debt decline safeguard is met (i.e. that T+4 is below debt in T) and whether the minimum adjustment of GDP as a benchmark when deficit is above 3% of GDP is binding or not.

3. The **NEW** third table reports the annual adjustment over the adjustment period, in terms of change in SPB (line 20) and net primary expenditure (line 21). The average annual adjustment is reported in line 22 (average change in SPB over the plan period), G23 (average change in net primary expenditure over the adjustment period), G24 (average net primary expenditure over the plan period) and G25 (average net primary expenditure over the adjustment period).

4. The fourth table, 'Adjustment complying with EGR criteria safeguard/benchmark' (in cells D28:H33), summarises the key changes of the adjustment path that complies with the criteria without safeguard/benchmark, for a plan with and without extension.

5. The last table, '**Annual technical trajectories**' (in cells D35:M39), reports the annual change in SPB that is consistent with the Commission proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, **the user can change all values in this sheet**.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring report (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt). **fixed shares which the user cannot change.**

Cells in *dark orange* indicate financial market price

Non coloured parameters in cells C44:C69 were calibrated based on data sources. Data sources are given in corresponding cells of column

The last part of the sheet "Input data" (cells C73:H76) provides parameters measuring the size of the cone of the fan chart that results from the stochastic analysis. For reproducibility reasons, these parameters are kept constant. The user cannot change them.

The sheets in green present the deterministic projections based on different scenarios. The baseline no-fiscal-policy-change scenario is also provided.

- **Baseline no-fiscal-policy-change scenario (NFPC) identical to DSI**
- **Adjustment scenario (as set in "Criteria results")**
- **Financial stress scenario**
- **Lower SPB scenario**
- **Adverse 'r-g' scenario**

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and financial variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to go to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different shades of grey. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast

Mild grey indicates the period during which the SPB is adjusted linearly according to the path set in sheet "Criteria results"

Dark grey indicates the period in which the SPB is constant in the case of the Lower SPB scenario.

In the sheets associated with the stress-test scenarios, i.e. "Financial stress", "Lower SPB" and "Adverse (r-g)", initial shocks are identified as follows:

With the exception of the SPB, all variables that are affected by the shock turn *very dark grey* when the shock hits.

The cells get thick black borders when the SPB is adjusted (this is only relevant for the lower SPB scenario).

The sheet in light orange presents the stochastic projections surrounding the adjustment scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario except for the "Adv" for which debt projections are in line 57. Both for the baseline and for the adjustment scenario, the corresponding **net expenditure growth** is located in line 78. The net expenditure growth over the adjustment period is computed in cell D80 of the "Adjustment scenario".

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Adjustment input data	
Country	PL
# years of adjustment	4
Annual adjustment (when benchmark not binding)	0.20

Adjustment scenario
Financial stress scenario
Lower SPB scenario
Adverse r-g scenario

* The stochastic simulations are provided mainly for information, as the
 Indeed, in this Excel worksheet, the size of the cone of the fan chart is as
 of the level of debt as shocks (in particular interest rate shocks) have diff
 ** In case a smaller adjustment than the one implied by criterion 1 and c
 baseline ('adjustment scenario') and all deterministic stress tests, then th
 is met (criterion 3).

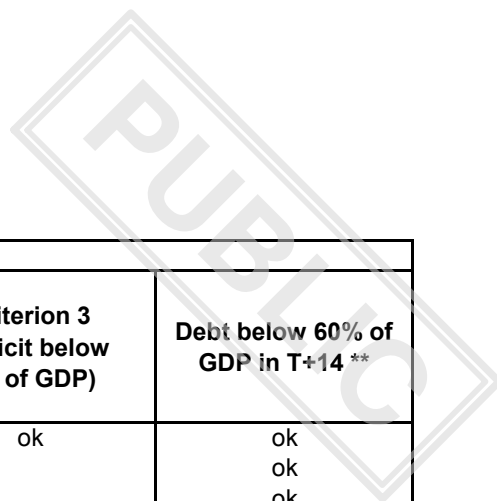
Annual adjustment (change in SPB)
Net primary expenditure growth
Average annual adjustment over the plan period
Average annual adjustment over the adjustment period
Average net primary expenditure growth over the plan period
Average net primary expenditure growth over the adjustment period

In case of a plan with no extension, both the plan period and the adjustm
 In case of a plan with extension, the plan period remains 4 years while
 safeguard is binding, the values in G22 and G23 are the same. However

years of adjustment
Annual adjustment
Probability debt decreases:

* The adjustment in the table does not account for the minimum adjust
 safeguard that debt declines over the plan period, i.e. that debt in T+4 is

Annual adjustment in a plan with no extension
Annual adjustment in a plan with extension



EGR criteria			
Criterion 1 (Debt decreasing under deterministic scenarios)	Criterion 2 * (Debt declining with sufficient probability)	Criterion 3 (Deficit below 3% of GDP)	Debt below 60% of GDP in T+14 **
ok	ok	ok	ok
ok			ok
Not met			ok
Not met			ok

Criterion 1 in the Excel worksheet only allows for an approximation of what is done in our Stata model. It is assumed to be constant over different adjustment paths. In our Stata model, it is a non linear function of the deficit with different impacts according to the level of debt ratio.

Criterion 2 is sufficient to ensure that debt is brought (and/or remains) below 60% of GDP under the most gradual adjustment (i.e. eased-up requirement) is chosen, while ensuring that the deficit criterion

Annual and average adjustment			
2025	2026	2027	2028
0.50	0.50	0.20	0.20
6.8	6.4	6.8	6.6
0.35			
0.35			
6.6			
6.6			

ent period last 4 years.

the adjustment period lasts 7 years. Also in the case of extension, if neither the benchmark nor the safeguard is binding, if the benchmark or the safeguard is binding, the values in G22 and G23 can be different.

Adjustment complying with EGR criteria without safeguard/benchmark*	
No extension	Extension
4	7
0.20	0.15
61.2	59.5

ment of 0.5 pp. of GDP as a benchmark nor for the deficit to be below debt in T.

Technical trajectories (with safeguard/benchmark)			
2025	2026	2027	2028
0.50	0.50	0.00	0.00
0.50	0.50	0.00	0.00

Safeguard	Benchmark	
Debt in T+4 below debt in T	0.5 pp. of GDP adjustment if deficit in previous year > 3% of GDP	Number of years the benchmark applies
ok	ok	2

|

chmark)		
2029	2030	2031
0.00	0.00	0.00

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	53.6	49.1
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock-flow adjustments (without exchange rate effect)	0.7	-0.8
Stock-flow adjustment (total)	1.0	-0.4
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
of which: Public pensions expenditure	11.8	11.7
Health care expenditure	5.5	5.6
Long-term care expenditure	0.8	0.8
Education & unemployment benefits expenditure	3.8	3.7
Taxes on pensions	1.8	1.8
Property income	0.6	0.6
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	6.9	5.1
Level	525.5	
<i>Potential GDP</i>		
Growth rate	3.5	3.4
Level	524.1	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	2.2	3.4
Inflation (SF 2023)		
GDP deflator (national currency)	5.3	11.3

Additional parameters

Fiscal multiplier	0.75
Budget balance elasticity	0.5
Long-term nominal interest rate (T+10 target)	6.4
Short-term nominal interest rate (T+10 target)	4.6
Long-term nominal interest rate (T+30 target)	4.5
Short-term nominal interest rate (T+30 target)	2.3
Share of short-term debt in total government debt	0.0
Share of long-term debt in total government debt	1.0
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	4.2
GDP deflator (national currency) (T+30 target)	2.5
Share of primary expenditure in GDP in 2024	42.8

Share of outstanding debt in total debt in 2024	0.8
Share of rolled over long-term debt in 2024	0.1
Share of rolled over short-term debt in 2024	0.0
Share of new long-term debt in 2024	0.1
Share of new short-term debt in 2024	0.0
Long-term nominal implicit interest rate in 2024	4.4
Long-term nominal interest rate in 2025	6.2
Short-term nominal interest rate in 2025	6.2

Stochastic projections: ranges around adjustment scenario

	T+1	T+2
Difference between debt level in 50th and 10th percentile of the distribution	-4.4	-6.0
Difference between debt level in 50th and 30th percentile of the distribution	-1.9	-2.6
Difference between debt level in 70th and 50th percentile of the distribution	1.8	2.5
Difference between debt level in 90th and 50th percentile of the distribution	4.4	6.3

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
50.5	53.0								
-2.5	-0.8								
0.0	0.0								
2.0	2.9								
1.9	2.8								
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6	20.6
11.6	11.5	11.4	11.3	11.2	11.1	11.0	11.0	10.9	10.8
5.9	6.0	6.0	6.1	6.1	6.2	6.2	6.3	6.3	6.4
0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2
3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.7	2.7	2.9	2.8	2.7	2.1	2.1	2.2	2.3	2.2
3.7	3.4	2.4	2.2	2.1	2.1	2.1	2.2	2.3	2.2
4.6	4.4								
11.8	5.8								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-28.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-28.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
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Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

T+3	T+4	T+5
-7.3	-8.4	-9.5
-3.0	-3.5	-4.1
2.9	3.7	4.2
7.7	8.7	10.4

2033	2034	2035	2036	2037	2038	2039	2040	2041
20.6	20.6	20.5	20.5	20.6	20.6	20.6	20.6	20.6
10.7	10.6	10.6	10.6	10.5	10.5	10.5	10.5	10.5
6.4	6.5	6.5	6.5	6.6	6.6	6.6	6.7	6.7
1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.5
3.8	3.7	3.7	3.6	3.6	3.6	3.5	3.5	3.5
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5
2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3
2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3

nomy, Economic Papers, No. 543.
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emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For

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these country, changing this parameter would not affect debt projections.

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Country	PL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock flow adjustments (without exchange rate effect)	0.7	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	525.5	552.4
Growth rate	6.9	5.1
<i>Potential GDP (real)</i>		
Level	524.1	541.9
<i>Output gap</i>		
Output gap	0.3	1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.6	17.0
Interest rate		
Nominal implicit interest rate on debt	2.2	3.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	5.3	11.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.1

Debt projections

	2021	2022
Gross debt	53.6	49.1
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 - 1.4 - 1.5 - 1.6 - 1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-3.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.0
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.2
(2.1) Interest expenditure		1.6

(2.2) Growth effect	-2.4
(2.3) Inflation effect	-5.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.4
(3.1) Base	-0.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Other budgetary variables	
Headline balance	-3.7
Structural balance	-5.0
Net expenditure growth	20.2

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	53.6	49.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	2.2	3.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	53.6	49.1
IIR	2.2	3.4
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

556.2	571.1	587.9	604.2	620.3	633.1	646.6	660.8	675.7
0.7	2.7	2.9	2.8	2.7	2.1	2.1	2.2	2.3

561.9	580.8	594.6	607.6	620.3	633.1	646.6	660.8	675.7

-1.0	-1.7	-1.1	-0.6	0.0	0.0	0.0	0.0	0.0

12.5	8.6	8.7	8.3	8.0	7.2	7.0	6.9	6.8

4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.8
		6.2	6.2	6.3	6.3	6.3	6.4	6.4
		6.2	5.9	5.7	5.5	5.3	5.1	4.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.8	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.7	2.7	2.9	2.8	2.7	2.1	2.1	2.2	2.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.6	52.2	51.9	52.1	52.4	52.8	53.4
1.4	2.5	-0.4	-0.3	-0.3	0.2	0.3	0.4	0.6
-3.0	-1.7	-1.5	-1.2	-1.0	-1.0	-1.0	-1.1	-1.1
-2.5	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	0.6	0.3	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.5	-1.9	-1.9	-1.6	-1.3	-0.9	-0.7	-0.6	-0.5
2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8	2.8

2032	2033	2034	2035	2036	2037	2038
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.6	20.6	20.6	20.5	20.5	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6

690.8	705.6	719.9	733.7	746.7	758.7	770.2
2.2	2.1	2.0	1.9	1.8	1.6	1.5
690.8	705.6	719.9	733.7	746.7	758.7	770.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.5	6.3	6.1	5.9	5.7	5.4	5.3
5.8	5.9	6.0	6.0	6.0	6.0	5.9
6.4	6.3	6.2	6.1	6.0	6.0	5.9
4.6	4.5	4.4	4.3	4.2	4.0	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	3.9	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.1	2.0	1.9	1.8	1.6	1.5

2032	2033	2034	2035	2036	2037	2038
54.1	55.0	55.9	57.0	58.2	59.6	61.0
0.7	0.9	1.0	1.1	1.2	1.4	1.5
-1.1	-1.1	-1.1	-1.0	-1.1	-1.1	-1.1
-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.2	-0.1	0.0	0.2	0.3	0.4
2.9	3.0	3.1	3.2	3.2	3.3	3.4

-1.1	-1.1	-1.0	-1.0	-1.0	-0.9	-0.9
-2.2	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.0	-4.1	-4.1	-4.2	-4.3	-4.4	-4.4
-4.0	-4.1	-4.1	-4.2	-4.3	-4.4	-4.4
6.4	6.2	6.1	5.9	5.6	5.4	5.2



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
54.1	54.9	55.9	56.9	58.2	59.5	61.0
44.8	45.5	46.3	47.2	48.2	49.4	50.6
4.3	4.4	4.5	4.6	4.7	4.8	4.9
0.9	0.9	0.9	0.9	1.0	1.0	1.0
3.9	4.0	4.1	4.1	4.2	4.3	4.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98
5.8	5.9	6.0	6.0	6.0	6.0	5.9
5.9	5.9	6.0	6.0	6.0	6.0	6.0
5.8	5.9	6.0	6.0	6.0	6.0	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



54.1	55.0	55.9	57.0	58.2	59.6	61.0
5.8	5.9	6.0	6.0	6.0	6.0	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock flow adjustments (without exchange rate effect)	0.7	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	525.5	552.4
Growth rate	6.9	5.1
<i>Potential GDP (real)</i>		
Level	524.1	541.9
<i>Output gap</i>		
Output gap	0.3	1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.6	17.0
Interest rates		
Nominal implicit interest rate on debt	2.2	3.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.3	11.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.1

Debt projections

	2021	2022
Gross debt	53.6	49.1
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-3.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.0
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.2
(2.1) Interest expenditure		1.6

(2.2) Growth effect	-2.4
(2.3) Inflation effect	-5.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.4
(3.1) Base	-0.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Other budgetary variables	
Headline balance	-3.7
Structural balance	-5.0
Net expenditure growth	20.2
Average net primary expenditure growth	6.6
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	53.6	49.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.02	0.02
Share of long-term debt in total government debt	0.98	0.98
IIR	2.2	3.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	53.6	49.1
IIR	2.2	3.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0.15)

Debt	53.6	49.1
IIR	2.2	3.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

556.2	571.1	585.8	599.4	613.8	627.8	643.0	659.0	675.7
0.7	2.7	2.6	2.3	2.4	2.3	2.4	2.5	2.5

561.9	580.8	594.6	607.6	620.3	633.1	646.6	660.8	675.7

-1.0	-1.7	-1.5	-1.3	-1.0	-0.8	-0.6	-0.3	0.0

12.5	8.6	8.3	7.8	7.7	7.4	7.3	7.2	7.1

4.6	4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
		6.2	6.2	6.3	6.3	6.3	6.4	6.4
		6.2	5.9	5.7	5.5	5.3	5.1	4.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.8	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-1.0	-0.9	-0.7	-0.6	-0.3	0.0
0.7	2.7	2.6	2.4	2.5	1.9	2.1	2.2	2.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.0	45.9
1.4	2.5	-0.7	-0.9	-1.1	-1.1	-1.1	-1.1	-1.1
-3.0	-1.7	-1.1	-0.5	-0.1	0.2	0.3	0.4	0.5
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	0.7	0.7	0.5	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.5	-1.9	-1.7	-1.4	-1.2	-1.0	-0.9	-0.7	-0.6
2.0	2.1	2.3	2.4	2.5	2.5	2.5	2.5	2.5

-0.3	-1.2	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
-5.2	-2.8	-2.8	-2.7	-2.5	-2.4	-2.3	-2.1	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-5.0	-3.7	-3.4	-2.9	-2.6	-2.3	-2.2	-2.1	-2.0
-4.5	-2.9	-2.7	-2.3	-2.1	-1.9	-1.9	-2.0	-2.0
13.2	5.3	6.8	6.4	6.8	6.6	6.9	6.8	6.7

0	0	0



1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.0	45.9
	41.2	43.5	43.2	42.5	41.8	41.0	40.1	39.3
	4.4	4.6	4.5	4.4	4.2	4.1	4.0	3.9
	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	6.5	3.3	2.9	2.6	2.3	2.2	2.1	1.9
	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
4.6	4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
	4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
		4.8	5.0	5.2	5.3	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.5	53.0	52.4	51.9	51.4	50.8	50.2	49.7	49.2
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

50.5	53.0	52.5	52.0	51.6	51.1	50.7	50.2	49.7
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.6	20.6	20.6	20.5	20.5	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6

690.8	705.6	719.9	733.7	746.7	758.7	770.2
2.2	2.1	2.0	1.9	1.8	1.6	1.5
690.8	705.6	719.9	733.7	746.7	758.7	770.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.5	6.3	6.1	5.9	5.7	5.4	5.3
5.8	5.8	5.9	5.9	5.9	5.9	5.9
6.4	6.3	6.2	6.1	6.0	6.0	5.9
4.6	4.5	4.4	4.3	4.2	4.0	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	3.9	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.1	2.0	1.9	1.8	1.6	1.5

2032	2033	2034	2035	2036	2037	2038
45.0	44.3	43.6	43.0	42.6	42.2	42.0
-0.9	-0.8	-0.7	-0.6	-0.5	-0.3	-0.3
0.5	0.5	0.6	0.6	0.6	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.2	-0.1	0.0	0.1	0.2	0.3
2.5	2.5	2.5	2.4	2.4	2.4	2.4

-1.0	-0.9	-0.8	-0.8	-0.7	-0.7	-0.6
-1.9	-1.8	-1.7	-1.7	-1.6	-1.5	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.0	-1.9	-1.9	-1.9	-1.9	-1.9	-1.8
-2.0	-1.9	-1.9	-1.9	-1.9	-1.9	-1.8
6.4	6.2	6.1	5.9	5.6	5.4	5.2

0	0	0	0	0	0	0

1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
45.0	44.3	43.6	43.0	42.6	42.2	42.0
38.6	37.9	37.3	36.9	36.5	36.2	36.4
3.7	3.7	3.6	3.6	3.5	3.5	3.0
0.8	0.8	0.8	0.7	0.7	0.7	0.7
1.9	1.9	1.9	1.8	1.8	1.8	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98
5.8	5.8	5.9	5.9	5.9	5.9	5.9
5.8	5.9	5.9	5.9	6.0	6.0	5.9
5.8	5.8	5.9	5.9	5.9	5.9	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0

48.9	48.7	48.7	48.7	48.9	49.2	49.6
5.8	5.9	5.9	5.9	6.0	5.9	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

49.2	48.7	48.3	48.1	47.9	47.9	48.0
5.8	5.9	5.9	5.9	6.0	5.9	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock flow adjustments (without exchange rate effect)	0.7	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	525.5	552.4
Growth rate	6.9	5.1
<i>Potential GDP (real)</i>		
Level	524.1	541.9
<i>Output gap</i>		
Output gap	0.3	1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.6	17.0
Interest rates		
Nominal implicit interest rate on debt	2.2	3.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.3	11.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.50

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.1

Debt projections

	2021	2022
Gross debt	53.6	49.1
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-3.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.0
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.2
(2.1) Interest expenditure		1.6

(2.2) Growth effect	-2.4
(2.3) Inflation effect	-5.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.4
(3.1) Base	-0.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	53.6	49.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.02	0.02
Share of long-term debt in total government debt	0.98	0.98
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	53.6	49.1
IIR	2.2	3.4
IRR difference STATA - Excel		

Extension (annual adjustment of 0.15)

Debt	53.6	49.1
IIR	2.2	3.4
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

556.2	571.1	585.8	599.4	613.8	627.8	643.0	659.0	675.7
0.7	2.7	2.6	2.3	2.4	2.3	2.4	2.5	2.5

561.9	580.8	594.6	607.6	620.3	633.1	646.6	660.8	675.7

-1.0	-1.7	-1.5	-1.3	-1.0	-0.8	-0.6	-0.3	0.0

12.5	8.6	8.3	7.8	7.7	7.4	7.3	7.2	7.1

4.6	4.4	4.8	5.0	5.2	5.3	5.6	5.7	5.8
		6.2	6.2	6.3	6.3	7.3	6.4	6.4
		6.2	5.9	5.7	5.5	6.3	5.1	4.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.8	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-1.0	-0.9	-0.7	-0.6	-0.3	0.0
0.7	2.7	2.6	2.4	2.5	1.9	2.1	2.2	2.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.2	46.1
1.4	2.5	-0.7	-0.9	-1.1	-1.1	-1.1	-1.1	-1.1
-3.0	-1.7	-1.1	-0.5	-0.1	0.2	0.3	0.4	0.5
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	0.7	0.7	0.5	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.5	-1.9	-1.7	-1.4	-1.2	-1.0	-0.8	-0.7	-0.6
2.0	2.1	2.3	2.4	2.5	2.5	2.6	2.6	2.5

-0.3	-1.2	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
-5.2	-2.8	-2.8	-2.7	-2.5	-2.4	-2.3	-2.1	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

							0	0	0

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.2	46.1
	41.2	43.5	43.2	42.5	41.8	41.0	40.2	39.4
	4.4	4.6	4.5	4.4	4.2	4.1	4.0	3.9
	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	6.5	3.3	2.9	2.6	2.3	2.3	2.1	2.0
	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98

	4.4	4.8	5.0	5.2	5.3	5.6	5.7	5.8
	4.4	4.8	5.0	5.2	5.3	5.6	5.7	5.8
		4.8	5.0	5.2	5.3	5.6	5.7	5.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

50.5	53.0	52.4	51.9	51.4	50.8	50.3	49.8	49.3
4.6	4.4	4.8	5.0	5.2	5.4	5.7	5.7	5.8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

50.5	53.0	52.5	52.0	51.6	51.1	50.7	50.2	49.7
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.6	20.6	20.6	20.5	20.5	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6

690.8 705.6 719.9 733.7 746.7 758.7 770.2
2.2 2.1 2.0 1.9 1.8 1.6 1.5

690.8 705.6 719.9 733.7 746.7 758.7 770.2

0.0 0.0 0.0 0.0 0.0 0.0 0.0

6.5 6.3 6.1 5.9 5.7 5.4 5.3

5.9	5.9	5.9	6.0	6.0	6.0	5.9
6.4	6.3	6.2	6.1	6.0	6.0	5.9
4.6	4.5	4.4	4.3	4.2	4.0	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	4.1	4.0	3.9	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0 0.0 0.0 0.0 0.0 0.0 0.0
0.0 0.0 0.0 0.0 0.0 0.0 0.0
2.2 2.1 2.0 1.9 1.8 1.6 1.5

2032	2033	2034	2035	2036	2037	2038
45.2	44.5	43.9	43.3	42.9	42.6	42.3
-0.8	-0.7	-0.6	-0.5	-0.4	-0.3	-0.3
0.5	0.5	0.6	0.6	0.6	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.2	-0.1	0.0	0.1	0.2	0.3
2.5	2.5	2.5	2.5	2.4	2.4	2.4

-1.0	-0.9	-0.8	-0.8	-0.7	-0.7	-0.6
-1.9	-1.8	-1.7	-1.7	-1.6	-1.6	-1.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0	0	0	0	0



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
45.2	44.5	43.9	43.3	42.9	42.6	42.3
38.7	38.1	37.5	37.1	36.7	36.4	36.2
3.8	3.7	3.6	3.6	3.6	3.5	3.5
0.8	0.8	0.8	0.8	0.7	0.7	0.7
2.0	1.9	1.9	1.9	1.9	1.9	1.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.98	0.98	0.98	0.98	0.98	0.98	0.98

5.9	5.9	5.9	6.0	6.0	6.0	5.9
5.9	5.9	6.0	6.0	6.0	6.0	6.0
5.9	5.9	5.9	6.0	6.0	6.0	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0



49.1	49.0	49.0	49.0	49.2	49.6	50.0
5.9	6.0	6.0	6.0	6.0	6.0	6.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

49.3	48.9	48.5	48.3	48.2	48.2	48.3
6.0	6.0	6.0	6.0	6.0	6.0	6.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock flow adjustments (without exchange rate effect)	0.7	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	525.5	552.4
Growth rate	6.9	5.1
<i>Potential GDP (real)</i>		
Level	524.1	541.9
<i>Output gap</i>		
Output gap	0.3	1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.6	17.0
Interest rates		
Nominal implicit interest rate on debt	2.2	3.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.3	11.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.1

Debt projections

	2021	2022
Gross debt	53.6	49.1
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-3.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.0
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.2
(2.1) Interest expenditure		1.6

(2.2) Growth effect	-2.4
(2.3) Inflation effect	-5.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.4
(3.1) Base	-0.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	53.6	49.1
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR		
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)		

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	53.6	49.1
IIR	2.2	3.4
IRR difference STATA - Excel		

Extension (annual adjustment of 0.15)

Debt	53.6	49.1
IIR	2.2	3.4
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.3	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

556.2	571.1	585.8	599.4	613.8	627.8	644.2	660.4	675.4
0.7	2.7	2.6	2.3	2.4	2.3	2.6	2.5	2.3
561.9	580.8	594.6	607.6	620.3	633.1	646.6	660.8	675.7
-1.0	-1.7	-1.5	-1.3	-1.0	-0.8	-0.4	-0.1	0.0
12.5	8.6	8.3	7.8	7.7	7.4	7.5	7.2	6.8
4.6	4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
		6.2	6.2	6.3	6.3	6.3	6.4	6.4
		6.2	5.9	5.7	5.5	5.3	5.1	4.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11.8	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0
0.0	0.0	0.0	-1.0	-0.9	-0.7	-0.6	-0.3	0.0
0.7	2.7	2.6	2.4	2.5	1.9	2.3	2.4	2.3

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.5	47.0
1.4	2.5	-0.7	-0.9	-1.1	-1.1	-1.1	-0.7	-0.5
-3.0	-1.7	-1.1	-0.5	-0.1	0.2	0.1	0.0	0.0
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.3	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	0.7	0.7	0.5	0.4	0.2	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.5	-1.9	-1.7	-1.4	-1.2	-1.0	-0.9	-0.7	-0.5
2.0	2.1	2.3	2.4	2.5	2.5	2.5	2.5	2.5

-0.3	-1.2	-1.3	-1.1	-1.1	-1.1	-1.2	-1.1	-1.0
-5.2	-2.8	-2.8	-2.7	-2.5	-2.4	-2.3	-2.1	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	0	0

1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.2	47.5	47.0
	41.2	43.5	43.2	42.5	41.8	40.9	40.2	39.8
	4.4	4.6	4.5	4.4	4.2	4.1	4.0	3.9
	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	6.5	3.3	2.9	2.6	2.3	2.3	2.5	2.5
	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
4.4	4.8	5.0	5.2	5.3	5.5	5.6	5.7
	4.8	5.0	5.2	5.3	5.5	5.6	5.7
	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

50.5	53.0	52.4	51.9	51.4	50.8	50.3	50.1	50.2
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

50.5	53.0	52.5	52.0	51.6	51.1	50.7	50.2	49.7
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.6	20.6	20.6	20.5	20.5	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6

690.7	705.6	719.9	733.7	746.7	758.7	770.2
2.3	2.2	2.0	1.9	1.8	1.6	1.5
690.8	705.6	719.9	733.7	746.7	758.7	770.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.6	6.4	6.1	5.9	5.7	5.4	5.3
5.8	5.9	5.9	5.9	5.9	5.9	5.9
6.4	6.3	6.2	6.1	6.0	6.0	5.9
4.6	4.5	4.4	4.3	4.2	4.0	3.9
0.1	0.1	0.1	0.1	0.1	0.1	0.1
4.2	4.1	4.0	3.9	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

2.0	1.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	2.1	2.0	1.9	1.8	1.6	1.5

2032	2033	2034	2035	2036	2037	2038
46.6	46.4	46.2	46.1	46.2	46.4	46.6
-0.4	-0.3	-0.2	-0.1	0.1	0.2	0.3
0.0	0.0	0.1	0.1	0.1	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.3	-0.2	-0.1	0.0	0.1	0.2	0.3
2.6	2.6	2.6	2.6	2.6	2.6	2.6

-1.0	-0.9	-0.9	-0.8	-0.8	-0.7	-0.7
-1.9	-1.8	-1.8	-1.8	-1.7	-1.7	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	1	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
46.6	46.4	46.2	46.1	46.2	46.4	46.6
39.5	39.2	39.1	39.0	39.1	39.2	39.4
3.8	3.8	3.8	3.8	3.8	3.8	3.8
0.8	0.8	0.8	0.8	0.8	0.8	0.8
2.5	2.5	2.5	2.5	2.5	2.5	2.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
5.8	5.9	5.9	5.9	5.9	5.9	5.9
5.8	5.9	5.9	6.0	6.0	6.0	6.0
5.8	5.9	5.9	5.9	5.9	5.9	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.4	50.8	51.2	51.8	52.5	53.3	54.2
5.8	5.9	5.9	6.0	6.0	6.0	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.3	49.1	49.3	49.5	49.9	50.4	51.0
5.8	5.9	5.9	5.9	6.0	5.9	5.9
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-3.4
One-off and other temporary measures	0.2	0.3
Stock flow adjustments (without exchange rate effect)	0.7	-0.8
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	20.1	20.1
Property income	0.6	0.6
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	525.5	552.4
Growth rate (including feedback and output-gap closure effect)	6.9	5.1
per memo: initial shock (GDP growth rate in baseline scenario - 0.5)		
<i>Potential GDP (real)</i>		
Level	524.1	541.9
<i>Output gap</i>		
Output gap	0.3	1.9
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	12.6	17.0
Interest rates and inflation		
Nominal implicit interest rate on debt	2.2	3.4
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	5.3	11.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.50	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		5.1

Debt projections

	2021	2022
Gross debt	53.6	49.1
<i>Change in debt (-1+2+3)</i>		-4.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		-2.2
(1.1) Structural primary balance (before ageing cost)		-3.4
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-1.0
(1.4) One-off and other temporary measures		-0.3
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-6.2

(2.1) Interest expenditure	1.6
(2.2) Growth effect	-2.4
(2.3) Inflation effect	-5.4
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	-0.4
(3.1) Base	-0.8
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.4
Debt decreasing? (For criterion 1)	

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	53.6	49.1
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.0	0.0
Share of long-term debt in total government debt	1.0	1.0
IIR	2.2	3.4
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results without benchmark and safeguard

No extension (annual adjustment of 0.2)

Debt	53.6	49.1
IIR	2.2	3.4
IIR difference STATA - Excel		

Extension (annual adjustment of 0.15)

Debt	53.6	49.1
IIR	2.2	3.4
IIR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.4	20.4	20.5	20.5	20.5	20.6	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6

556.2	571.1	585.8	599.4	613.8	627.8	639.9	652.5	665.9
0.7	2.7	2.6	2.3	2.4	2.3	1.9	2.0	2.0
						1.6	1.7	1.8

561.9	580.8	594.6	607.6	620.3	633.1	643.5	654.4	665.9

-1.0	-1.7	-1.5	-1.3	-1.0	-0.8	-0.6	-0.3	0.0

12.5	8.6	8.3	7.8	7.7	7.4	6.8	6.7	6.5

4.6	4.4	4.8	5.0	5.2	5.3	5.5	5.7	5.9
		6.2	6.2	6.3	6.3	6.8	6.9	6.9
		6.2	5.9	5.7	5.5	5.8	5.6	5.3
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

11.8	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	-1.0	-0.9	-0.7	-0.6	-0.3	0.0
0.7	2.7	2.6	2.4	2.5	1.9	1.6	1.7	1.8

2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.4	47.6	46.8
1.4	2.5	-0.7	-0.9	-1.1	-1.1	-0.9	-0.8	-0.8
-3.0	-1.7	-1.1	-0.5	-0.1	0.2	0.3	0.4	0.5
-2.5	-0.8	-0.3	0.2	0.4	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.8	0.7	0.7	0.5	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.5	-1.9	-1.7	-1.4	-1.2	-1.0	-0.6	-0.4	-0.3

2.0	2.1	2.3	2.4	2.5	2.5	2.6	2.6	2.6
-0.3	-1.2	-1.3	-1.1	-1.1	-1.1	-0.9	-0.9	-0.9
-5.2	-2.8	-2.8	-2.7	-2.5	-2.4	-2.3	-2.1	-2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
						0	0	0



		1	1	1	1	1	1	1
		0	0	0	0	0	0	0
2023	2024	2025	2026	2027	2028	2029	2030	2031
50.5	53.0	52.4	51.5	50.4	49.3	48.4	47.6	46.8
	41.2	43.5	43.2	42.5	41.8	41.2	40.6	39.9
	4.4	4.6	4.5	4.4	4.2	4.1	4.0	3.9
	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
	6.5	3.3	2.9	2.6	2.3	2.2	2.2	2.0
	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4.6	4.4	4.8	5.0	5.2	5.3	5.5	5.7	5.9
	4.4	4.8	5.0	5.2	5.3	5.5	5.7	5.9
		4.8	5.0	5.2	5.3	5.5	5.7	5.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.5	53.0	52.4	51.9	51.4	50.8	50.5	50.3	50.1
4.6	4.4	4.8	5.0	5.2	5.4	5.6	5.8	5.9
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.5	53.0	52.5	52.0	51.6	51.1	50.7	50.2	49.7
4.6	4.4	4.8	5.0	5.2	5.4	5.5	5.6	5.7
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.6	20.6	20.6	20.5	20.5	20.6	20.6
0.6	0.6	0.6	0.6	0.6	0.6	0.6

677.4	688.5	699.0	708.9	717.9	725.9	733.3
1.7	1.6	1.5	1.4	1.3	1.1	1.0
1.7	1.6	1.5	1.4	1.3	1.1	1.0

677.4	688.5	699.0	708.9	717.9	725.9	733.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
6.0	5.8	5.6	5.4	5.2	4.9	4.7
6.0	6.1	6.2	6.2	6.3	6.3	6.3
6.9	6.8	6.7	6.6	6.5	6.5	6.4
5.1	5.0	4.9	4.8	4.7	4.5	4.4
0.1	0.1	0.1	0.1	0.1	0.1	0.1

4.2	4.1	4.0	3.9	3.9	3.8	3.7
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.7	1.6	1.5	1.4	1.3	1.1	1.0

2032	2033	2034	2035	2036	2037	2038
46.2	45.8	45.5	45.3	45.2	45.2	45.4
-0.5	-0.4	-0.3	-0.2	-0.1	0.0	0.1
0.5	0.5	0.6	0.6	0.6	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.1	0.2	0.3	0.5	0.6	0.7

2.6	2.7	2.7	2.7	2.7	2.7	2.7
-0.8	-0.7	-0.7	-0.6	-0.5	-0.5	-0.4
-1.9	-1.8	-1.8	-1.7	-1.7	-1.6	-1.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	0	0	0	0	1	1



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
46.2	45.8	45.5	45.3	45.2	45.2	45.4
39.5	39.1	38.8	38.6	38.5	38.6	38.7
3.8	3.8	3.8	3.7	3.7	3.7	3.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8
2.1	2.1	2.1	2.1	2.1	2.1	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0
6.0	6.1	6.2	6.2	6.3	6.3	6.3
6.0	6.1	6.2	6.3	6.3	6.3	6.3
6.0	6.1	6.2	6.2	6.3	6.3	6.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



50.2	50.4	50.7	51.2	51.8	52.5	53.4
6.0	6.2	6.2	6.3	6.3	6.3	6.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.5	49.3	49.2	49.3	49.6	50.0	50.5
5.9	6.0	6.1	6.2	6.2	6.2	6.3
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	PL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
First year of stochastic projections	2029
Last year of stochastic projections	2033

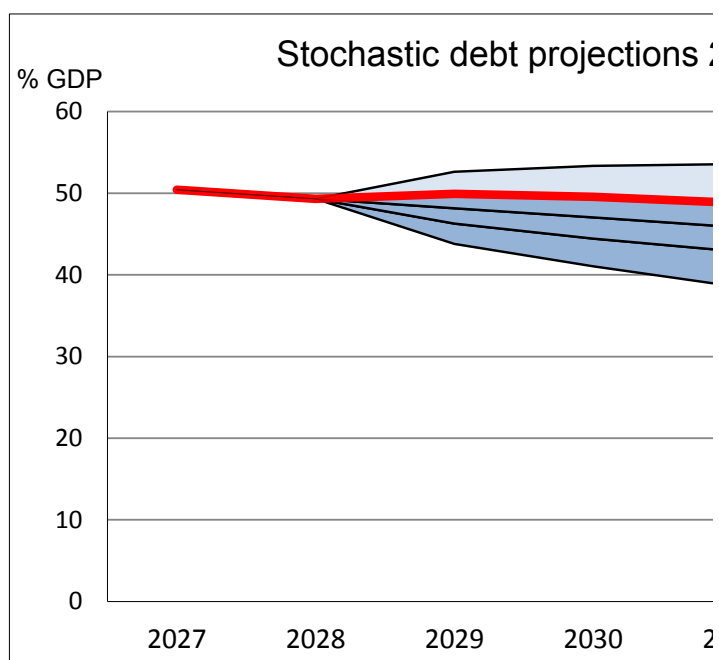
Baseline assumptions	2021	2022	2023	2024
Gross debt ratio in the adjustment scenario	53.6	49.1	50.5	53.0

Distribution of debt paths				
p10	53.6	49.1	50.5	53.0
p30	53.6	49.1	50.5	53.0
p50 - Adjustment scenario	53.6	49.1	50.5	53.0
p70	53.6	49.1	50.5	53.0
p90	53.6	49.1	50.5	53.0

Graph				
Stochastic debt projections 2029-2033	2027	2028	2029	2030
p10	50.4	49.3	43.8	41.0
p30_p10	0.0	0.0	2.5	3.4
p50_p30	0.0	0.0	1.9	2.6
p70_p50	0.0	0.0	1.8	2.5
p90_p70	0.0	0.0	2.7	3.8
p10	50.4	49.3	43.8	41.0
p30	50.4	49.3	46.3	44.5
p50	50.4	49.3	48.2	47.0
p70	50.4	49.3	49.9	49.5
p90	50.4	49.3	52.6	53.3

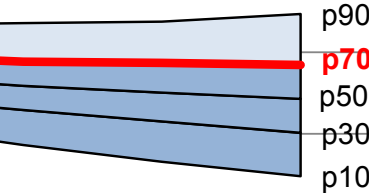
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
52.4	51.5	50.4	49.3	48.2	47.0	45.9	45.0	44.3	43.6
52.4	51.5	50.4	49.3	43.8	41.0	38.6	36.6	34.8	
52.4	51.5	50.4	49.3	46.3	44.5	42.9	41.5	40.1	
52.4	51.5	50.4	49.3	48.2	47.0	45.9	45.0	44.3	
52.4	51.5	50.4	49.3	49.9	49.5	48.8	48.7	48.4	
52.4	51.5	50.4	49.3	52.6	53.3	53.6	53.8	54.7	

2031	2032	2033
38.6	36.6	34.8
4.3	4.9	5.3
3.0	3.5	4.1
2.9	3.7	4.2
4.7	5.1	6.2
38.6	36.6	34.8
42.9	41.5	40.1
45.9	45.0	44.3
48.8	48.7	48.4
53.6	53.8	54.7



2035	2036	2037	2038	2039	2040	2041
43.0	42.6	42.2	42.0	41.8	41.7	41.6

2029-2033



2031 2032 2033





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European Commission

Directorate-General for Economic and Financial Affairs
Unit C2 - Sustainability of public finances
ECFIN-Secretariat-C2@ec.europa.eu

FILE DESCRIPTION

Data reported in this file are based on *European Commission (EC) 2023 spring* and macroeconomic and budgetary projections from the joint *EC-EPC Ageing Report (AR) 2021*. Calculations are provided for the purpose of informing the discussion of the Economic Governance Review and are intended only for the Member States.

This file contains a simplified version of the EC model used to calculate the government debt ratio dynamics for EU countries under different scenarios. A detailed description of the EC's general government debt projections can be found in the [Sustainability Report 2021](#) and the ["Debt Sustainability Monitor 2022" \(June 2023\)](#).

HOW TO USE THIS TOOL TO CALCULATE NEW DEBT PROJECTIONS

This tool can be used to calculate debt projections under different macroeconomic and primary balance adjustment assumptions. Debt projections for each scenario are calculated automatically with changes in the macroeconomic assumptions or the parameters. The fulfilment of EGR criteria will be automatically calculated in the **"Criteria results"**.

Outputs and formulas are fully visible and can be altered or modified. To assess the impact of alternative adjustment paths compared with the reference calculation of the EC or to check the robustness of underlying macroeconomic assumptions, the user can modify the content of key cells in the sheets **"Criteria results"** and **"Input data"** (see below).

The spreadsheet is composed of the following elements:

The grey sheet "**Criteria results**" contains three main tables:

1. In the first table "Adjustment input data", the user can set the years of the plan (4 years under 'no extension' or 7 years under 'extension') and the yearly adjustment pace (cells F7 in yellow). Note that the cells F4 and F5 (F4) cannot be changed.
2. The second table "EGR criteria" reports whether the chosen scenario fulfils the EGR criteria (in cells D11:J13).
4. The third table, '**Technical information**' (in cells D16:M19), displays the SPB at the end of the adjustment period that are consistent with the Commission legislative proposal of April 2023.

The sheet "Input data" in light blue presents the **input data**, including inflation and GDP growth assumptions as well as other additional fiscal parameters. Unless stated otherwise below, the user can change all values in this sheet.

Coloured cells indicate data sources as follows (this colour-coding applies to the other spreadsheets):

Cells in *light grey* indicate Commission 2023 spring forecast (available in the AMECO database)

Cells in *light blue* indicate Ageing Report 2021

Cells in *light orange* provide parameters required to compute the decomposition of government debt by maturity structure (i.e. short-term and long-term maturing, rolled-over and non-maturing debt).

Cells in *dark orange* indicate financial market prices

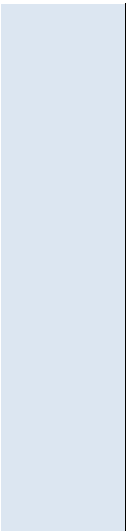
Non coloured parameters in cells C44:C69 were calibrated based on historical data sources. Data sources are given in corresponding cells of colour-coded sheets.

The sheets in green present the deterministic projections based on the baseline no-fiscal-policy-change scenario (NFPC) and the adjustment scenario as set in the "Criteria results" worksheet.

Each deterministic projection provides a single path for debt until 2041 under certain assumptions for budgetary, macroeconomic and demographic variables. It is computed automatically (make sure that Excel is in "Automatic" computation mode, i.e. in the File menu, Option to save is set to "Formulas", "Calculation Options" and "Automatic").

Within each green sheet, the background of the SPB line has three different colours. Each colour corresponds to a specific period of the projections:

Light grey indicates the pre-plan period, corresponding to the EC 2023 spring forecast



Mild grey indicates the period during which the S shock is applied linearly according to the path set in sheet "**Criteria**".

Dark grey indicates the period in which the S shock is constant in the case of the Lower SPB scenario.

WHERE ARE THE MAIN RESULTS LOCATED?

The fulfillment of EGR criteria is checked in the sheet "**Criteria results**".

Debt projections can be found in line 56 of each scenario.

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Adjustment input data	
Country	NL
# years of adjustment	4
Annual adjustment (change in SPB)	0.40
SPB at the end of the adjustment	0.4

Adjustment scenario

years of adjustment
SPB at the end of the adjustment

* The technical information provides the structural primary balance maintained below the 3% of GDP reference value without adjustment after the end of the adjustment period. Note that the SPB at the end of the adjustment period is the same as the SPB at the beginning of the plan, indicating that the Member State has achieved a sustainable adjustment.



EGR criteria	
Deficit below 3% of GDP	Debt below 60% of GDP in T+14
ok	ok

Technical information*	
No extension	Extension
4	7
0.4	0.2

Balance necessary to ensure that the headline deficit is
any additional policy measures over a 10-year period
the end of the adjustment period may be lower than
ber State has some room for fiscal manoeuvre.

Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	NL
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
<i>Key fiscal variables (based on SF 2023 T+2 forecast)</i>		
Debt	52.5	51.0
Structural primary balance ('+' means 'surplus')	-1.1	-0.2
One-off and other temporary measures	-0.1	0.0
Stock-flow adjustments (without exchange rate effect)	-0.8	3.3
Stock-flow adjustment (total)	-0.8	3.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.8	18.6
of which: Public pensions expenditure	7.4	7.3
Health care expenditure	5.8	5.8
Long-term care expenditure	3.9	3.9
Education & unemployment benefits expenditure	4.7	4.6
Taxes on pensions	3.0	3.0
Property income	0.8	0.8
Real GDP growth assumptions (based on SF 2023 T+10 projections and AR 2021 projections)		
<i>Actual GDP</i>		
Growth rate	4.9	4.5
Level	733.9	
<i>Potential GDP</i>		
Growth rate	1.7	2.2
Level	741.6	
Interest rates (SF 2023)		
Nominal implicit interest rate on debt	1.1	1.1
Inflation (SF 2023)		
GDP deflator (national currency)	2.4	5.3

Additional parameters

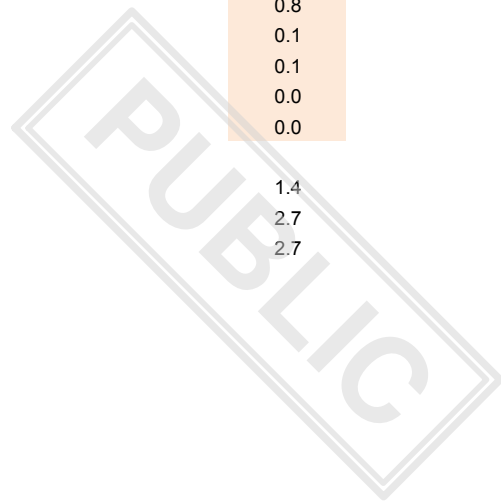
Fiscal multiplier	0.75
Budget balance elasticity	0.6
Long-term nominal interest rate (T+10 target)	2.8
Short-term nominal interest rate (T+10 target)	3.0
Long-term nominal interest rate (T+30 target)	4.0
Short-term nominal interest rate (T+30 target)	2.0
Share of short-term debt in total government debt	0.1
Share of long-term debt in total government debt	0.9
Share of long-term debt that matures every year (T+10 target)	0.1
GDP deflator (national currency) (T+10 target)	2.6
GDP deflator (national currency) (T+30 target)	2.0
Share of primary expenditure in GDP in 2024	44.5

Share of outstanding debt in total debt in 2024
Share of rolled over long-term debt in 2024
Share of rolled over short-term debt in 2024
Share of new long-term debt in 2024
Share of new short-term debt in 2024

0.8
0.1
0.1
0.0
0.0

Long-term nominal implicit interest rate in 2024
Long-term nominal interest rate in 2025
Short-term nominal interest rate in 2025

1.4
2.7
2.7



2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
49.3	48.8								
-2.0	-1.2								
0.0	0.0								
0.0	-0.3								
0.0	-0.3								
18.7	18.8	18.9	19.0	19.2	19.4	19.6	19.8	20.1	20.3
7.3	7.2	7.3	7.4	7.6	7.7	7.9	8.1	8.3	8.4
5.8	5.8	5.9	5.9	5.9	6.0	6.0	6.0	6.0	6.1
3.9	4.1	4.1	4.2	4.3	4.4	4.5	4.5	4.6	4.7
4.6	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4
2.9	2.9	2.9	2.9	3.0	3.1	3.1	3.2	3.3	3.3
0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7
1.8	1.2	1.4	1.0	0.9	0.9	0.8	0.7	0.6	0.6
1.9	1.9	1.5	1.1	1.0	0.9	0.8	0.7	0.6	0.6
1.5	1.5								
6.1	2.6								

Carnot, N. and de Castro, F. (2015), "The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect", European Economic Review, 85, 1-24.
Mourre, G. et al. (2019), "The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update and Further Analysis", European Economic Review, 111, 1-24.

Bloomberg data, country-specific forward market rates.

Bloomberg data, country-specific forward market rates.

DSM 2022

DSM 2022

Eurostat, average shares over the last 3 years available.

Eurostat, average shares over the last 3 years available.

ECB, country-specific historical average shares over the last 6 years available. For post programme countries, CY, EI, IE and PT, the red

Bloomberg data, inflation swaps.

Central bank inflation target

SF23

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.

Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.
Derived from the model and made consistent with the short-term forecast.



2033	2034	2035	2036	2037	2038	2039	2040	2041

20.5	20.8	20.9	21.1	21.2	21.3	21.4	21.5	21.5
8.6	8.7	8.8	8.9	9.0	9.1	9.0	9.1	9.1
6.1	6.1	6.1	6.2	6.2	6.2	6.2	6.3	6.3
4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.4	5.5
4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
3.4	3.5	3.5	3.6	3.7	3.7	3.8	3.8	3.8
0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

0.7	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.5

0.7	0.9	1.0	1.1	1.3	1.3	1.4	1.5	1.5

nomy, Economic Papers, No. 543.
 xpean Economy, Discussion Paper, No. 098.

emption profile of official loans has been taken into account for the computation of the share of long-term debt that matures every year. For



these country, changing this parameter would not affect debt projections.





Country	NL
Key years	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-0.2
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	-0.8	3.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.8	18.6
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	733.9	766.8
Growth rate	4.9	4.5
<i>Potential GDP (real)</i>		
Level	741.6	757.7
<i>Output gap</i>		
Output gap	-1.0	1.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	10.0
Interest rate		
Nominal implicit interest rate on debt	1.1	1.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (national currency)	2.4	5.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75	
Elasticity budget balance	0.61	
Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.5

Debt projections

	2021	2022
Gross debt	52.5	51.0
<i>Change in debt (-1+2+3)</i>		-1.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.6
(1.1) Structural primary balance (before ageing cost)		-0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-2.1
(2.3) Inflation effect	-2.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.3
(3.1) Base	3.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.0
Structural balance	-0.7
Net expenditure growth	5.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	52.5	51.0
<i>Of which</i> Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt		
Share of long-term debt in total government debt		
IIR	1.1	1.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results

Debt	52.5	51.0
IIR	1.1	1.1
IIR difference STATA - Excel		
Share of long-term debt that matures every year	2021	2022
CY	0.0	0.1
EL	0.1	0.1
IE	0.0	0.1
PT	0.1	0.1

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.0	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.7	18.8	18.9	19.0	19.2	19.4	19.6	19.8	20.1
0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7

780.6	789.8	800.5	808.6	815.6	822.8	829.5	835.6	840.8
1.8	1.2	1.4	1.0	0.9	0.9	0.8	0.7	0.6

772.2	786.7	798.4	807.5	815.6	822.8	829.5	835.6	840.8

1.1	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0

8.1	3.8	4.0	3.7	3.5	3.5	3.5	3.4	3.3

1.5	1.5	1.7	1.8	1.9	2.0	2.2	2.3	2.3
		2.7	2.7	2.7	2.7	2.7	2.7	2.8
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.8	1.2	1.4	1.0	0.9	0.9	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
49.3	48.8	48.9	49.4	50.3	51.5	52.9	54.7	56.7
-1.7	-0.4	0.1	0.5	0.9	1.1	1.4	1.7	2.1
-1.4	-1.0	-1.2	-1.4	-1.7	-1.9	-2.1	-2.3	-2.6
-2.0	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.3	0.5	0.6	0.9	1.1	1.3
0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.1	-1.1	-0.9	-0.8	-0.7	-0.7	-0.6	-0.5
0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.2

2032	2033	2034	2035	2036	2037	2038
-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.5	20.8	20.9	21.1	21.2	21.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7

846.0	852.3	859.8	868.5	878.3	889.4	901.2
0.6	0.7	0.9	1.0	1.1	1.3	1.3
846.0	852.3	859.8	868.5	878.3	889.4	901.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.5	3.6	3.7	3.8	3.8
2.4	2.5	2.5	2.6	2.7	2.7	2.8
2.8	2.8	2.9	3.0	3.0	3.1	3.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.9	1.0	1.1	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
59.1	61.6	64.3	67.2	70.1	73.2	76.4
2.3	2.5	2.7	2.9	3.0	3.1	3.2
-2.8	-3.0	-3.3	-3.5	-3.6	-3.8	-3.9
-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	1.8	2.0	2.2	2.3	2.4	2.6
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.5	-0.5	-0.6	-0.6	-0.6	-0.7	-0.7
1.3	1.4	1.5	1.6	1.7	1.8	2.0

-0.3	-0.4	-0.5	-0.6	-0.7	-0.9	-0.9
-1.5	-1.5	-1.5	-1.6	-1.6	-1.7	-1.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-4.1	-4.5	-4.8	-5.1	-5.3	-5.6	-5.9
-4.1	-4.5	-4.8	-5.1	-5.3	-5.6	-5.9
3.3	3.4	3.5	3.6	3.6	3.7	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0
2032	2033	2034	2035	2036	2037	2038
59.1	61.6	64.3	67.2	70.1	73.2	76.4
44.1	45.8	47.8	49.8	52.0	54.3	56.6
5.0	5.2	5.4	5.6	5.9	6.1	6.4
5.9	6.1	6.4	6.6	6.9	7.2	7.5
3.7	4.0	4.3	4.6	4.8	5.0	5.3
0.4	0.5	0.5	0.5	0.6	0.6	0.6
0.11	0.11	0.11	0.11	0.11	0.11	0.11
0.89	0.89	0.89	0.89	0.89	0.89	0.89
2.4	2.5	2.5	2.6	2.7	2.7	2.8
2.3	2.4	2.5	2.6	2.7	2.7	2.8
2.4	2.5	2.5	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



59.1	61.6	64.3	67.2	70.2	73.2	76.4
2.4	2.5	2.6	2.6	2.7	2.7	2.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	2033	2034	2035	2036	2037	2038
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.1	0.1	0.1	0.1	0.1	0.1	0.1



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Simulations based on Commission 2023 spring forecast ('SF 2023') and 2021 Ageing Report ('AR 2021')

Country	NL
<i>Key years</i>	
Last forecast year (T+2) - Adjustment begins in following year	2024
Last year of adjustment	2028
Last year of no-fiscal-policy-change projections	2038

Key assumptions

	2021	2022
Fiscal assumptions (% of GDP)		
Structural primary balance ('+' means 'surplus')	-1.1	-0.2
One-off and other temporary measures	-0.1	0.0
Stock flow adjustments (without exchange rate effect)	-0.8	3.3
<i>Cost of ageing and selected public revenue (based on AR 2021)</i>		
Total ageing cost (net of taxes on pensions)	18.8	18.6
Property income	0.8	0.8
GDP growth assumptions		
<i>Actual GDP (real)</i>		
Level	733.9	766.8
Growth rate	4.9	4.5
<i>Potential GDP (real)</i>		
Level	741.6	757.7
<i>Output gap</i>		
Output gap	-1.0	1.2
<i>Actual GDP (nominal, national currency)</i>		
Growth rate	7.4	10.0
Interest rates		
Nominal implicit interest rate on debt	1.1	1.1
Long-term interest rate		
Short-term interest rate		
Share of long-term debt that matures every year	0.1	0.1
Inflation and exchange rate		
GDP deflator (National currency)	2.4	5.3
Exchange rate composite change (weighted by share of debt in each currency)	1.0	1.0

Intermediate calculations (growth rate equation)

Fiscal multiplier	0.75
Elasticity budget balance	0.61

Auxiliary variable to control the closure of the output gap	0.0	0.0
OG intermediate auxiliary value	0.0	0.0
GDP intermediate growth rate - only feedback effect and no closure of the OG		4.5

Debt projections

	2021	2022
Gross debt	52.5	51.0
<i>Change in debt (-1+2+3)</i>		-1.5
(1) Primary balance (1.1 + 1.2 - 1.3 -1.4 -1.5 - 1.6 -1.7)		0.6
(1.1) Structural primary balance (before ageing cost)		-0.2
(1.2) Cumulated budgetary effort (in terms of primary balance)		0.0
(1.3) Cyclical component		-0.7
(1.4) One-off and other temporary measures		0.0
(1.5) Cost of ageing		0.0
(1.6) Property incomes		0.0
(1.7) Revenues		0.0
(2) Snowball effect (2.1 + 2.2 + 2.3)		-4.2
(2.1) Interest expenditure		0.5

(2.2) Growth effect	-2.1
(2.3) Inflation effect	-2.6
(2.4) Exchange rate effect linked to the interest rate	0.0
(3) Stock flow adjustments (3.1 + 3.2)	3.3
(3.1) Base	3.3
(3.2) Adjustment due to the exchange rate effect linked to debt value	0.0
Other budgetary variables	
Headline balance	0.0
Structural balance	-0.7
Net expenditure growth	5.5

Debt decomposition and IIR

Auxiliary variable identifying whether debt is increasing

Auxiliary variable identifying whether some debt is rolled over even though debt is decreasing

	2021	2022
Gross debt	52.5	51.0
Of which Outstanding debt		
Rolled over long-term debt		
Rolled over short-term debt		
New long-term debt		
New short-term debt		
Share of short-term debt in total government debt	0.11	0.11
Share of long-term debt in total government debt	0.89	0.89
IIR	1.1	1.1
Long-term implicit interest rate		
Nominal implicit interest rate on debt (Excel approximation)		
Diff. STATA		
(IIR - g)	0.9	0.9

Per memo - STATA results (only in case of positive or 0 adjustment)

No extension (annual adjustment of 0.4)

Debt	52.5	51.0
IIR	1.1	1.1
IRR difference STATA - Excel		

Extension (annual adjustment of 0.2)

Debt	52.5	51.0
IIR	1.1	1.1
IRR difference STATA - Excel		

2023	2024	2025	2026	2027	2028	2029	2030	2031
-2.0	-1.2	-0.8	-0.4	0.0	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18.7	18.8	18.9	19.0	19.2	19.4	19.6	19.8	20.1
0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7

780.6	789.8	798.1	805.0	811.5	817.6	826.0	833.8	840.8
1.8	1.2	1.1	0.9	0.8	0.8	1.0	0.9	0.8

772.2	786.7	798.4	807.5	815.6	822.8	829.5	835.6	840.8

1.1	0.4	0.0	-0.3	-0.5	-0.6	-0.4	-0.2	0.0

8.1	3.8	3.7	3.5	3.5	3.4	3.7	3.6	3.5

1.5	1.5	1.7	1.8	1.9	2.0	2.1	2.2	2.3
		2.7	2.7	2.7	2.7	2.7	2.7	2.8
		2.7	2.8	2.8	2.9	2.9	3.0	3.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

6.1	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	4.0	4.0	4.0	4.0	3.0	2.0	1.0
0.0	0.0	0.0	0.0	-0.2	-0.3	-0.4	-0.2	0.0
1.8	1.2	1.1	0.7	0.6	0.6	0.8	0.7	0.6

2023	2024	2025	2026	2027	2028	2029	2030	2031
49.3	48.8	48.7	48.4	48.0	47.3	46.7	46.2	46.0
-1.7	-0.4	-0.2	-0.2	-0.4	-0.7	-0.7	-0.5	-0.3
-1.4	-1.0	-0.8	-0.6	-0.3	0.0	-0.1	-0.2	-0.3
-2.0	-1.2	-0.8	-0.4	0.0	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.7	-0.2	0.0	0.2	0.3	0.4	0.3	0.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-3.1	-1.1	-1.0	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6
0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.0

-0.9	-0.6	-0.5	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4
-3.0	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

-2.1	-1.7	-1.6	-1.4	-1.2	-0.9	-1.0	-1.2	-1.3
-2.7	-1.9	-1.6	-1.2	-0.9	-0.5	-0.8	-1.0	-1.3
12.3	2.6	3.2	2.9	2.7	2.6	3.4	3.4	3.3

		1	1	1	1	1	1	1
		0	0	0	0	0	0	0

2023	2024	2025	2026	2027	2028	2029	2030	2031
49.3	48.8	48.7	48.4	48.0	47.3	46.7	46.2	46.0
	38.3	38.0	38.0	37.8	37.4	36.7	36.2	35.8
	3.9	3.9	3.9	4.0	4.0	4.0	4.0	4.0
	5.2	5.1	5.1	5.1	5.0	5.0	4.9	4.8
	1.2	1.4	1.3	1.1	0.8	0.9	1.0	1.2
	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
1.5	1.5	1.7	1.8	1.9	2.0	2.1	2.2	2.3
	1.4	1.5	1.7	1.8	1.9	2.0	2.1	2.2
		1.7	1.8	1.9	2.0	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

49.3	48.8	48.7	48.4	48.0	47.3	46.7	46.2	46.0
1.5	1.5	1.7	1.8	1.9	2.0	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0
49.3	48.8	48.7	48.7	48.6	48.5	48.3	48.0	47.6
1.5	1.5	1.7	1.8	1.9	2.0	2.1	2.2	2.3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0

2032	2033	2034	2035	2036	2037	2038
0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.3	20.5	20.8	20.9	21.1	21.2	21.3
0.7	0.7	0.7	0.7	0.7	0.7	0.7

846.0	852.3	859.8	868.5	878.3	889.4	901.2
0.6	0.7	0.9	1.0	1.1	1.3	1.3
846.0	852.3	859.8	868.5	878.3	889.4	901.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	3.4	3.5	3.6	3.7	3.8	3.8
2.3	2.4	2.5	2.5	2.6	2.7	2.7
2.8	2.8	2.9	3.0	3.0	3.1	3.1
3.0	3.0	2.9	2.9	2.8	2.8	2.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
2.6	2.6	2.6	2.5	2.5	2.5	2.4
1.0	1.0	1.0	1.0	1.0	1.0	1.0

0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.6	0.7	0.9	1.0	1.1	1.3	1.3

2032	2033	2034	2035	2036	2037	2038
46.1	46.4	46.9	47.6	48.5	49.5	50.6
0.1	0.3	0.5	0.7	0.8	1.0	1.1
-0.5	-0.8	-1.0	-1.2	-1.3	-1.5	-1.6
0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.9	1.1	1.3	1.5	1.7	1.8	1.9
0.0	0.1	0.1	0.1	0.1	0.1	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5
1.0	1.1	1.1	1.1	1.2	1.2	1.3

-0.3	-0.3	-0.4	-0.5	-0.5	-0.6	-0.6
-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0

-1.6	-1.8	-2.1	-2.3	-2.5	-2.7	-2.9
-1.6	-1.8	-2.1	-2.3	-2.5	-2.7	-2.9
3.3	3.4	3.5	3.6	3.6	3.7	3.8



1	1	1	1	1	1	1
0	0	0	0	0	0	0

2032	2033	2034	2035	2036	2037	2038
46.1	46.4	46.9	47.6	48.5	49.5	50.6
35.7	35.7	35.9	36.3	36.9	37.5	39.2
4.0	4.0	4.1	4.1	4.2	4.2	3.3
4.8	4.8	4.8	4.9	4.9	5.0	5.1
1.4	1.6	1.9	2.1	2.3	2.4	2.6
0.2	0.2	0.2	0.2	0.3	0.3	0.3
0.11	0.11	0.11	0.11	0.11	0.11	0.11
0.89	0.89	0.89	0.89	0.89	0.89	0.89
2.3	2.4	2.5	2.5	2.6	2.7	2.7
2.2	2.3	2.4	2.5	2.6	2.6	2.7
2.3	2.4	2.5	2.5	2.6	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0



46.1	46.4	46.9	47.7	48.5	49.5	50.6
2.3	2.4	2.5	2.5	2.6	2.7	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.3	47.1	47.1	47.3	47.6	48.1	48.7
2.3	2.4	2.5	2.5	2.6	2.6	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0



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