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COVER NOTE

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COMMISSION STAFF WORKING DOCUMENT

In-depth review for Estonia

Accompanying the document

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN CENTRAL BANK, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS AND THE EUROPEAN INVESTMENT BANK

2023 European Semester – Spring Package

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European Commission

Estonia

In-Depth Review 2023

On the basis of this in-depth review for Estonia undertaken under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, the Commission has considered in its Communication "European Semester – 2023 Spring Package" (COM(2023) 600 final) that:

Estonia is not found to experience imbalances. Vulnerabilities relating to competitiveness and house price developments have recently increased but overall seem to be contained at present. Wages and especially prices grew strongly in 2022, but the competitiveness losses seem limited, while the current account has recorded only a small deficit and is forecast to come close to balance this year and next. Nonetheless, inflation and wage pressures, if persistent, risk impairing Estonia's competitiveness, particularly as core inflation is well above the euro area average. House prices have grown strongly since the pandemic, but do not show signs of overvaluation. House prices are likely to moderate, given the interest rate rises and the recent economic recession. Moreover, household debt and borrowing are relatively moderate and the financial sector is sound. The policy setting is overall favourable, although some additional efforts could help to address the risks from the identified vulnerabilities. Continued counter-cyclical fiscal and macroprudential policies, reinforced when needed, would be important in that respect. Fostering competition in the domestic market could help to manage price pressures.

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1. INTRODUCTION

In 2022, over the previous annual cycle of surveillance under the Macroeconomic Imbalance Procedure (MIP), Estonia was not subject to an in-depth review to assess its vulnerabilities. ([1]) The 2023 Alert Mechanism Report published in November 2022 concluded that an in-depth review (IDR) should be undertaken for Estonia this year, with a view to examine newly emerging vulnerabilities and their implications. ([2]) The AMR concluded that in Estonia, concerns related to cost competitiveness were increasing. Nominal unit labour cost growth was set to rise and core inflation was high compared with Estonia's euro area peers. Nominal house price growth was among the highest in the EU, amidst an estimated moderate overvaluation of house prices.

After strong growth in 2021, Estonian real GDP contracted by 1.3% in 2022 as the Russian war on Ukraine took its toll and inflation surged. Economic growth is expected to stay muted in 2023 before recovering in 2024. ([3]) The energy price surge caused by Russia's invasion of Ukraine and the continuous disruption in supply chains eroded the real incomes of households, weighed on corporate results and reduced Estonia's exports. Real GDP growth is forecast at -0.4% in 2023 and 3.1% in 2024. Inflation was initially driven by energy prices but subsequently spread to all major price components. Headline inflation peaked at 25.2% in August 2022, well above the euro area average, and has declined since. However, while the increase in energy prices is moderating, the rise in other prices is proving to be stickier than expected. In 2023, the expected fall in energy prices and the cooling of demand are projected to reduce inflation to 9.2%. The labour market in 2022 remained very resilient despite the economic contraction as companies engaged in labour hoarding. Unemployment was at 5.6% in 2022 and at 5.3% in early 2023, and was accompanied by further rises in wages and unit labour costs. Unemployment is expected to gradually tick up to 6.2% for the year as a whole. House prices surged in 2022, partly as a result of a one-off release of pension funds to households, but rising construction costs and higher mortgage rates have stopped this process and housing prices are expected to remain broadly stable in 2023. While the risks to the outlook are still elevated, particularly due to the developments of the war and the economy's reaction to the tighter monetary policy, the Estonian economy is expected to recover more strongly in 2024.

This in-depth review presents the main findings of the assessment of macroeconomic vulnerabilities for Estonia. Vulnerabilities related to housing and competitiveness in Estonia are also discussed in horizontal thematic notes that were recently published. ([4]) The MIP assessment matrix is published in the 2023 Country Report for Estonia. ([5])

([1]) European Commission (2022), European Semester Spring Package 2022, COM(2022) 600 final.

([2]) European Commission (2022), Alert Mechanism Report 2023, COM (2022) 381 final.

([3]) European Commission (2023), European Economic Forecast: Spring 2023, Institutional Paper 200.

([4]) European Commission (2023), Housing Market Developments: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 197. European Commission (2023), Inflation Differentials in Europe and Implications for Competitiveness: Thematic Note to Support In-Depth Reviews, European Economy: Institutional Papers, 198.

([5]) European Commission (2023), Country Report Estonia 2023, SWD(2023) 606 final.

2. ASSESSMENT OF MACROECONOMIC VULNERABILITIES

Gravity, evolution and prospects

Estonia has been selected for an in-depth review to assess risks related to deteriorating price competitiveness – linked to the build-up of wage growth and price inflation differentials with its trading partners – and strong housing price growth. The labour market remained tight throughout the years despite the numerous shocks, including the pandemic and the Russian war of aggression against Ukraine. Wage growth was robust all through the past decade, averaging 7% between 2012 and 2019, the pre-pandemic years, and accelerated after the pandemic to about 10% in 2022. Combined with the sharp rise of energy and commodity input prices, this gave a further boost to HICP inflation, which was one of the highest among the euro area member states, peaking at 25.2% in annual terms in August 2022 and being roughly twice as high as in the euro area. This inflation divergence, especially if persistent, raises concerns about Estonia's price competitiveness, also considering wage growth exceeding productivity growth. Meanwhile, forced savings during the COVID-19 pandemic and a one-off release of pension savings to households supported house purchases, and real estate prices increased sharply over 2020-2022. House price growth in Estonia was among the highest in the euro area in 2022.

Price competitiveness

On 5 April 2023 the Commission presented a horizontal thematic note on competitiveness, which also covers Estonia. It showed that the recent surge in inflation, which was much more pronounced than on average in the euro area, is not only driven by the increase in commodity prices. Domestic-origin inflation contributed to consumer price increases more than in many peer countries. The contribution of domestic-origin inflation to changes in export prices is also relatively strong in Estonia. From a national accounts income perspective, the estimated domestic contribution to consumer inflation essentially reflects rising compensation of employees, as reflected in unit labour costs, and profit margins, as reflected also in the notable rise in the operating surplus in national accounts statistics. The corporate sector managed to raise its revenues above the rise in input costs, which suggests competition might be weak in the Estonian domestic market (graph 2.1f).

Real effective exchange rates (REERs) based on core, ULC, and HICP inflation have been appreciating in recent years, but seem to remain in line with fundamentals (graph 2.1c). When compared with the 42 main trading partners, the core inflation REER appreciated by almost 15% over the last decade, while the HICP based one increased by more than 20%, raising cost competitiveness concerns (graph 2.1c). Although non-price competitiveness has likely compensated for the loss in price competitiveness, the IMF, in its Article IV report, estimated the HICP-based REER to be overvalued in 2021 when compared to fundamentals, but undervalued by about 8% based on their current account model. Looking forward, the REER based on ULCs is expected to increase, though more moderately in 2023, and even turn negative in 2024, in line with the expected deceleration in

ULC growth. Inflation is also projected to moderate gradually, in light of the expected fall in energy prices and the cooling of demand, reducing the differences with the euro area and other trading partners. Should high inflation or higher wage growth nevertheless persist, the risk of being priced out of export markets could materialise.

HICP inflation was in check prior to 2022 but has surged since, well above the euro area rate. Inflation in Estonia was about one percentage point higher than the euro area average in 2016-2021, which can be considered in line with the convergence process of the Estonian economy. However, over 2022, a large difference emerged, with inflation being about 10 pps. higher and among the highest in the EU. The sharp rise in consumer energy prices, due to rapid transmission of fully flexible market prices to consumer prices together with relatively limited energy price mitigation measures taken by the Estonian government compared to other euro area countries played an important role. Also, energy has a higher share in the consumption basket in Estonia as a sparsely populated Nordic country. Apart from energy, other main inflation components also rose faster than in the euro area due to the rapid transmission of fully flexible market prices to consumer prices. In the last quarter of 2022 compared to the year before, prices of non-energy industrial goods increased by nearly 12%, processed and unprocessed food by respectively 23% and 29%, while prices of services rose by more than 13%. Due to the particularly high inflation in Estonia in 2022, the risk of some inflation persistence, and therefore a prolonged period of high inflation is non-negligible going forward.

Estonia has seen strong unit labour cost growth over the last decade, raising competitiveness concerns. Over the 10 years to 2022, Estonia experienced annual average ULC growth of 5.3% as compared to an EU average of 1.7%, partly due to the convergence process of the Estonian economy. Wage growth was rapid over recent years at almost 8% on average in 2016-2021, except for a one-year slowdown to 2.8% in 2020, as the COVID-19 crisis hit. Unit labour cost growth increased to 14.8% in 2022 and is forecast to reach 11% in 2023. Even though the employment rate has reached record levels and immigration has helped labour supply, labour shortages have been a structural feature of the Estonian labour market for the past several years. Wage growth has remained relatively high also in recent months despite the cooling economy. As the labour market remains strong, wage growth is forecast to remain brisk in the coming years, pushing up ULCs. With the risk of inflation remaining higher for longer, stronger-than-expected wage growth cannot be ruled out. Comparing wage growth to a benchmark reflecting economic fundamentals, Estonia exhibited wage growth above the benchmark both in the pre-pandemic period and since then. ([6])

Wage setting in Estonia is firm-based and fully flexible, limiting the risk of excessive wage growth over a prolonged period. Wage indexation to inflation is typically not used. Collective bargaining in Estonia takes place predominantly at the company level, but the coverage is relatively low, below 10%, compared to an EU median of slightly above 50%. While minimum wages registered a significant increase between January 2021 and August 2022, as a share of average wages their level cannot be considered as excessively high. Public sector wage growth has been in line with private sector trends, with the notable exception of 2023, when an expansionary budget included strong wage growth for certain public sector occupations (education, culture, security). The growth in public sector wages in 2023 might coincide with a recession-driven wage slow-down in the private sector.

([6]) Predicted nominal compansation growth reflects wage growth as predicted by developments in inflation, productivity growth, and the unemployment rate. The prediction is estimated through a panel regression over the period 1995 to 2018.

Estonia's trade performance has recently shown signs of weakening (graph 2.1.d). Export market shares for Estonia have been increasing in value and volume terms since 2012, although in volume terms they declined in 2022 (graph 2.1e). The current account, which is volatile due to the small size of the economy, has been close to balance over the past years ([7]). However, it deteriorated over the last quarter of 2022 and is forecast at -1.1% in 2023. This reflected a decline in the exports of Estonian industry, notably the wood and metal industries (impacted by supply chain disruptions), while the services trade surplus remained strong thanks to the ICT and tourism sectors. On the positive side, the net international investment position has improved continuously and substantially over the past decade from -50% of GDP in 2013 to -13% of GDP in 2021. The net international investment position declined to -20% in 2022 but is forecast to improve. The net international investment position excluding non-defaultable instruments (NENDI), which captures debt instruments that are typically associated with higher external sustainability risks, is positive at 27.5% of GDP in 2022, thanks to favourable foreign direct investment balances. This indicates that the Estonian economy relies less on foreign financing and its present vulnerability from the slight current account deterioration is limited.

Inflation and wage pressures, if persistent, risk impairing Estonia's cost-competitiveness. The recent weakness in industry is likely not a reflection of excessive wage pressures that undermine its competitiveness, but mostly due to sector-specific factors, such as lower demand from key export markets combined with higher input prices due to supply interruption from Russia (graph 2.1e). Some Estonian industries were tied to imports from Russia, such as timber and metals inputs, necessitating a transition to new supply routes over 2022. Latest industrial production data from February 2023 show a continued decline, in both month-on-month and year-on-year terms. It is currently unclear how well the affected industries have already adjusted their supply chains, how quickly this adjustment will be reflected in industrial production and exports and whether the rising wage level will pose challenges for competitiveness. Inflation and wage pressures, if persistent, risk undermining cost-competitiveness of Estonian industries in this difficult macroeconomic context.

Housing market

On 5 April 2023, the Commission presented a horizontal thematic note on housing, which also covers Estonia. It showed that house price growth was in line with income growth until 2019 but has since then accelerated sharply by about 22% in 2022 (graph 2.1b). House prices were estimated to be about 2% overvalued in 2022. Rising incomes and low interest rates have played the main role in house price increases, but some shorter-term factors also contributed, notably the post-COVID economic surge which was relatively strong in Estonia. Moreover, house prices were pushed upwards by the 2021 pension reform, which increased housing demand as it allowed the immediate withdrawal of accumulated second pillar pension assets, leading to the taking-out of about 5% of GDP worth of assets.

The house price increases need to be seen in the context of supply not being able to keep up with demand spikes in 2021. New housing supply has been relatively buoyant over the past decade with housing investment stable at 4½% of GDP up until 2019 and rising thereafter to 5.3% of GDP in 2021 in reaction to higher demand. However, it was still below the sudden demand increase seen during the pandemic, contributing to price

([7]) The current account tends to be relatively volatile due to the small size of the Estonian economy and some larger one-off transactions in recent years have added even more to the volatility. However, on average, the current account appears to have been close to balance, with a more structural decline in late 2022.

pressures. Reflecting the relatively large regional disparities in Estonia, new housing has been built over the past decades overwhelmingly in larger cities, whereas in lower income regions the cost of new construction by far exceeded the valuations of existing housing.

In 2022, supply disruptions due to the Russian aggression in Ukraine drove construction costs up substantially, making housing construction less affordable and hampering new building starts. In early 2023, construction prices have stabilised which should help to restore new housing supply once demand conditions improve. Given the rapidly cooling economy and rising interest rates, house-price growth slowed considerably in late 2022 (to about zero in quarter on quarter terms). The number of transactions declined, and residential development plans appear to evolve more cautiously. A continued slowdown or even a downward adjustment in prices is likely in 2023, as demand for housing is fading. The continued strong employment and wage growth have supported household loan servicing capacity and bankruptcies of developers have remained contained.

Household debt is low and of limited concern (graph 2.1.a). Over the past decade, household debt has edged up a touch and represents some 36% of GDP in 2022, below prudential and fundamental benchmarks. However, Estonia features one of the highest increases in the EU of housing occupied by owners with a mortgage, rising from 17% to 28% in 2021, as recent years were marked by strong credit flows. As mortgage holders in Estonia typically have variable-rate mortgages, monetary policy tightening has triggered an immediate increase in mortgage payments for many existing mortgage holders. Still, as neither mortgage debt nor mortgage interest payments account for a substantial share of GDP, possible repayment difficulties on the part of households resulting from the rise in monthly mortgage payment should not have a substantial effect on the banking sector, although some vulnerable households could come under pressure.

The banking sector is well capitalised, highly profitable and characterised by consistently low NPLs. Estonian banks are among the best capitalised in the EU (average 2022 capital-adequacy ratio at 22.7% vs 18.6% in the EU) and they enjoy strong profitability, well above the EU average. The rising interest rates have further boosted profitability and the banking sector saw record profits in 2022 as interest revenue is linked to rising EURIBOR while interest expenditure on deposits was much lower. NPLs remained stable and low at 0.7% in 2022 Although household indebtedness in Estonia is not excessive, banks' exposure to mortgage debt is relatively high (accounting for 43% of their total loan portfolio). Banks' loan portfolios have also become more concentrated and exposed to risks from the highly cyclical market for commercial real estate. ([8])

Assessment of MIP relevant policies

The highly flexible labour market and wage setting allow the economy to respond relatively quickly and strongly to demand conditions. This flexibility is accompanied by other structural factors, like the prevalence of variable interest rate loan contracts in Estonia for households and corporates. The recent rise in ECB base interest rates and cooling of external demand will therefore likely pass through to the Estonian economy and the real estate market more strongly than in the EU on average. This fundamental volatility highlights the importance of countercyclical macroeconomic policies, for example fiscal and

([8]) European Commission (2023), Country Report Estonia 2023, SWD(2023)606 final.

macroprudential policies, which Estonia has indeed attempted to follow with varying degrees of success ([9]).

Macroprudential policy has been slightly tightened recently. The ESRB (2022) assessed the macroprudential policy framework as appropriate and sufficient in view of the existing loan-to-value (85%) and debt-service-to-income (50%) limit. Still, in response to the relatively rapid lending growth in 2022, the Bank of Estonia raised the countercyclical capital buffer rate for banks from 1% to 1.5% starting from 1 December 2023. At the same time, the Bank of Estonia states that the capital buffers of the banks are currently sufficient, banks are profitable, and the deferred start date for the new capital buffer requirement gives banks sufficient time to accumulate additional capital, if needed.

Some specific structural policies, as planned by the new government, could help to manage price pressures. Measures to foster competition in the relatively small domestic market and to improve the supply of energy can reduce price pressures. Moreover, investment in skills and healthcare can further improve labour supply (see Country Report Estonia 2023). The new government that took office in April 2023 plans to take several steps in this context. The coalition agreement mentions improving the functioning of the Estonian Competition Authority by granting it more resources and amending legislation to improve anti-cartel investigations. The coalition agreement also highlights several policies to increase green energy production, which could help to alleviate energy price spikes. It is also planned to raise funding for innovation and education, which should help to raise productivity in the medium to long term. Plans to increase the private sector minimum wage, from the current 44% of the median wage in Q4 2022 to 60% by 2027, if implemented, would be in line with the EU adequate minimum wage directive, but also add to the current wage pressures.

Home ownership is supported by very low real estate related taxation, but some tax increase in this area is under discussion by the new government. Currently, the value of real estate is not taxed, a relatively small land tax applies only on land holdings other than the primary residence. Taxes and fees on the transfer of the title and inheritance are also very low. Capital gains from selling certain residential property (the home of the seller) are not taxed. Home ownership is also supported by mortgage guarantees offered to certain population groups, like young families. Over the past years, Estonia has made some steps to reduce the deductibility of mortgage interest. It was lowered substantially in 2017 and is now relatively small (capped at EUR 300 interest costs per annum, which translates into a maximum EUR 60 actual tax benefit). The new government that took office in April 2023 plans to abolish this remaining deductibility. After a decade without adjustments, the previous government updated the cadastral land values in 2022, which form the basis for non-owner-occupied land tax. Still, the upward adjustment to the land tax amount charged to any taxpayer is limited to 10% per annum. However, the new government has announced plans to abolish the 10% annual cap on land tax and to give local governments the right to also tax land under primary residence. There are currently no plans to tax the value of property or real estate transactions.

Compared to many other EU Member States, housing development in Estonia generally faces fewer obstacles in terms of legal or technical planning processes, although planning processes could be improved in some municipalities. Real-estate transaction costs and the administrative and legal burden related to housing transactions is assessed to be one of the lowest in the EU. The low transaction costs and limited red tape

([9]) The state budget documentation typically assesses the ex-ante cyclical stance of the budget and strives for counter-cyclicality, although, ex-post, it occasionally turns out that the actual fiscal policy was indeed pro-cyclical. The ESRB 2022 assessment 2022 finds macroprudential policy stance on the real estate market developments appropriate and sufficient.

involved in housing transactions characterise a very efficient market, although this may exacerbate volatility.

In an environment of expanding population in larger cities, the uncertain rental market creates demand for home ownership, which in turn drives up house prices and demand for new mortgages. The rental market is typically not considered a long-term alternative to home ownership. The rental market is comparatively small, as around 80% of households own their home (as a legacy of privatisation in the 1990s). Rents, which are not regulated, have been growing at a similar pace to house prices over the last decade. The rental market is typically assessed by real-estate agents as functioning efficiently for short-term needs of household mobility but is not a real alternative for home ownership in terms of long-term rental security. Rental contract enforcement is weak, with a long duration of dispute settlement, which weighs on the effectiveness of the rental market.

Conclusion

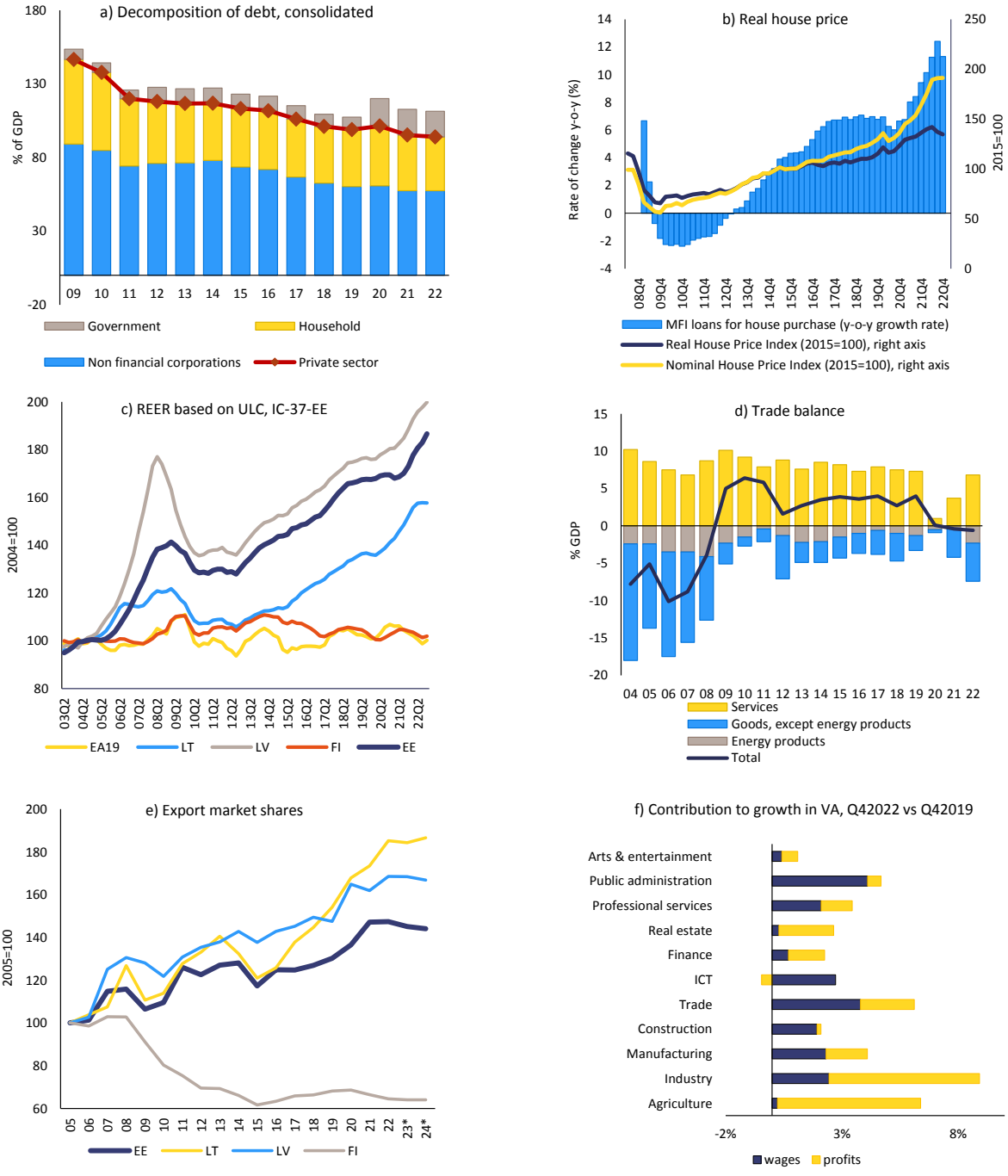
In Estonia, vulnerabilities relating to cost-competitiveness and house price developments have recently increased, but overall seem to be contained. Concerns have increased that high wage growth and inflation could negatively affect competitiveness. However, the potential cost-competitiveness losses seem contained, with some weaknesses in Estonia's trade performance emerging. The current account is close to balance and is forecast to gradually improve but remain negative. The deficit in goods trade is partly compensated by a large surplus in services trade, largely thanks to tourism and ICT exports. Estonia has gained world export market shares over the past decade, although it turned slightly negative in 2022. The NIIP has improved significantly over the past decade and is presently only slightly negative, giving Estonia a buffer to absorb even several years of moderate current account deficits, should competitiveness losses result in such an outcome, contrary to current forecasts. Real estate does not show strong signs of overvaluation, despite strong house price growth in recent years. House prices are likely to undergo a period of moderation, given the interest rate rises and the recent economic recession. This adjustment can be expected to slow down construction and private consumption. However, the risk of a sudden and disorderly adjustment is considered low, as household debt is relatively moderate and the financial sector is sound, while mortgage credit provision has been subject to appropriate macroprudential limits. Going forward, the declining labour supply can be considered a key potential risk factor, which risks undermining Estonia's competitiveness and economic growth in the medium-term.

The policy setting is overall favourable in light of the identified vulnerabilities, although some additional policies could help to address the risks from the identified trends. In particular, Estonia does not make full use of housing or wealth-based taxation, which could also dampen real-estate cycles. More focus on some specific structural policies could also help to manage price pressures, such as fostering competition in the domestic market or continuing to improve labour skills with a view to raising productivity. The new government is planning some steps in this direction. Continuing to follow counter-cyclical economic policies (such as fiscal and macroprudential policies) and reinforcing them when needed, would be important in the small and volatile Estonian economy.

Based on the findings in this in-depth review, the Communication "European Semester – 2023 Spring Package" sets out the Commission's assessment as to the

existence of imbalances or excessive imbalances in Estonia, in line with Regulation 1176/2011. ([10])

Graph 2.1: **Selected graphs, Estonia**



Source: European Commission services

([10]) European Commission (2023), European Semester Spring Package 2023, COM(2023) 600 final.

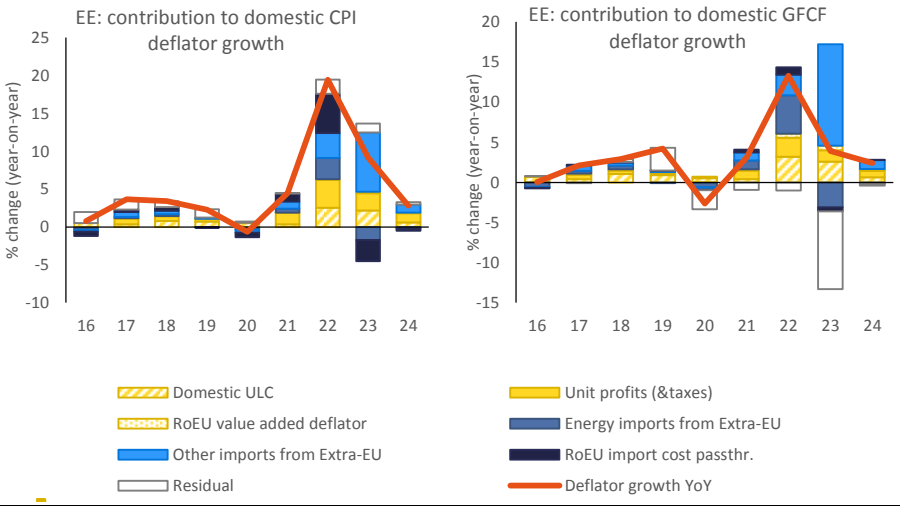
Box 1: Inflation exposures and cross-border pass-through

This box sheds light on the sources of inflation in Estonia and its spill-overs with EU partners. The period since 2021 has been characterized by pandemic aftershocks and global supply chain disruptions compounding global inflationary pressures and a surge in commodity prices triggered by Russia's war of aggression against Ukraine. As a result, inflation in Estonia surged to unprecedented levels. In response, wages and profits also picked up across the EU, which further added to price pressures in Estonia. With input-output data, domestic inflation can be decomposed into the contributions from key cost factors. Taking into account some data limitations, the framework can be used to attribute consumer and investment price changes to i) extra-EU import price changes, which include both directly imported inflation and inflation passed through from EU partners import costs ii) domestic unit labour cost changes iii) domestic unit profit changes, including indirect taxation changes and iv) rest-of-EU value added price changes. ([11])

Data suggests that much of inflation in Estonia in 2022 reflected surging import prices, which are projected to drive inflation over the forecast horizon. In 2022, extra-EU price changes were a key driver of consumption and investment inflation (Graph 2.2). Energy inflation contributed less to consumer inflation than to investment inflation. Prices of non-energy imports, including those passed through EU partners, were also important for consumer inflation. Spill-overs from value added inflation in other EU countries remained limited, however. The contribution from domestic value-added inflation, which covers wages and profits, was and is expected to remain sizeable in 2023. This reflects both unit profits and unit labour cost in 2022 and 2023. The impact of energy inflation is set to dampen inflation this year. By contrast, extra-EU non-energy imports are expected to keep both consumer and investment inflation elevated. Spill-overs from inflation in other EU countries is set to remain marginal. In 2024, domestic inflation is projected to fall further on account of both, a lower contribution from domestic wages and profits as well as imports.

([11]) The graphs below are based on national accounts data and the Commission's Spring 2023 forecast, combined with Eurostat input-output data. HICP is taken as the measure of the price of private consumption, including non-residents. Changes in import prices and value-added deflators are assumed to affect demand prices with a delay of 5 and 6 months for consumption and investment inflation, respectively. For further methodological details, see explanations in the 2023 in-depth review for Czechia, p. 16.

Graph 2.2: **Components of gross fixed capital formation deflator growth and consumer price inflation**



Source: European Commission services

Table 2.1: **Selected economic and financial indicators (Part 1), Estonia**

all variables y-o-y % change, unless otherwise stated	2003-07	2008-12	2013-18	2019	2020	2021	2022	forecast 2023	forecast 2024
Real GDP	8.2	-1.7	3.2	3.7	-0.6	8.0	-1.3	-0.4	3.1
Potential growth (1)	6.0	0.7	2.8	4.0	3.7	3.1	2.4	1.8	1.8
Contribution to GDP growth:									
Domestic demand	10.7	-2.9	3.5	1.9	6.3	4.9	-2.1	1.4	3.3
Inventories	0.5	-0.5	0.1	-0.2	-0.4	1.6	3.2	-1.0	0.1
Net exports	-2.7	2.3	-0.3	1.8	-4.2	-0.7	-0.7	-0.8	-0.3
Contribution to potential GDP growth (1):									
Total Labour (hours)	0.0	-0.7	0.2	0.8	0.5	0.9	1.5	0.9	0.6
Capital accumulation	3.3	1.4	1.4	1.3	1.9	1.7	1.1	1.0	1.1
Total factor productivity	2.7	0.0	1.2	1.8	1.3	0.4	-0.2	-0.1	0.2
Output gap (2)	6.0	-4.0	0.1	1.3	-2.8	1.8	-1.9	-4.0	-2.8
Unemployment rate	7.8	11.6	6.7	4.5	6.9	6.2	5.6	6.2	6.1
Harmonised index of consumer prices (HICP)	3.9	4.5	1.9	2.3	-0.6	4.5	19.4	9.2	2.8
GDP deflator	7.1	3.5	4.5	3.2	-0.5	6.0	16.6	10.3	3.6
External position									
Current account balance (% of GDP), balance of payments	-12.7	-1.0	1.2	2.4	-1.0	-1.8	-2.2	-1.1	-0.6
Trade balance (% of GDP), balance of payments	-8.0	3.0	3.4	4.0	0.1	-0.4	-0.6	.	.
Primary income balance (% of GDP)	-5.0	-4.6	-2.4	-1.9	-1.1	-1.7	-1.3	.	.
Secondary income balance (% of GDP)	0.4	0.6	0.2	0.2	0.0	0.3	-0.3	.	.
Current account explained by fundamentals (CA norm, % of GDP) (3)	-1.5	-1.1	-1.1	-0.8	-0.8	-0.8	-0.8	-0.9	-1.0
Required current account to stabilise NIIP above -35% of GDP over 20Y (% of GDP) (4)	-3.2	-4.3	-4.4	-3.1	-3.1	-1.5	-1.7	-1.4	-1.2
Capital account balance (% of GDP)	1.1	3.1	1.5	1.7	1.8	8.9	0.5	.	.
Net international investment position (% of GDP)	-75.8	-65.8	-39.9	-22.6	-21.9	-13.0	-20.5	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (5)	-14.2	-16.2	16.6	31.0	41.5	39.9	27.5	.	.
Net FDI flows (% of GDP)	-6.7	-5.0	-2.3	-3.9	-10.4	-1.9	1.6	.	.
Competitiveness									
Unit labour costs (ULC, whole economy)	7.9	3.4	6.3	4.7	3.9	1.8	14.8	11.0	2.0
Nominal compensation per employee	14.8	3.3	6.4	7.2	6.2	9.8	8.3	10.3	4.8
Labour productivity (real, hours worked)	6.1	1.1	2.5	3.2	5.8	-0.1	-5.8	-0.8	2.7
Real effective exchange rate (ULC)	6.1	1.0	4.4	2.5	0.0	0.5	10.6	5.3	-1.4
Real effective exchange rate (HICP)	2.8	1.5	2.2	0.3	-0.3	1.5	8.6	.	.
Export performance vs. advanced countries (% change over 5 years)	45.6	29.6	8.6	0.0	17.0	23.2	.	.	.
Private sector debt									
Private sector debt, consolidated (% of GDP)	98.4	130.7	111.0	98.9	101.4	95.3	93.4	.	.
Household debt, consolidated (% of GDP)	32.5	49.7	39.5	38.6	40.7	37.8	36.5	.	.
Household debt, fundamental benchmark (% of GDP) (6)	13.7	24.9	32.8	35.5	39.6	38.2	38.5	.	.
Household debt, prudential threshold (% of GDP) (6)	183.4	204.9	220.6	243.1	168.7	179.6	186.4	.	.
Non-financial corporate debt, consolidated (% of GDP)	65.9	81.0	71.6	60.4	60.8	57.5	56.8	.	.
Corporate debt, fundamental benchmark (% of GDP) (6)	31.1	44.5	55.9	57.9	64.0	61.0	61.0	.	.
Corporate debt, prudential threshold (% of GDP) (6)	158.1	194.6	183.2	223.5	172.7	184.2	185.8	.	.
Private credit flow, consolidated (% of GDP)	23.0	1.9	4.7	3.4	3.0	6.5	9.2e	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	-7.1	1.9	1.3	2.4	1.4	10.7	4.6	6.0	5.9
Households, net lending (+) or net borrowing (-) (% of GDP)	-6.0	1.0	1.5	1.7	3.0	0.9	-2.7	-1.1	-1.1
Net savings rate of households (% of net disposable income)	-9.1	3.8	5.8	7.8	10.5	6.5	.	.	.

(e) estimate based on ECB quarterly data

(1) Potential output is the highest level of production that an economy can reach without generating inflationary pressures. The methodology to compute the potential output is based on K. Havik, K. Mc Morrow, F. Orlandi, C. Planas, R. Raciborski, W. Roeger, A. Rossi, A. Thum-Thysen, V. Vandermeulen, The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps, COM, European Economy, Economic Papers 535, November 2014.

(2) Deviation of actual output from potential output as % of potential GDP.

(3) Current accounts in line with fundamentals ("current account norms") are derived from reduced-form regressions capturing the main determinants of the saving-investment balance, including fundamental determinants, policy factors and global financial conditions. See L. Coutinho et al. (2018), "Methodologies for the assessment of current account benchmarks", European Economy, Discussion Paper 86/2018, for details.

(4) This benchmark is defined as the average current account required to halve the gap between the NIIP and the indicative MIP benchmark of -35% of GDP over the next ten years, or to stabilise the NIIP at the current level if it is already above the indicative MIP benchmark. Calculations make use of Commission's T+10 projections.

(5) NENDI is a subset of the NIIP that abstracts from its pure equity-related components, i.e. foreign direct investment (FDI) equity and equity shares, and from intracompany cross-border FDI debt, and represents the NIIP excluding instruments that cannot be subject to default.

(6) Fundamentals-based benchmarks are derived from regressions capturing the main determinants of credit growth and taking into account a given initial stock of debt. Prudential thresholds represent the debt threshold beyond which the probability of a banking crisis is relatively high, minimising the probability of missed crisis and that of false alerts. Methodology to compute the fundamentals-based and the prudential benchmarks based on Bricongne, J. C., Coutinho, L., Turrini, A., Zeugner, S. (2019), "Is Private Debt Excessive?", Open Economies Review, 1- 42.

Source: Eurostat and ECB as of 2023-04-28, where available; European Commission for forecast figures (Spring forecast 2023)

Table 2.2: **Selected economic and financial indicators (Part 2), Estonia**

all variables y-o-y % change, unless otherwise stated	2003-07	2008-12	2013-18	2019	2020	2021	2022	forecast 2023	forecast 2024
Housing market									
House price index, nominal	34.4	-6.9	7.9	7.0	6.0	15.1	22.2	.	.
House price index, deflated	25.9	-10.5	5.7	4.4	7.0	10.4	4.7	.	.
Overvaluation gap (%) (7)	18.2	-2.6	-6.3	-9.1	-3.5	1.8	1.9	.	.
Price-to-income overvaluation gap (%) (8)	25.0	-10.1	-7.1	-9.6	-5.2	0.6	7.1	.	.
Residential investment (% of GDP)	4.9	3.1	4.1	4.9	5.4	4.9	5.2	.	.
Government debt									
General government balance (% of GDP)	2.2	-0.8	-0.1	0.1	-5.5	-2.4	-0.9	-3.1	-2.7
General government gross debt (% of GDP)	4.8	6.9	9.7	8.5	18.5	17.6	18.4	19.5	21.3
Banking sector									
Return on equity (%)	.	5.0	12.4	5.5	4.6	8.5	.	.	.
Common Equity Tier 1 ratio	.	18.7	18.6	19.1	20.7	18.5	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (9)	.	5.6	1.8	1.5	1.5	1.0	.	.	.
Gross non-performing loans (% of gross loans) (9)	.	.	2.1	1.6	1.6	1.1	0.9	.	.
Cost of borrowing for corporations (%)	5.4	4.5	2.5	2.8	2.9	2.6	4.7	.	.
Cost of borrowing for households for house purchase (%)	4.8	3.6	2.4	2.5	2.4	2.1	4.1	.	.

(7) Unweighted average of price-to-income, price-to-rent and model valuation gaps. The model valuation gap is estimated in a cointegration framework using a system of five fundamental variables; total population, real housing stock, real disposable income per capita, real long-term interest rate and price deflator of final consumption expenditure, based on Philiponnet, N., Turrini, A. (2017), "Assessing House Price Developments in the EU," European Economy - Discussion Papers 2015 - 048, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission. Price-to-income and price-to-rent gaps are measured as the deviation to the long term average (from 1995 to the latest available year).
(8) Price-to-income overvaluation gap measured as the deviation to the long term average (from 1995 to the latest available year).
(9) Domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.

Source: Eurostat and ECB as of 2023-04-28, where available; European Commission for forecast figures (Spring forecast 2023)