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From:	Presidency
To:	Working Party on Financial Services (Risk Reduction Measures)
Subject:	FRTB Implementation – A compromise solution based on reporting requirements

Delegations will find attached FRTB compromise text for 2 March RRM meeting

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Bulgarian Presidency of the Council of the European Union

1 & 2 March 2018
Working Party Financial Services (RRM)
Attachés

FRTB Implementation – A compromise solution based on reporting requirements

In December 2017 the Basel Committee published a statement announcing a three year delay in the implementation of the FRTB. This was due to an ongoing review on a number of aspects of the framework. The scope of this review has also been broadened and the deadline for its completion has been extended to December 2018.

In light of this statement, the RRM Working Party of 20 February re-discussed the implementation of the FRTB. As Basel has confirmed the scope of the review, it is now clear that certain elements of FRTB in the consolidated CRR text should not be applied, as it would not be appropriate to require institutions to apply rules that will change in the short-term at international level. As a result, the Presidency believes that the way to implement the FRTB in Union law at this time should be reconsidered.

In order not to discard what has already been achieved in Working Party meetings, the Presidency is proposing the following way forward:

- Remove those aspects of the text currently under review at Basel;
- Ensure that the compromise is legally sound and has a purpose;
- Ensure that institutions can begin preparing for the final FRTB standard in those aspects that are not under review.

Based on these principles the Presidency proposes the following. The 'stable' elements of the FRTB remain in the text. To ensure that institutions start the implementation of those elements as soon as possible, and in order to keep the text legally and technically consistent, the Presidency proposes to introduce a reporting requirement of the calculations under the FRTB approaches based on the final Basel standards which are due at end-2018. Additionally, a review clause would be added to invite the Commission to submit a level 1 proposal to turn this reporting requirement into a capital requirement. The existing market risk framework, applicable currently under the CRR, would continue to apply as a capital requirement in parallel to the FRTB reporting requirement until the new level 1 text is adopted.

The compromise solution is the following:

- All the **main building blocks of the FRTB** would **remain in the text**, with the **exception** of the **areas under review in Basel;**

- Those **sections under review** in Basel would be **reintroduced via level 2 measures for the purpose of reporting** : (i) the areas under review related to the **standardised approach** (mainly the "figures", i.e. the risk weights) **via a new delegated act by end-2019** (CRR Article 461a); and (ii) the areas under review related to the **internal model approach** (mainly conditions to use the model, i.e. P&L attribution (CRR Articles 325bh) and assessment of modellability (CRR Article 325bf) **via additional regulatory technical standards to be delivered by the EBA within 9-months after entry into force** of CRR 2;

- Once the **FRTB** approaches are **fully operationalised** (i.e. after the date of application of the abovementioned level 2 measures), **reporting requirements** of the calculations under the FRTB approach would be **applicable**, i.e at the earliest **by end 2020 for the standardised approach for all institutions** (this takes into account the time that would be needed to amend the ITS on reporting) and **by 2023 for the internal model approach only for those institutions opting for that approach** (more time required to build the models and get them approved by competent authorities). No disclosure requirement would apply;

- A **review clause** would be introduced (CRR Article 519) to invite the Commission to make a legislative proposal **to turn the reporting requirement into a capital requirement by end-2020** taking into account the final Basel FRTB standard. The recitals would also be amended accordingly (see annex). Until then, institutions would calculate the capital requirements for the FRTB using the current approaches for market risks defined under the CRR.

- To **avoid front-loading an area of the FRTB that is still under review in Basel**, the **current definition of the trading book** under the CRR (Article 104) would **remain for the purposes of reporting** the calculations under the **FRTB approaches**. This would also ensure that the scope of activities that are subject to these calculations are comparable to the own funds requirements for market risks calculated currently by institutions using the approaches defined under the CRR (these numbers would still be reported as well, as is currently the case).

- Finally, some **exemptions from the reporting requirements under the FRTB** would be introduced for **institutions eligible for the treatment of small trading book business** (CRR Article 94) and institutions **which would have been eligible for using the simplified standardised approach under the COM proposal** (CRR Article 325a). Since Member States agreed that all those institutions would not have to implement the FRTB approaches for the calculation of capital requirements, introducing a reporting requirement based on FRTB in the interim would impose an unnecessary administrative burden.

Annex 1 - Draft amendments to introduce the compromise solution in the CRR text

[In **black bold**: amendments to the market risks section of the COM proposal by the Council in the latest Compromise text]

[In track changes: amendments to market risks section of the COM proposal to reflect the compromise solution presented in this note]

(32) The Basel Committee therefore initiated the Fundamental review of the trading book (FRTB) to address those weaknesses. This work ~~was concluded~~ led to the publication in January 2016 of a revised market risk framework. ~~.~~ In December 2017, the Group of Central Bank Governors and Heads of Supervision agreed to extend the implementation date of the revised market risk framework, in order to allow institutions additional time to develop the necessary systems infrastructure but also for the Basel Committee to address certain specific issues related to the framework. This includes a review of the calibrations of the standardised and internal model approaches to ensure consistency with the Committee's original expectations. Upon finalisation of this review, and before an impact assessment is performed to assess the impacts of the resulting revisions to the FRTB framework on institutions in the Union, all institutions that would be subject to the FRTB framework in the Union should start reporting the calculation derived from the revised standardised approach. To this end, the Commission should be empowered to adopt a delegated act by [31 December 2019] in order to fully operationalise the calculation of these reporting requirements in line with international developments. Institutions that obtain approval to use the revised internal model approach of the FRTB framework for reporting purposes should also report the calculation under the internal model approach [3 years] after its full operationalisation ~~The FRTB standards enhance the risk sensitivity of the market risk framework by setting an amount of own fund requirements that is more proportionate to the risks of trading book positions and they clarify the definition of the boundary between banking and trading books.~~

(33) The finalisation of the review of the FRTB performed by the Basel Committee should also lead to a re-assessment of the approaches used to calculate the own funds requirements for market risk set forth by Regulation (EU) No 575/2013. Taking into account the final revisions to the FRTB framework performed by the Basel Committee, the Commission should submit, where appropriate, a legislative proposal to the European Parliament and the Council by [31 December 2020] on how institutions shall calculate the own funds requirements for market risk ~~The implementation of the FRTB standards in the Union needs to preserve the good functioning of financial markets in the Union. Recent impact studies about the FRTB standards show that the implementation of the FRTB standards is expected to lead to a steep increase in the overall own fund requirement for market risks. To avoid a sudden contraction of trading businesses in the Union, a phase in period should therefore be introduced so that institutions can recognise the overall level of own fund requirements for market risks generated by the transposition of the FRTB standards in the Union. Particular attention should also be paid to European trading specificities and adjustments to the own funds requirements for sovereign and covered bonds, and simple, transparent and standardised securitisations~~.

(34) A proportional treatment for market risks should also apply to institutions with limited trading book activities, allowing more institutions with small trading activities to apply the credit risk framework for banking book positions as set out under a revised version of the derogation for small trading book business. The principle of proportionality ~~will~~should also be taken into account when the Commission re-assesses how institutions with medium-sized trading book should calculate the own funds requirements for market risk ~~In addition, institutions with medium-sized trading book should be allowed to use a simplified standardised approach for calculating the own fund requirements for market risks in line with the approach currently in use under Regulation (EU) 575/2013.~~ In particular, the calibration of the own funds requirements for market risks for those institutions with medium-sized

trading books should be reviewed at the light of developments at international level. In the meantime, those institutions, as well institutions with small trading activities, are exempted from the reporting requirements under the FRTB.

(3) Article 4 is amended as follows:

(j) in paragraph 1, the following points are added:

(141) 'market risk' means the risk of losses arising from movements in market prices**, in foreign exchange rates or in commodity prices**;

(142) 'foreign exchange risk' means the risk of losses arising from movements in foreign exchange rates;

(143) 'commodity risk' means the risk of losses arising from movements in commodity prices;

(144) 'trading desk' means a well-identified group of dealers set up by the institution to jointly manage a portfolio of trading book positions in accordance with a well-defined and consistent business strategy and operating under the same risk management structure.".

(39) Article 92 is amended as follows:

(b) in paragraph 3, points (b)~~,~~ **and** (c) ~~and (d)~~ are replaced by the following:

"(b) the own funds requirements for the trading-book business of an institution for the following:

(i) market risks as determined in accordance with Title IV of this Part;

(ii) large exposures exceeding the limits specified in Articles 395 to 401, to the extent that an institution is permitted to exceed those limits, as determined in accordance with Part Four.

(c) the own funds requirements for market risks as determined in Title IV of this Part for all business activities that generate foreign-exchange or commodity risks;**"**

(41) Article 94 is replaced by the following:

"Article 94

Derogation for small trading book business

1. By way of derogation from point (b) of Article 92(3), institutions may calculate the own funds requirement of their trading-book business in accordance with paragraph 2 provided that the size of the institutions' on- and off-balance sheet trading-book business is equal to or less than **both of** the following thresholds on the basis of an assessment carried out on a monthly basis **using the data as of the last day of the month**:

(a) 5 % of the institution's total assets;

(b) EUR 50 million.

2. Where ~~the~~ **both** conditions set out in paragraph 1 are met, institutions may calculate the own funds requirement of their trading-book business as follows:

(a) for the contracts listed in point 1 of Annex II, contracts relating to equities which are referred to in point 3 of Annex II and credit derivatives, institutions may exempt those positions from the own funds requirement referred to in point (b) of Article 92(3);

(b) for trading book positions other than those referred to in point (a), institutions may replace the own funds requirement referred to in point (b) of Article 92(3) with the requirement calculated in

accordance with point (a) of Article 92(3).

3. Institutions shall calculate the size of their on- and off-balance sheet trading book business ~~on a given date~~ **based on data as of the last day of each month** for the purposes of paragraph 1 in accordance with the following requirements:

(a) all the positions assigned to the trading book in accordance with Article 104 shall be included in the calculation except for the following:

(i) positions **in financial instruments** concerning foreign-exchange and commodities;

(ii) **positions in** credit derivatives that are recognised as internal hedges against non-trading book credit risk exposures or counterparty risk exposures;

(b) all positions **included in the calculation in accordance to point (a)** shall be valued at their market prices on that given date; where the market price of a position is not available on that date, institutions shall take ~~the most recent market value for that position~~ **a fair value for the position on that date; where the fair value of a position is not available on that date, institutions shall take the most recent market value for that position**.

(c) the absolute value of long positions shall be summed with the absolute value of short positions.

4. Institutions shall notify the competent authorities when they calculate, or cease to calculate, the own fund requirements of their trading-book business in accordance with ~~this~~ paragraph 2.

5. An institution that no longer meets any of the conditions of paragraph 1 shall immediately notify the competent authority thereof.

6. An institution shall cease to determine the own fund requirements of its trading-book business in accordance with paragraph 2 within three months in one of the following cases:

(a) the **size of the** institution**'s on- and off-balance sheet trading book business referred to in paragraph 1 is above the threshold set out in point (a) of paragraph (1) or the threshold set out in point (b)** ~~does not meet any of the conditions~~ of paragraph 1 for three consecutive months;

(b) the **size of the** institution**'s on- and off-balance sheet trading book business referred to in paragraph 1 is above the threshold set out in point (a) of paragraph (1) or the threshold set out in point (b)** ~~does not meet any of the conditions~~ of paragraph 1 during more than 6 out of the last 12 months.

7. Where an institution **has** ceased~~s~~ to calculate the own fund requirements of its trading-book business in accordance with this Article, it shall only be permitted to calculate the own funds requirements of its trading-book business in accordance with this Article where it demonstrates to the competent authority that all the conditions set out in paragraph 1 have been met for an uninterrupted full year period.

8. Institutions shall not enter into**, buy or sell** a trading book position for the only purpose of complying with any of the conditions set out in paragraph 1 during the monthly assessment.".

(45bis) Article 101a is introduced:

Commented [A1]: This new Article would define the reporting requirement under the FRTB.

Article 101a

Specific reporting requirements for market risks

"1. From the date of application of the delegated act referred to in Article 461a, an institution that do not meet either the conditions set out in Article 94(1) or the conditions set out in Article 325a(1) shall report, for all its trading book positions and all its non-trading book positions subject to foreign

exchange or commodity risks, the results of the calculation based on using the alternative standardised approach set out in Part Three, Title IV, Chapter 1a on the same basis as the institution reports the obligations laid down in points (b)(i) and (c) Article 92(3).

2. For the purposes of the reporting requirement in paragraph 1, an institution shall report separately the calculations set out in points (a), (b) and (c) of Article 325d for the portfolio of all trading book positions or non-trading book positions generating foreign-exchange and commodity risks

3. In addition to the requirement set out in paragraph 1, from the enf of a 3 years period following the date of entry into force of the latest regulatory technical standards referred to in Articles 325be(7), 325bf(3), 325bg(9), 325bh(4), an institution may report, for those positions assigned to trading desks for which the institution has been granted a permission by competent authorities to use that approach as set out in Article 325ba, the results of the calculation based on using the alternative internal model approach approach set out in Part Three, Title IV, Chapter 1b on the same basis as the institution report the obligations laid down in points (b)(i) and (c) Article 92(3).

4. For the purposes of the reporting requirement in paragraph 3, an institution shall report separately the calculations set out in points (a)(i), (a)(ii), (b)(i), (b)(ii) of Article 325bb(1) and for the portfolio of all trading book positions or non-trading book positions generating foreign-exchange and commodity risks trading desks for which the institution has been granted a permission by competent authorities to use that approach as set out in Article 325ba.

5. For the purposes of the reporting requirements set out in this Article, an institution may use in combination the approaches set out in paragraphs 1 and 2 on a permanent basis within a group provided that the calculation under the approach set out in paragraph 1 does not exceed 90% of the total calculation. Otherwise, the institution shall use the approach set out in paragraph 1 for all its trading book positions and all its non-trading book positions generating foreign exchange or commodity risks.

6. EBA shall develop draft implementing technical standards, to specify the uniform reporting templates, the instructions and methodology on how to use the templates, the frequency, and dates of reporting, the definitions and the IT solutions for the reporting referred to in this Article.

EBA shall submit those draft implementing technical standards to the Commission by [30 June 2020].

Power is conferred on the Commission to adopt the implementing technical standards referred to in the first subparagraph in accordance with Article 15 of Regulation (EU) No 1093/2010.

The implementing technical standards shall provide for a transitional period of no less than six months from the date of entry into force and the date of application of any new reporting requirements"

(46) Article 102 is amended as follows:

(a) Paragraphs 2, 3 and 4 are replaced by the following:

"2. Trading intent shall be evidenced on the basis of the strategies, policies and procedures set up by the institution to manage the position or portfolio in accordance with Articles 104 ~~and 104a~~.

Commented [A2]: 104a removed since linked with the new definition of trading book

3. Institutions shall establish and maintain systems and controls to manage their trading book in accordance with Articles 103.

4. For those institutions referred to in Article ~~...~~104a, ~~T~~trading book positions shall be attributed to trading desks established ~~by the institution~~ in accordance with that Article ~~104b~~104a ~~for those institutions, unless the institution is eligible for the treatment set out in Article 94 or has been granted the waiver referred to in Article 104b(3).~~"

Commented [A3]: Establishment of trading desks only for those institutions that opt to apply the internal model approach for reporting purposes

(b) The following paragraphs 5 and 6 are added:

"5. Positions in the trading book shall be subject to the requirements for prudent valuation specified in Article 105.

6. Institutions shall treat internal hedges in accordance with Article 106.".

(47) Article 103 is ~~amended as follows~~ **replaced by the following**:

"Article 103

Management of the trading book

Commented [A4]: 103 kept since no linked with FRTB, requirements already in CRR

~~(a) Paragraph 1 is replaced by the following:~~

"1. Institutions shall have in place clearly defined policies and procedures for the overall management of the trading book. Those policies and procedures shall at least address:

(a) which activities the institution considers to be trading business and as constituting part of the trading book for own funds requirement purposes;

(b) the extent to which a position can be marked-to-market daily by reference to an active, liquid two-way market;

(c) for positions that are marked-to-model, the extent to which the institution can:

(i) identify all material risks of the position;

(ii) hedge all material risks of the position with instruments for which an active, liquid two-way market exists;

(iii) derive reliable estimates for the key assumptions and parameters used in the model.

(d) the extent to which the institution can, and is required to, generate valuations for the position that can be validated externally in a consistent manner;

(e) the extent to which legal restrictions or other operational requirements would impede the institution's ability to effect a liquidation or hedge of the position in the short term;

(f) the extent to which the institution can, and is required to, actively manage the risks of positions within its trading operation;

(g) the extent to which the institution may transfer risk or positions between the non-trading and trading books and the criteria for those transfers as referred to in Article 104**a**~~b~~.";

~~(b) In paragraph 2, the introductory part is replaced by the following:~~

"2. In managing its positions or portfolios of positions in the trading book the institution shall comply with all of the following requirements:";

~~(c) In paragraph 2, point (a) is replaced by the following:~~

"(a) the institution shall have in place a clearly documented trading strategy for the position or portfolios in the trading book, which shall be approved by senior management and include the expected holding period;";

~~(d) In paragraph 2, the introductory part of point (b) is amended as follows:~~

"(b) the institution shall have in place clearly defined policies and procedures for the active management of positions or portfolios in the trading book. Those policies and procedures shall include the following:";

~~(e) In paragraph 2, point (b)(i) is amended as follows:~~

" (i) which positions or portfolios of positions may be entered into by each trading desk or, as the case may be, by designated dealers;"

(ii) position limits are set and monitored for appropriateness;

(iii) dealers have the autonomy to enter into and manage the position within agreed limits and according to the approved strategy;

(iv) positions are reported to senior management as an integral part of the institution's risk management process;

(v) positions are actively monitored with reference to market information sources and an assessment made of the marketability or hedgeability of the position or its component risks, including the assessment, the quality and availability of market inputs to the valuation process, level of market turnover, sizes of positions traded in the market;

(vi) active anti-fraud procedures and controls.

(c) the institution shall have in place clearly defined policies and procedures to monitor the positions against the institution's trading strategy including the monitoring of turnover and positions for which the originally intended holding period has been exceeded.".

3. Institutions that are eligible for the treatment set out in Article 94 shall apply the requirements set out in this Article in a manner that is proportionate to the nature, size and complexity of their trading book positions.

(48) Article 104 is replaced by the following:

"Article 104

Inclusion in the trading book

1. Institutions shall have in place clearly defined policies and procedures for determining which position to include in the trading book for the purposes of calculating their capital requirements, in accordance with the requirements set out in Article 102, the definition of trading book provided in point (86) of Article 4(1) and the provisions of this Article, taking into account the institution's risk management capabilities and practices. The institution shall fully document its compliance with those policies and procedures, shall subject them to internal audit at least on a yearly basis and make the results of that audit available to the competent authorities.

2. Positions in the following instruments shall be assigned to the trading book:

(a) instruments that meet the criteria for the inclusion in the correlation trading portfolio ('CTP'), as referred to in paragraphs 6 **7** to 9;

(b) financial instruments that are managed on a trading desk established in accordance with Article 104b;

(c) financial instruments giving rise to a net short credit or equity position **in the non-trading book**;

(d) instruments resulting from underwriting commitments;

(e) financial assets or liabilities **which classification under the relevant accounting standards applicable to the institution has unambiguously a trading purpose** measured at fair value;

(f) instruments resulting from market making activities;

(g) collective investment undertakings **held with trading intent**, provided that they meet **at least one of** the conditions specified in paragraph 10 of this Article;

(h) listed equities;

(i) trading related SFTs;

(j) options including bifurcated embedded derivatives from instruments in the non trading book that relate to credit or equity risk.

For the purposes of point (c) of this paragraph, an institution shall have a net short equity position where a decrease in an equity price results in a profit for the institution. Correspondingly, an institution shall have a net short credit position where a credit spread increase or deterioration in the creditworthiness of an issuer or group of issuers results in a profit for the institution.

3. Positions in the following instruments shall not be assigned to the trading book:

(a) instruments designated for securitisation warehousing;

(b) real estate holdings;

(c) retail and SME credit;

(d) other collective investment undertakings than the ones specified in point (g) of paragraph 2 in which the institution cannot look through the fund on a daily basis or where the institution cannot obtain real prices for its equity investment in the fund on a daily basis;

(e) derivative contracts with underlying instruments referred to in point (a) to (d);

(f) instruments held for the purpose of hedging a particular risk of a position in an instrument referred to in point (a) to (e).**;**

(g) unlisted equities.

4. Notwithstanding paragraph 2, an institution may not assign a position in an instrument referred to in points (e) to (**ij**) of paragraph 2 to the trading book where that institution is able to satisfy the competent authorities that the position is not held with trading intend **intent** or does not hedge positions held with trading intend **intent**.

5. Competent authorities may require an institution to provide evidence that a position that is not referred to in paragraph 3 shall be assigned to the trading book. In the absence of suitable evidence, competent authorities may require the institution to reallocate that position to the non trading book, except for the positions referred to in points (a) to (d) of paragraph 2.

6. Competent authorities may require an institution to provide evidence that a position that is not referred to in points (a) to (d) of paragraph 2 shall be assigned to the non-trading book. In the absence of suitable evidence, competent authorities may require the institution to reallocate that position to the trading book, unless that position is referred to paragraph 3.

Commented [A5]: Deletion of the new definition of the trading book boundary since difficult to for banks to apply the new definition with the old calculation of capital requirements.

However, addition of text in Article 325ba to exclude securitisation positions from the calculation of the FRTB internal model approach used for reporting

7. CTP s Securitisation positions and n th to default credit derivatives that meet all of the following criteria shall be assigned to the CTP:

(a) the positions are neither re-securitisation positions, nor options on a securitisation tranche, nor any other derivatives of securitisation exposures that do not provide a pro rata share in the proceeds of a securitisation tranche;

(b) all their underlying instruments are:

(i) single-name instruments, including single-name credit derivatives, for which a liquid two-way market exists;

(ii) commonly traded indices based on the instruments referred to in point (i).

A two-way market is considered to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and settled at that price within a relatively short time conforming to trade custom.

8. Positions with any of the following underlying instruments shall not be included in the CTP:

(a) underlying instruments that belong to the exposure classes referred to in points (h) or (i) of Article 112;

(b) a claim on a special purpose entity, collateralised, directly or indirectly, by a position that, according to paragraph 6, would itself not be eligible for inclusion in the CTP.

9. Institutions may include in the CTP positions that are neither securitisation positions nor n th-to-default credit derivatives but that hedge other positions of that portfolio, provided that a liquid two-way market as described in the last subparagraph of paragraph 7 exists for the instrument or its underlying instruments.

~~10. Institutions~~ shall assign a position in a collective investment undertaking ~~**that is held with trading intent**~~ to the trading book where it meets at least one of the following conditions:

~~(a) the institution can look through~~ ~~**obtains sufficient information about the individual underlying exposures of**~~ the collective investment undertaking on a daily basis;

~~(b) the institution can obtain prices for the collective investment undertaking on a daily basis.".~~

~~**11. Where a collective investment undertaking underlying a position held with trading intent does not meet at least one of the conditions set out in paragraph 10, this position shall be allocated to the non-trading book.**~~

(49) The following Articles 104a ~~and 104b are~~is inserted:

~~*"Article 104a*~~

~~*Re-classification of a position*~~

~~1. Institutions shall have in place clearly defined policies for identifying which exceptional circumstances justify the re-classification of a trading book position as a non-trading book position or conversely a non-trading book position as a non-trading book~~ ~~**position**~~ ~~for the purposes of determining their own funds requirements to the satisfaction of the competent authorities. The institutions shall review these policies at least annually.~~

~~EBA shall~~ ~~**monitor the range of supervisory practises and**~~ ~~develop guidelines by [two~~ ~~five~~ ~~years after the entry into force~~ ~~**date of application**~~ ~~of this Regulation] on the meaning of exceptional circumstances for the purpose~~ ~~**paragraph 1. Until EBA develop those guidelines, competent authorities shall notify EBA and provide a rationale for their decision where**~~ ~~**competent authorities permit an institution to re-classification a position in accordance to paragraph 1**~~ ~~this Article.~~

~~2. Competent authorities shall grant permission to re-classify a trading book position as a non-trading book position or conversely a non-trading book position as a non-trading book for the purposes of determining their own funds requirements only where the institution has provided the competent authorities with written evidence that its decision to re-classify that position is the result of an exceptional circumstance that is consistent with the policies set out by the institution in accordance with paragraph 1. For that purpose, the institution shall provide sufficient evidence that the position no longer meets the condition to be classified as a trading book or non-trading book positions pursuant to Article 104.~~

~~The decision referred to in the first subparagraph shall be approved by the management body of the institution.~~

~~3. Where the competent authorities have granted their permission in accordance with paragraph 2, the institution shall:~~

~~(a) publicly disclose at the earliest reporting date the information that its position has been re-classified;~~

~~(b) subject to the treatment set out in paragraph 4, determine as from the earliest reporting date the own funds requirements of the re-classified position in accordance with Article 92;~~

~~4. Where, at the earliest reporting date, the net change in the amount of the institution's own funds requirements arising from re-classifying the position, **equal to the difference in total own funds requirements after the re-classification and before the re-classification at the date of re-classification ceteris paribus**, results in a net decrease of own funds requirements, the institution shall hold additional own funds equal to this net change and publicly disclose the amount of those additional own funds **at the earliest reporting date**. The amount of those additional own funds shall remain constant until the position matures unless, the competent authorities permit the institution to phase this amount out at an earlier date.~~

~~5. The re-classification of a position in accordance with this article shall be irrevocable.~~

Article 104a~~b~~

Requirements for trading desk

1. Institutions referred to in Article 101a(3) shall establish trading desks and attribute each of their trading book positions to one of these trading desks. Trading book positions shall be attributed to the same trading desk only where they satisfy the agreed business strategy for the trading desk and are consistently managed and monitored in accordance with paragraph 2.

2. Institutions' trading desks shall at all times meet all of the following requirements:

(a) each trading desk shall have a clear and distinctive business strategy and a risk management structure that is adequate for its business strategy;

(b) each trading desk shall have a clear organisational structure; positions in a given trading desk shall be managed by designated dealers within the institution; each dealer shall have dedicated functions in the trading desk; ~~one~~ **each** dealer shall be assigned to one trading desk only; one dealer in each trading desk shall take a lead role in overseeing the activities and the other dealers of the trading desk;

(c) position limits shall be set within each trading desk according to the business strategy of that trading desk;

(d) reports on the activities, profitability, risk management and regulatory requirements at the trading desk level shall be produced at least on a weekly basis and communicated to the management body of the institution on a regular basis;

(e) each trading desk shall have a clear annual business plan including a well-defined remuneration policy based on sound criteria used for performance measurement~~.~~**;**

(f) reports on maturing positions, intra-day and daily trading limit breaches as well as actions taken by the institution to address these breaches, and assessment of market liquidity shall be prepared for each trading desk on a monthly basis and make available to the competent authorities.

3. Institutions shall notify the competent authorities on the manner in which they comply with paragraph 2. Competent authorities may require an institution to change the structure or organisation of its trading desks to comply with this Article.

~~4. By way of derogation from paragraph 1, institutions using the approaches set out in points (a) and (c) of Article 325(1) to determine the own funds requirements for market risk may apply for a waiver for part or all of the requirements set out in this Article. Competent authorities may grant the waiver where the institution demonstrates that:~~

~~(a) non-compliance with paragraph 2 would not have a material adverse impact on the institution's ability to manage and monitor effectively the market risks of its trading book positions;~~

~~(b) the institution complies with the general trading book management requirements set out in Article 103.".~~

~~5. By way of derogation from paragraph 1, institutions that are eligible for the treatment set out in Article 94 shall not apply the requirements set out in this Article.~~

(50) Article 105 is amended as follows:

(a) paragraph 1 is replaced by the following:

"1. All trading book positions and non-trading book positions measured at fair value shall be subject to the standards for prudent valuation specified in this Article. Institutions shall in particular ensure that the prudent valuation of their trading book positions achieves an appropriate degree of certainty having regard to the dynamic nature of trading book positions and non-trading book positions measured at fair value, the demands of prudential soundness and the mode of operation and purpose of capital requirements in respect of trading book positions and non-trading book positions measured at fair value.";

(b) paragraphs 3 and 4 are replaced by the following:

"3. Institutions shall revalue trading book positions at fair value at least on a daily basis. Changes in the value of those positions shall be reported in the profit and loss account of the institution.

4. Institutions shall mark their trading book positions and non-trading book positions measured at fair value to market whenever possible, including when applying the relevant capital treatment to those positions.";

Commented [A6]: Paragraphs 4 and 5 no longer needed since only institutions that want to develop the IMA for reporting requirements shall establish trading desks.

Commented [A7]: Article 105 kept since the clarification were not included to reflect the FRTB standards.

(c) paragraphs 3 and 4 are replaced by the following:

"6. Where marking to market is not possible, institutions shall conservatively mark to model their positions and portfolios, including when calculating own funds requirements for positions in the trading book and positions measured at fair value in the non-trading book.";

(d) in paragraph 7, the last subparagraph is replaced by the following:

"For the purposes of point (d), the model shall be developed or approved independently of the trading desks and shall be independently tested, including validation of the mathematics, assumptions and software implementation.";

(e) in paragraph 11, point(a) is replaced by the following:

"(a) the additional amount of time it would take to hedge out the position or the risks within the position beyond the liquidity horizons that have been assigned to the risk factors of the position in accordance with Article 325be;".

~~(51) Article 106 is amended as follows:~~

~~(a) paragraphs 2 and 3 are replaced by the following:~~

~~"2. The requirements of paragraph 1 shall apply without prejudice to the requirements applicable to the hedged position in the non-trading book or in the trading book, where relevant.~~

~~3. Where an institution hedges a non-trading book credit risk exposure or counterparty risk exposure using a credit derivative booked in its trading book, this credit derivative position shall be recognised as an internal hedge of the non-trading book credit risk exposure or counterparty risk exposure for the purpose of calculating the risk-weighted exposure amounts referred to in Article 92(3)(a) where the institution enters into another credit derivative transaction with an eligible third party protection provider that meets the requirements for unfunded credit protection in the non-trading book and perfectly offsets the market risk of the internal hedge.~~

~~Both an internal hedge recognised in accordance with the first sub-paragraph and the credit derivative entered into with the third party shall be included in the trading book for the purposes of calculating the own funds requirements for market risks.";~~

(b) The following paragraphs 4, 5 and 6 are added:

"4. Where an institution hedges a non-trading book equity risk exposure using an equity derivative booked in its trading book, this equity derivative position shall be recognised as an internal hedge of the non-trading book equity risk exposure for the purpose of calculating the risk-weighted exposure amounts referred to in Article 92(3)(a) where the institution enters into another equity derivative transaction with an eligible third party protection provider that meets the requirements for unfunded credit protection in the non-trading book and perfectly offsets the market risk of the internal hedge.

Both an internal hedge recognised in accordance with the first sub-paragraph and the equity derivative entered into with the third party shall be included in the trading book for the purpose of calculating the own funds requirements for market risks.

5. Where an institution hedges non-trading book interest rate risk exposures using an interest rate risk position booked in its trading book, this position shall be considered to be an internal hedge for the purposes of assessing the interest rate risks arising from non-trading positions in accordance with Articles 84 and 98 of Directive 2013/36/EU where the following conditions are met:

(a) **for institutions that have not been granted the waiver referred to in Article 104b(4),** the position has been attributed to a trading desk established in accordance with Article 104b the business strategy of which is solely dedicated to manage and mitigate the market risk of internal hedges of interest rate risk exposure. For that purpose, that trading desk may enter into other interest rate risk positions with third parties or other trading desks of the institution, as long as those other trading desks perfectly offset the market risk of those other interest rate risk positions by entering into opposite interest rate risk positions with third parties;

(b) the institution has fully documented how the position mitigates the interest rate risks arising from non-trading book positions for the purposes of the requirements laid down in Articles 84 and 98 of Directive 2013/36/EU;

6. The own funds requirements for market risks of all the positions assigned to or entered into by the trading desk referred to in point (a) of paragraph 3 shall be calculated on a standalone basis as a separate portfolio and shall be additional to the own funds requirements for the other trading book positions.".

Commented [A8]: Article 106 removed since linked to FRTB. Go back to current Article 106 specifying internal hedges

(59) The following Article 204a is inserted:

~~*"Article 204a*~~
~~*Eligible types of equity derivatives*~~

~~1. Institutions may use equity derivatives, which are total return swaps or economically effectively similar, as eligible credit protection only for the purpose of conducting internal hedges.~~

~~Where an institution buys credit protection through a total return swap and records the net payments received on the swap as net income, but does not record the offsetting deterioration in the value of the asset that is protected either through reductions in fair value or by an addition to reserves, that credit protection does not qualify as eligible credit protection.~~

~~2. Where an institution conducts an internal hedge using an equity derivative, in order for the internal hedge to qualify as eligible credit protection for the purposes of this Chapter, the credit risk transferred to the trading book shall be transferred out to a third party or parties.~~

~~Where an internal hedge has been conducted in accordance with the first subparagraph and the requirements in this Chapter have been met, institutions shall apply the rules set out in Sections 4 to 6 of this Chapter for the calculation of risk weighted exposure amounts and expected loss amounts where they acquire unfunded credit protection.".~~

(83) In Part Three, Title IV, Chapter 1 is replaced by the following:

Commented [A9]: Article 204a removed as a consequence of removal of Article 106

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"Chapter 1
General Provisions

Article 325
Approaches for calculating the own funds requirements for market risks

1. An institution shall calculate the own funds requirements for market risks of all trading book positions and non-trading book positions subject to foreign exchange risk or commodity risk in accordance with the following approaches:

~~(a) from [date of application of this Regulation], the standardised approach set out in Chapter 1a of this Title;~~

~~(b) from [date of application of this Regulation], the internal model approach set out in Chapter 1b of this Title only for those positions assigned to trading desks for which the institution has been granted a permission by competent authorities to use that approach as set out in Article 325ba;~~

(a~~e~~) ~~after [date of application of this Regulation], only institutions that meet the conditions defined in Article 325a(1) may use~~ the ~~simplified~~ standardised approach referred to in paragraph 4 **2** ~~to determine their own funds requirements for market risks~~;

(b~~d~~) ~~until [date of application of this Regulation],~~ the ~~simplified~~ internal model approach set out in Chapter 5 of this Title for those risk categories for which the institution has been granted the permission in accordance with Article 363 to use that approach in. ~~After [date of application of this Regulation], institutions shall no longer use the simplified internal model approach set out in Chapter 5 to determine the own funds requirements for market risks.~~

~~1a.~~

2. The own funds requirements for markets risks calculated with the ~~simplified~~ standardised approach referred to in point (a~~e~~) of paragraph 1 means the sum of the following own funds requirements, as applicable:

(a) the own funds requirements for position risks referred to in Chapter 2 of this Title;

(b) the own funds requirements for foreign exchange risks referred to in Chapter 3 of this Title;

(c) the own funds requirements for commodity risks referred to in Chapter 4 of this Title;

~~3. An institution may use in combination the approaches set out in points (a) and (b) of paragraph 1 on a permanent basis within a group provided that the own funds requirements for market risks calculated under the approach set out in point (a) does not exceed 90% of the total own funds requirements for market risks. Otherwise, the institution shall use the approach set out in point (a) of paragraph 1 for all the positions subject to the own funds requirements for market risks.~~

3. An institution that is not exempted from the reporting requirements set out in Article 101a in accordance with Article 325a shall report the calculation in accordance with Article 101a for all trading book positions and non-trading book positions subject to foreign exchange risk or commodity risk in accordance with the following approaches:

(a) the alternative standardised approach set out in Chapter 1a;

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(b) the alternative internal model approach set out in Chapter 1b;

4. ~~**Until [date of application of this Regulation],** A~~a~~A~~n institution may use in combination the approaches set out in points (c) and (d) of paragraph 1 on a permanent basis within a group in accordance with Article 363.

~~5. An institution shall not use either of the approaches set out in points (a) and (b) of paragraph 1 in combination with the approach set out in point (c).~~

5~~6~~. Institutions shall not use the approach set out in point (b) of paragraph ~~1~~ 3 for instruments in the trading book that are securitisation positions or positions included in the CTP as defined in paragraphs ~~7~~6 to 9 of that Article ~~104~~.

6. Securitisation positions and n-th-to-default credit derivatives that meet all of the following criteria shall be assigned to the CTP:

(a) the positions are neither re-securitisation positions, nor options on a securitisation tranche, nor any other derivatives of securitisation exposures that do not provide a pro-rata share in the proceeds of a securitisation tranche;

(b) all their underlying instruments are:

(i) single-name instruments, including single-name credit derivatives, for which a liquid two-way market exists;

(ii) commonly-traded indices based on the instruments referred to in point (i).

A two-way market is considered to exist where there are independent bona fide offers to buy and sell so that a price reasonably related to the last sales price or current bona fide competitive bid and offer quotations can be determined within one day and settled at that price within a relatively short time conforming to trade custom.

8. Positions with any of the following underlying instruments shall not be included in the CTP:

(a) underlying instruments that belong to the exposure classes referred to in points (h) or (i) of Article 112;

(b) a claim on a special purpose entity, collateralised, directly or indirectly, by a position that, according to paragraph 6, would itself not be eligible for inclusion in the CTP.

9. Institutions may include in the CTP positions that are neither securitisation positions nor n-th-

to-default credit derivatives but that hedge other positions of that portfolio, provided that a liquid two-way market as described in the last subparagraph of paragraph 6 exists for the instrument or its underlying instruments.

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~~7. For the purpose of calculating the own funds requirements for CVA risks using the advanced method set out in Article 383, institutions may continue to use the simplified internal model approach set out in Chapter 5 of this Title after [date of application of this Regulation] at which date institutions shall cease to use that approach for the purposes of calculating the own funds requirements for market risks.~~

10~~8~~. EBA shall develop **draft** regulatory technical standards to specify in more detail how institutions shall determine the own funds requirements for market risks for non-trading book positions subject to foreign exchange risk or commodity risk in accordance with the approaches set out in points (a) and (b) of paragraph 1.

EBA shall submit those draft regulatory technical standards to the Commission by [~~6~~ ~~nine months~~ three years after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with article 10 to 14 of Regulation (EU) No 1093/2010.

Article 325a

~~Conditions for using the Simplified Standardised Approach~~Exemptions from specific reporting requirements for market risks

1. An institution ~~may not~~ shall be ~~required~~ exempted to report the calculations ~~the own funds requirements for market risks with the approach referred to in point (e) of Article 325(1)~~ in accordance with Article 101a provided that the size of the institution's on- and off-balance sheet business subject to market risks is equal to or less than **each of** the following thresholds on the basis of an assessment carried out on a monthly basis **using the data as of the last day of the month**:

(a) 10 % of the institution's total assets;

(b) EUR ~~300~~ **500** million.

2. Institutions shall calculate the size of their on- and off-balance sheet **business** subject to market risks ~~on a given date~~ **based on data as of the last day of each month** in accordance with the following requirements:

(a) all the positions assigned to the trading book shall be included, except credit derivatives that are recognised as internal hedges against non-trading book credit risk exposures;

(b) all non-trading book positions **in financial instruments** generating foreign-exchange and commodity risks shall be included;

(c) all positions **included in the calculation in accordance to points (a) and (b)** shall be valued at their market prices on that date, except for positions referred to in point (b). If the market price of a position is not available on a given date, institutions shall take ~~the most recent market value for that position;~~ **a fair value for the position on that date; where the fair value of a position is not available on that date, institutions shall take the most recent market value for that position;**

(d) all the **trading and** non-trading book positions generating ~~commodity~~ **foreign-exchange** risks shall be considered as an overall net foreign exchange position and valued in accordance with Article 352**;**

(e) all the **trading and** non-trading book positions generating commodity risks shall be valued using the provisions set out in Articles 357 to 358;

(f) the absolute value of long positions shall be summed with the absolute value of short positions.

3. Institutions shall notify the competent authorities when they calculate, or cease to calculate, their own fund requirements for market risks in accordance with this Article.

4. An institution that no longer meets any of the conditions of paragraph 1 shall immediately notify the competent authority **thereof**.

5. Institutions shall cease to be exempted from the reporting requirements under Article 101a ~~calculate the own fund requirements for market risks in accordance with **the approach set out under** paragraph 1~~ within three months of one of the following cases:

(a) the **size of** institution**'s on- and off- balance sheet business subject to market risks referred to in paragraph 1 is above the threshold set out in point (a) of paragraph (1) or the threshold set out in point (b)** ~~does not meet any of the conditions~~ of paragraph 1 for three consecutive months;

(b) the **size of** institution**'s on- and off- balance sheet business subject to market risks referred to in paragraph 1 is above the threshold set out in point (a) of paragraph (1) or the threshold set out in point (b)** ~~does not meet any of the conditions~~ of paragraph 1 during more than 6 out of the last 12 months;

6. Where an institution **has** cease~~d~~**ds** to ~~calculate the own fund requirements for market risks in accordance with paragraph 1~~ be exempted from the reporting requirements under Article 101a, it shall only be permitted to be exempted from the reporting requirements under Article 101a~~calculate the own fund requirements for market risks according to paragraph 1~~ where it demonstrates to the competent authority that all the conditions set out in paragraph 1 have been met for an uninterrupted full year period.

7. Institutions shall not enter into**, buy or sell** a position for the only purpose of complying with any of the conditions set out in paragraph 1 during the monthly assessment.

Article 325b
Allowances for consolidated requirements

1. Subject to paragraph 2 and only for the purpose of calculating net positions and own funds requirements in accordance with this Title on a consolidated basis, institutions may use positions in one institution or undertaking to offset positions in another institution or undertaking.

2. Institutions may apply paragraph 1 only subject to the permission of the competent authorities, which shall be granted if all of the following conditions are met:

(a) there is a satisfactory allocation of own funds within the group;

(b) the regulatory, legal or contractual framework in which the institutions operate is such as to guarantee mutual financial support within the group.

3. Where there are undertakings located in third countries all of the following conditions shall be met in addition to those in paragraph 2:

(a) such undertakings have been authorised in a third country and either satisfy the definition of a credit institution or are recognised third-country investment firms;

(b) such undertakings comply, on an individual basis, with own funds requirements equivalent to those laid down in this Regulation;

(c) no regulations exist in the third countries in question which might significantly affect the

transfer of funds within the group.

~~*Article 325c*~~
~~*Structural hedges of foreign exchange risk*~~

~~1. Any position which an institution has deliberately taken in order to hedge against the adverse effect of foreign exchange rates on its ratios referred to in Article 92(1) may, subject to permission of the competent authorities, be excluded~~ **exempted** ~~from the calculation of own funds requirements for~~ **foreign exchange risk** ~~market risks~~ **under the approaches set out in points (a), (b) and (d) of Article 325(1), or may be excluded from the calculation of the net open currency positions under the approach set out in point (c) of Article 325(1), as applicable**~~, provided the following conditions are met:~~

~~(a) the exclusion is limited to the largest of the following amounts:~~

~~(i) the amount of investment in affiliated entities denominated in foreign currencies but which are not consolidated with the institution;~~

~~(ii) the amount of investment in consolidated subsidiaries denominated in foreign currencies.~~

~~(b) the exclusion from the calculation of own funds requirements for market risks is made for at least six months;~~

~~(c) the institution has provided to the competent authorities the details of that position, has substantiated that that position has been entered into for the purpose of hedging partially or totally against the adverse effect of the exchange rate on its ratios defined in accordance with Article 92(1) and the amounts of that position that are excluded from the own funds requirements for market risk as referred to in point (a).~~

~~2. Any exclusion of positions from the own funds requirements for market risks in accordance with paragraph 1 shall be applied consistently and remain in place for the life of the assets or other items.~~

~~3. Competent authorities shall approve any subsequent changes by the institution to the amounts that shall be excluded from the own funds requirements for market risks in accordance with paragraph 1.~~

~~**4. The EBA shall develop draft regulatory technical standards to specify the conditions under which a position may be excluded from the own funds requirements for market risks in accordance with paragraph 1.**~~
~~**EBA shall submit those draft regulatory technical standards to the Commission by [12 months] after the entry into force of this Regulation].**~~

~~**Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.**"~~.

Commented [A10]: Structural FX treatment under FRTB deleted since go back to the current market risks frame Article 325c deleted

In addition, treatment reviewed in Basel.

(84) In Part 3, Title IV, the following Chapters 1a and 1b are added:

"Chapter 1a
The alternative standardised approach

SECTION 1

GENERAL PROVISIONS

Article 325d
Scope and structure of the alternative standardised approach

An institution shall calculate the own funds requirements for market risk with the alternative standardised approach for the purposes of Article 101a(1) for a portfolio of trading book positions or non-trading book positions generating foreign-exchange and commodity risks as the sum of the following three components:

(a) the own funds requirement under the sensitivities based method set out in Section 2 of this Chapter;

(b) the default risk own funds requirement set out in Section 5 of this Chapter which is only applicable to the trading book positions referred to in that Section;

(c) the own funds requirements for residual risks set out in Section 4 of this Chapter which is only applicable to the trading book positions referred to in that Section.

SECTION 2
SENSITIVITIES-BASED METHOD OWN FUNDS REQUIREMENT

Article 325e
Definitions

For the purposes of this Chapter, the following definitions shall apply:

(1) 'risk class' means one of the following seven categories: (i) general interest rate risk; (ii) non-securitisation credit spread risk; (iii) securitisation credit spread risk (non-CTP); (iv) securitisation credit spread risk (CTP); (v) equity risk; (vi) commodity risk; and (vii) foreign exchange risk.

(2) 'sensitivity' means the relative change in the value of a~~n~~ position**,** ~~calculated with the institution's pricing model,~~ as a result of a change in the value of one of the relevant risk factors of the position~~.~~, **calculated with the institution's pricing model in accordance with subsection 2 of this section**.

(3) 'bucket' means a sub-category of positions within one risk class with a similar risk profile to which a risk-weight is assigned as defined in subsection 1 of Section 3 of this Chapter.

Article 325f
Components of the sensitivities-based method

1. Institutions shall calculate the own funds requirement for market risk under the sensitivities-based method by aggregating the following three own fund requirements in accordance with Article 325i:

(a) own fund requirements for delta risk which captures the risk of changes in the value of an instrument due to movements in its non-volatility related risk factors ~~and assuming a linear pricing function~~;

(b) own fund requirements for vega risk which captures the risk of changes in the value of an instrument due to movements in its volatility-related risk factors;

(c) own fund requirements for curvature risk which captures the risk of changes in the value of an instrument due to movements in the main non-volatility related risk-factors not captured by **the own funds requirements for** delta risk.

2. For the purposes of the calculation referred to in paragraph 1,

(~~d~~**a**) all the positions of instruments with optionality shall be subject to the own fund requirements referred to in points (a), (b) and (c) of paragraph 1.

(~~e~~**b**) all the positions of instruments without optionality shall only be subject to the own fund requirements referred to in points (a) of paragraph 1. **In particular, instruments whose cash flows can be written as a linear function of the underlying's notional value shall be considered to be instruments without optionality**.

(c) For the purposes of this Chapter, instruments with optionality include, amongst others: calls, puts, caps, floors, swaptions, barrier options and exotic options. Embedded options, such as prepayment or behavioural options, shall be considered to be standalone positions in options for the purpose of calculating the own funds requirements for market risks.

(d) By the way of derogation from point (b) of this paragraph, an instrument without optionality shall be subject to the own funds requirements referred to in points (a), (b) and (c) of paragraph 1 where its replicating portfolio is composed of hedging instruments with optionality so that the instrument has non- zero vega and curvature risk sensitivities.

For the purposes of this Chapter, instruments whose cash flows can be written as a linear function of the underlying's notional value shall be considered to be instruments without optionality.

Article 325g
Own funds requirements for delta and vega risks

1. Institutions shall apply the delta and vega risk factors described in subsection 1 of Section 3 of this Chapter to calculate the own fund requirements for delta and vega risks.

2. Institutions shall apply the process set out in paragraphs 3 to 8 to calculate own funds requirements for delta and vega risks.

3. For each risk class, the sensitivity of all instruments in scope of the own funds requirementsfor delta or vega risks to each of the applicable delta or vega risk factors included in that risk class shall be calculated by using the corresponding formulas in subsection 2 of Section 3 of this Chapter. If the value of an instrument depends on several risk factors, the sensitivity shall be determined separately for each risk factor.

4. Sensitivities shall be assigned to one of the buckets 'b' within each risk class.

5. Within each bucket 'b', the positive and negative sensitivities to the same risk factor shall be netted, giving rise to net sensitivities (s_k) to each risk factor k within a bucket.

6. The net sensitivities to each risk factor (s_k) within each bucket shall be multiplied by the corresponding risk weights (RW_k) prescribed in Section 6, giving rise to weighted sensitivities (WS_k) to each risk factor within that bucket in accordance with the following formula:

$$WS_k = RW_k \cdot s_k$$

7. The weighted sensitivities to the different risk factors within each bucket shall be aggregated in accordance with the formula below, where the quantity within the square root function is floored at zero, giving rise to the bucket-specific sensitivity (K_b). The corresponding correlations for weighted sensitivities within the same bucket (ρ_{kl}), laid down in Section 6, shall be used.

$$K_b = \sqrt{\sum_k WS_k^2 + \sum_k \sum_{k \neq l} \rho_{kl} \, WS_k \, WS_l}$$

8. The bucket-specific sensitivity (K_b) shall be calculated for each bucket within a risk class in accordance with paragraphs 5 to 7. Once the bucket-specific sensitivity has been calculated for all buckets, weighted sensitivities to all risk factors across buckets shall be aggregated in accordance with the formula below, using the corresponding correlations γ_{bc} for weighted sensitivities in different buckets laid down in **Section** 6, giving rise to the risk-class specific delta or vega own funds requirement:

$$Risk - class\ specific\ \text{delta or vega}\ own\ fund\ requirement = \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c}$$

where $S_b = \sum_k WS_k$ for all risk factors in bucket b and $S_c = \sum_k WS_k$ in bucket c. Where those values for S_b and S_c produce a negative number for the overall sum of $\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c$, the institution shall calculate the risk-class specific delta or vega own funds requirements using an alternative specification whereby $S_b = \max[\min(\sum_k WS_k, K_b), -K_b]$ for all risk factors in bucket b and $S_c = \max[\min(\sum_k WS_k, K_c), -K_c]$ for all risk factors in bucket c.

The risk-class specific delta or vega risk own fund requirements shall be calculated for each risk class in accordance with paragraphs (1) to (8).

Article 325h
Own funds requirements for curvature risk

1. ~~Institutions shall apply the process set out in paragraphs 2 to 6 to calculate own funds requirements for curvature risk.~~calculate an own funds requirements for curvature risk to capture the risk of changes in the value of an instrument due to movements in the main non-volatility related risk factors not captured by the own funds requirements for delta risk~~.~~The own funds requirements for curvature risk shall be specified in accordance with the delegated act referred to in Article 461a.

Commented [A11]: Under review in Basel.

~~2. Using the sensitivities calculated in accordance with Article 325g(3~~4), for each risk class, a net curvature risk requirement CVR_k for each risk factor (k) included in that risk class shall be calculated in accordance with the formula below.

$$CVR_k = -min\left\{\sum_i \left[V_i\left(x_k^{(RW^{(curvature\ )}+)}\right) - V_i(x_k) - RW_k^{(curvature\ )} \cdot s_{ik}\right], \sum_i \left[V_i\left(x_k^{(RW^{(curvature\ )}-)}\right) - V_i(x_k) + RW_k^{(curvature\ )} \cdot s_{ik}\right]\right\}$$

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~~where:~~

~~i = the index that denotes an instrument subject to curvature risks associated with risk factor k;~~

~~x_k = the current level of risk factor k;~~

~~$V_i(x_k)$ = the value of an instrument i as estimated by the pricing model of the institution by using the current value of risk factor k;~~

~~$V_i\left(x_k^{(RW^{(curvature)}+)}\right)$ and $V_i\left(x_k^{(RW^{(curvature)}-)}\right)$ = the value of an instrument i after x_k is shifted upward and downward respectively in accordance with the corresponding risk weights;~~

~~$RW_k^{(curvature)}$ = the risk weight for curvature risk factor k for instrument i determined in accordance with Section 6.~~

~~s_{ik} = the delta sensitivity of instrument i with respect to the delta risk factor that corresponds to curvature risk factor k.~~

~~3. For each risk class, the net curvature risk requirements CVR_k calculated in accordance with paragraph 2 shall be assigned to one of the buckets (b) within that risk class.~~

~~4. All the net curvature risk requirements CVR_k within each bucket (b) shall be aggregated in accordance with the formula below, where the corresponding prescribed correlations ρ_{kl} among pairs of risk factors k,l within each bucket shall be used, giving rise to the bucket specific curvature risk own funds requirements:~~

$$K_b = \sqrt{max\left(0, \sum_k max(CVR_k, 0)^2 + \sum_k \sum_{k \neq l} \rho_{kl}\, CVR_k CVR_l\, \psi(CVR_k, CVR_l)\right)}$$

~~where:~~

~~$\psi(CVR_k, CVR_l)$ = a function that takes the value 0 if CVR_k and CVR_l both have negative signs. In all other cases, $\psi(CVR_k, CVR_l)$ shall take the value of 1.~~

~~5. The net curvature risk own funds requirements shall be aggregated across buckets within each risk class in accordance with the formula below, where the corresponding prescribed correlations γ_{bc} for sets of net curvature risk requirements belonging to different buckets shall be used. This gives rise to the risk-class specific curvature risk own funds requirements.~~

$$Risk\ class\ specific\ curvature\ risk\ own\ funds\ requirements = \sqrt{\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc}\, S_b S_c\, \psi(S_b, S_c)}$$

~~where:~~

~~$S_b = \sum_k CVR_k$ for all risk factors in bucket b, and $S_c = \sum_k CVR_k$ in bucket c;~~

~~$\psi(S_b, S_c)$ is a function that takes the value 0 if S_b and S_c both have negative signs. In all other cases, $\psi(S_b, S_c)$ takes the value of 1.~~

~~Where these values for S_b and S_c produce a negative number for the overall sum of $\sum_b K_b^2 + \sum_b \sum_{c \neq b} \gamma_{bc} S_b S_c \psi(S_b, S_c)$~~

~~the institution shall calculate the curvature risk charge~~ **own fund requirements** ~~using an alternative specification whereby $S_b = max[\min(\sum_k CVR_k, K_b), -K_b]$ for all risk factors in bucket b and $S_c = max[\min(\sum_k CVR_k, K_c), -K_c]$ for all risk factors in bucket c.~~

~~6. The risk class specific curvature risk own funds requirements shall be calculated for each risk class in accordance with paragraphs 2 to 5.~~

Article 325i

Aggregation of risk-class specific own funds requirements for delta, vega and curvature risks

1. Institutions shall aggregate risk-class specific own funds requirements for the delta, vega and curvature risks in accordance with the process set out in paragraphs 2 to 5.

2. The process to calculate delta, vega and curvature risk-class specific own funds requirements described in Articles 325g and 325h shall be performed three times per risk-class, each time using a different set of correlation parameters ρ_{kl} (correlation between risk factors within a bucket) and γ_{bc} (correlation between buckets within a risk class. Each of those three sets shall correspond to a different scenario, as follows:

(a) the 'medium correlations' scenario, whereby the correlation parameters $\boldsymbol{\rho_{kl}}$ and $\boldsymbol{\gamma_{bc}}$ remain unchanged from those specified in Section 6.

(b) the 'high correlations' scenario, whereby the correlation parameters $\boldsymbol{\rho_{kl}}$ and $\boldsymbol{\gamma_{bc}}$ that are specified in Section 6 shall be uniformly multiplied by 1,25, with $\boldsymbol{\rho_{kl}}$ and $\boldsymbol{\gamma_{bc}}$ subject to a cap at 100%.

(c) the ~~a~~ 'low correlations' scenario shall be specified in accordance with the delegated act referred to in Article 461a~~, whereby the corresponding **parameters ρ_{kl} and γ_{bc} that are** prescribed correlations specified in Section 6 shall be uniformly multiplied by 0,75~~.

Commented [A12]: Under review in Basel.
Principle left but all details removed

3. ~~All the risk-class specific own funds requirements resulting from each scenario shall be aggregated separately for delta, vega and curvature risk, giving rise to three different, scenario-specific, own funds requirements for delta, vega and curvature risk.~~ **Institutions shall sum the delta, vega and curvature risk-class specific own funds requirements for each scenario to determine three scenario-specific own funds requirements.**

4. ~~The final delta, vega or curvature own fund requirements, shall be the largest of the three scenario specific own fund requirements for delta, vega or curvature risk calculated in accordance with paragraph 3.~~ **The sensitivities-based method own fund requirement shall be the largest of the three scenario-specific own funds requirements.**

5. ~~The sensitivities based method own fund requirement shall be the sum of the three final delta, vega and curvature own funds requirements.~~

Article 325j
*Treatment of index instruments~~,~~ **and** multi-underlying options*

~~1. Institutions shall~~ may ~~use a look through approach for index instruments and multi underlying options where all the constituents of the index or the option have delta risk sensitivities of the same sign. The sensitivities to~~ **a** ~~constituent risk factors~~ **of a given constituent of an** ~~from index instruments~~ **or a** ~~and multi underlying options are allowed to net with~~ **the** ~~sensitivities~~ **to the same risk factor of the same constituent of** ~~single name instruments without restrictions, except for positions of~~ **included in** ~~the CTP.~~The treatment of index instruments and multi-underlying options shall be specified in accordance with the delegated act referred to in Article 461a.

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~~2. Multi underlying options with delta risk sensitivities of different signs shall be exempted from delta and vega risk but shall be subject to the residual risk add on referred to in Section 4 of this Chapter~~ **if the EBA determines that these options bear other residual risks in accordance with Article 325v(5)**.

Article 325k
Treatment of collective investment undertakings

1. **An** ~~I~~institution~~s~~ shall calculate the own funds requirements for market risk of a position in a collective investment undertaking ('CIU') using one of the following approaches:

(a) **Where the** ~~An~~ institution ~~that~~ **is able to obtain sufficient information about the individual underlying exposures of the CIU in accordance with point (a) of Article 104(10)** ~~identify the underlying investments of the CIU or the index instrument on a daily basis shall look through to those underlying investments and calculate,~~ the own funds requirements for market risk for this position shall be calculated in accordance with the approach set out in Article 325j(1);

(b) Where daily prices for the CIU ~~may~~ **can** be obtained ~~but an~~ **and the** institution is aware of the mandate of the CIU, that institution shall consider the CIU position as an equity instrument for the purposes of the sensitivities based-method;

(c) Where daily prices for the CIU ~~may~~ **can** be obtained ~~but an~~ **and the** institution is not aware of the mandate of the CIU, that institution shall consider the CIU position as an equity instrument for the purposes of the sensitivities based-method and assign that CIU position the risk weight of the equity risk bucket "other sector".

For the purposes of this Article, an institution is aware of the mandate of a CIU where the institution can demonstrate to the competent authorities that:

(i) the vast majority of investments in the CIU is made of equity and bond instruments;

(ii) the proportion of equity and bond instruments invested in the CIU can be broken down in accordance with, respectively, the equity buckets set out in Table 8 of Article 325aq and the credit spread risk (non-securitisation) buckets set out in Table 4 of Article 325ai.

2. Institutions may rely on the following third parties to calculate and report their own funds requirements for market risk for positions in CIUs, in accordance with the methods set out in this Chapter:

(a) the depository of the CIU provided that the CIU invests exclusively in securities and deposits all those securities at that depository;

(b) for other CIUs, the CIU management company, provided that the CIU management company meets the criteria set out in point (a) of Article 132(3).

3. EBA shall develop **draft** regulatory technical standards to specify in more detail which risk weights shall be assigned to positions in the CIU referred to in point (b) of paragraph 1

EBA shall submit those draft regulatory technical standards to the Commission by [~~fifteen months~~ two years after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with article 10 to 14 of Regulation (EU) No 1093/2010.

Article 325l
Underwriting positions

1. Institutions may use the process set out in this Article for calculating the own funds requirements for market risks of underwriting positions of debt or equity instruments.

2. Institutions shall apply one of the appropriate multiplying factors listed in Table 1 to the net sensitivities of all the underwriting positions in each individual issuer, excluding the underwriting positions which are subscribed or sub-underwritten by third parties on the basis of formal agreements, and calculate the own funds requirements for market risks in accordance with the approach set out in this Chapter on the basis of the adjusted net sensitivities.

Table 1

working day 0	**0**~~100~~%
working day 1	**10**~~90~~%
working days 2 to 3	**25**~~75~~%
working day 4	50%
working day 5	**75**~~25~~%
after working day 5	**100**~~0~~%

For the purpose of this Article, 'working day 0' means the working day on which the institution becomes unconditionally committed to accepting a known quantity of securities at an agreed price.

3. Institutions shall notify the competent authorities of the application of the process set out in this Article.

SECTION 3
RISK FACTOR AND SENSITIVITY DEFINITIONS

SUBSECTION 1
RISK FACTOR DEFINITIONS

Article 325m
General interest rate risk factors

1. For all general interest rate risk factors, including inflation risk and cross-currency basis-risk, there shall be one bucket per currency, each containing different types of risk factor.

The delta general interest rate risk factors applicable to interest rate-sensitive instruments shall be the relevant risk-free rates per currency and per each of the following maturities: 0,25 years, 0,5 years, 1 year, 2 years, 3 years, 5 years, 10 years, 15 years, 20 years, 30 years. Institutions shall assign risk factors to the specified vertices by linear interpolation or by using a method that is most consistent with the pricing functions used by the independent risk control function of the institution to report market risks or profits and losses to senior management.

2. Institutions shall obtain the risk-free rates per currency from money market instruments held in the trading book of the institution that have the lowest credit risk, such as overnight index swaps.

3. Where institutions cannot apply the approach referred to in paragraph 2, the risk-free rates shall be based on one or more market-implied swap curves used by the institution to mark positions to market, such as the interbank offered rate swap curves.

Where the data on market-implied swap curves described in paragraph 2 and the first subparagraph of this paragraph are insufficient, the risk-free rates may be derived from the most appropriate sovereign bond curve for a given currency.
Where institutions use the risk factors derived in accordance with the procedure set out in the second subparagraph of this paragraph for sovereign debt instruments, the sovereign debt instrument shall not be exempted from credit spread risk own funds requirements. In those cases, where it is not possible to disentangle the risk-free rate from the credit spread component, the sensitivity to this risk factor shall be allocated both to the general interest rate risk and to credit spread risk classes.

4. In the case of general interest rate risk factors, each currency shall constitute a separate bucket. Institutions shall assign risk factors within the same bucket, but with different maturities, a different risk weight, in accordance with Section 6.

Institutions shall apply additional risk factors for inflation risk to debt instruments whose cash flows are functionally dependent on inflation rates. Those additional risk factors shall consist of one vector of market-implied inflation rates of different maturities per currency. For each instrument, the vector shall contain as many components as there are inflation rates used as variables by the pricing model of the institution for that instrument.

5. Institutions shall calculate the sensitivity of the instrument to the additional risk factor for inflation risk referred to in paragraph 4 as the change in the value of the instrument, according to its pricing model, as a result of a 1 basis point shift in each of the components of the vector. Each currency shall constitute a separate bucket. Within each bucket, institutions shall treat inflation as a

single risk factor, regardless the number of components of each vector. Institutions shall offset all sensitivities to inflation within a bucket, calculated as described above, in order to give rise to a single net sensitivity per bucket.

6. Debt instruments that involve payments in different currencies shall also be subject to cross-currency basis risk between those currencies. For the purposes of the sensitivities based method, the risk factors to be applied by institutions shall be the cross-currency basis risk of each currency over either US dollar or EUR. Institutions shall compute cross currency bases that do not relate to either basis over USD or basis over EUR either on 'basis over US dollar' or 'basis over EUR'.

Each cross-currency basis risk factor shall consist of one vector of cross-currency basis of different maturities per currency. For each instrument, the vector shall contain as many components as there are cross-currency basis used as variables by the pricing model of the institution for that instrument. Each currency shall constitute a different bucket.

Institutions shall calculate the sensitivity of the instrument to this risk factor as the change in the value of the instrument, according to its pricing model, as a result of a 1 basis point shift in each of the components of the vector. Each currency shall constitute a separate bucket. Within each bucket there shall be two possible distinct risk factors: basis over EUR and basis over USD, regardless of the number of components there are in each cross-currency basis vector. The maximum number of net sensitivities per bucket shall be two.

7. The vega general interest rate risk factors applicable to options with underlyings that are sensitive to general interest rate shall be the implied volatilities of the relevant risk-free rates as described in paragraph 2 and 3, which shall be assigned to buckets depending on the currency and mapped to the following maturities within each bucket: 0,5 years, 1 year, 3 years, 5 years, 10 years. There shall be on bucket per currency.

For netting purposes, institutions shall consider implied volatilities linked to the same risk-free rates and mapped to the same maturities to constitute the same risk factor

Where institutions map implied volatilities to the maturities as referred to in this paragraph, the following shall apply:

(a) where the maturity of the option is aligned with the maturity of the underlying, a single risk factor shall be considered, which shall be mapped in accordance with that maturity.

(b) where the maturity of the option is shorter than the maturity of the underlying, the following risk factors shall be considered as follows:

(i) the first risk factor shall be mapped in accordance with the maturity of the option;

(ii) the second risk factor shall be mapped in accordance with the residual maturity of the underlying of the option at the expiry date of the option.

8. The curvature general interest rate risk factors to be applied by institutions shall consist of one vector of risk-free rates, representing a specific risk-free yield curve, per currency. Each currency shall constitute a different bucket. For each instrument, the vector shall contain as many components as there are different maturities of risk-free rates used as variables by the pricing model of the institution for that instrument.

9. Institutions shall calculate the sensitivity of the instrument to each risk factor used in the curvature risk formula s_{ik} in accordance with Article 325h. For the purposes of the curvature risk, institutions shall consider vectors corresponding to different yield curves and with a different number of components as the same risk factor, provided that those vectors correspond to the same currency. Institutions shall offset sensitivities to the same risk factor. There shall be only one net sensitivity per bucket.

There shall be no curvature risk ~~charge~~ **own funds requirements** for inflation and cross currency basis risks.

Article 325n
Credit spread risk factors for non-securitisation

1. The delta credit spread risk factors to be applied by institutions to non-securitisation instruments that are sensitive to credit spread shall be their issuer credit spread rates, inferred from the relevant debt instruments and credit default swaps, and mapped to each of the following maturities: ~~0.25 years,~~ 0.5 years, 1 year, ~~2 years,~~ 3 years, 5 years, 10 years, ~~15 years, 20 years, 30 years~~. Institutions shall apply one risk factor per issuer and maturity, regardless of whether those issuer credit spread rates are inferred from debts instruments or credit default swaps. The buckets shall be sectorial buckets, as referred to in Section 6, and each bucket shall include all the risk factors allocated to the relevant sector.

2. The vega credit spread risk factors to be applied by institutions to options with non-securitisation underlyings that are sensitive to credit spread shall be the implied volatilities of the underlying's issuer credit spread rates inferred as laid down in paragraph 1, which shall be mapped to the following maturities in accordance with the maturity of the option subject to own funds requirements: 0.5 years, 1 year, 3 years, 5 years, 10 years. The same buckets shall be used as the buckets that were used for the delta credit spread risk for non-securitisation.

3. The curvature credit spread risk factors to be applied by institutions to non-securitisation instruments shall consist of one vector of credit spread rates, representing a specific issuer credit spread curve. For each instrument, the vector shall contain as many components as there are different maturities of credit spread rates used as variables in the pricing model of the institution for that instrument. The same buckets shall be used as the buckets that were used for the delta credit spread risk for non-securitisation.

4. Institutions shall calculate the sensitivity of the instrument to each risk factor used in the curvature risk formula s_{ik} in accordance with Article 325h. For the purposes of the curvature risk, institutions shall consider vectors inferred from either relevant debt instruments or credit default swaps and with a different number of components as the same risk factor as long as those vectors correspond to the same issuer.

Article 325o
Credit spread risk ~~risk~~ factors for securitisation

1. Institutions shall apply the CTP securitisations credit spread risk factors referred to in paragraph 3 to securitisation positions that belong to the CTP, as referred to in Article 104(7) to (9),

Institutions shall apply the securitisations non-CTP credit spread risk factors referred to in paragraph 5 to securitisation positons that do not belong to the CTP, as referred to in Article 104(7) to (9).

2. The buckets applicable to the credit spread risk of securitisations that belong to the CTP shall **be** the same as the buckets applicable to the credit spread risk of non-securitisations, as referred to in Section 6.

The buckets applicable to the credit spread risk of securitisations that do not belong to the CTP shall be specific to this risk-class category, as referred to in Section 6.

3. The credit spread risk factors to be applied by institutions to securitisation positions that belong to the CTP are the following:

(a) the delta risk factors shall be all the relevant credit spread rates of the issuers of the ' underlying exposures of the securitisation position, inferred from the relevant debt instruments and credit default swaps, and for each of the following maturities: 0.5 years, 1 year, 3 years, 5 years, 10 years.

(b) the ~~V~~**v**ega risk factors applicable to options with securitisation positions that belong to the CTP as underlyings shall be the implied volatilities of the credit spreads of the issuers of the underlying exposures of the securitisation position, inferred as described in point a of this paragraph, which shall be mapped to the following maturities in accordance with the maturity of the corresponding option subject to own funds requirements: 0.5 years, 1 year, 3 years, 5 years, 10 years.

(c) the curvature risk factors shall be the relevant credit spread yield curves of the issuers of the underlying exposures of the securitisation position expressed as a vector of credit spread rates for different maturities, inferred as indicated in ~~paragraph~~ **point (a)** a of this paragraph. For each instrument, the vector shall contain as many components as there are different maturities of credit spread rates that are used as variables by the pricing model of the institution for that instrument.

4. Institutions shall calculate the sensitivity of the securitisation position to each risk factor used in the curvature risk formula s_{ik} as specified in Article 325h. For the purposes of the curvature risk, institutions shall consider vectors inferred either from relevant debt instruments or credit default swaps and with a different number of components as the same risk factor as long as those vectors correspond to the same issuer.

5. The credit spread risk factors to be applied by institutions to securitisation positions that do not belong to the CTP shall refer to the spread of the tranche rather than the spread of the underlying instruments and shall be the following:

(a) the delta risk factors shall be the relevant tranche credit spread rates, mapped to the following maturities, in accordance with the maturity of the tranche: 0~~,~~**.**5 years, 1 year, 3 years, 5 years, 10 years.

(b) the vega risk factors applicable to options with securitisation positions that do not belong to the CTP as underlyings shall be the implied volatilities of the credit spreads of the tranches, each of them mapped to the following maturities in accordance with the maturity of the option subject to own funds requirements: 0,5 years, 1 year, 3 years, 5 years, 10 years.

(c) the curvature risk factors shall be the same as those described in point (a) of this paragraph. To all those risk factors, a common risk weight shall be applied, as referred to in Section 6.

Article 325p
Equity risk-factors

1. The buckets for all equity risk factors shall be the sectorial buckets referred to in Section 6.

2. The equity delta risk factors to be applied by institutions shall be all the equity spot prices and all ~~the equity repurchase agreement rates or~~ equity repo rates.

For the purposes of equity risk, a specific equity repo curve shall constitute a single risk factor, which is expressed as a vector of repo rates for different maturities. For each instrument, the vector shall contain as many components as there are different maturities of repo rates that are used as variables by the pricing model of the institution for that instrument.

Institutions shall calculate the sensitivity of the instrument to this risk factor as the change in the value of the instrument, according to its pricing model, as a result of a 1 basis point shift in each of the components of the vector. Institutions shall offset sensitivities to the repo rate risk factor of the same equity security, regardless of the number of components of each vector.

3. The equity vega risk factors to be applied by institutions to options with underlyings that are sensitive to equity shall be the implied volatilities of equity spot prices, which shall be mapped to the following maturities in accordance with the maturities of the corresponding options subject to own funds requirements: 0,5 years, 1 year, 3 years, 5 years, 10 years. There shall be no **own fund requirements for** vega risk ~~capital charge~~ for equity repo rates.

4. The equity curvature risk factors to be applied by institutions to options with underlyings that are sensitive to equity are all the equity spot prices, regardless of the maturity of the corresponding options. There shall be no curvature risk **own funds requirements** ~~charge~~ for equity repo rates.

Article 325q
Commodities risk-factors

1. The buckets for all commodity risk factors shall be the sectorial buckets referred to in Section 6.

2. The commodity delta risk factors to be applied by institutions to commodity sensitive instruments shall be all the commodity spot prices per commodity type and per ~~each of the two contract grades: basic or par~~ grade. Institutions shall only consider two commodity prices on the same type of commodity, with the same maturity and with the same type of contract grade to constitute the same risk factor where the set of legal terms regarding the delivery location are identical.

3. The commodity vega risk factors to be applied by institutions to options with underlyings that are sensitive to commodity shall be the implied volatilities of commodity prices per commodity type, which shall be mapped to the following maturity steps in accordance with the maturities of the corresponding options subject to own funds requirements: 0,5 years, 1 year, 3 years, 5 years, 10 years. Institutions shall consider sensitivities to the same commodity type and allocated to the same maturity to be a single risk factor, which institutions shall then offset.

4. The commodity curvature risk factors to be applied by institutions to options with underlyings that are sensitive to commodity shall be one set of commodity prices with different maturities per commodity type, expressed as a vector. For each instrument, the vector shall contain as many components as there are prices of that commodity that are used as variables by the pricing model of the institution for that instrument. Institutions shall not differentiate between commodity prices by grade or by delivery location.

The sensitivity of the instrument to each risk factor used in the curvature risk formula s_{ik} shall be calculated as specified in Article 325h. For the purpose of curvature risk, institutions shall consider vectors having a different number of components to constitute the same risk factor provided that those vectors correspond to the same commodity type.

Article 325r
Foreign exchange risk risk-factors

1. The foreign exchange delta risk factors to be applied by institutions to foreign exchange sensitive instruments shall be all the spot exchange rates between the currency in which an instrument is denominated and the institution's reporting currency. There shall be one bucket per currency pair, containing a single risk factor and a single a net sensitivity.

2. The foreign exchange vega risk factors to be applied by institutions to options with underlyings that are sensitive to foreign exchange shall be the implied volatilities of exchange rates between the currency pairs referred to in paragraph 1. Those implied volatilities of exchange rates shall be mapped to the following maturities in accordance with the maturities of the corresponding options subject to own funds requirements: 0,5 years, 1 year, 3 years, 5 years, 10 years.

3. The foreign exchange curvature risk factors to be applied by institutions to options with underlyings that are sensitive to foreign exchange shall be the same as those referred to in paragraph 1.

4. Institutions shall not be required to distinguish between onshore and offshore variants of a currency for all foreign exchange delta, vega and curvature risk factors.

SUBSECTION 2:
SENSITIVITY DEFINITIONS

Article 325s
Delta risk sensitivities

1. Institutions shall calculate delta **general interest rate risk (**GIRR**)** sensitivities as follows:

(a) the sensitivities to risk factors consisting of risk-free rates shall be calculated as follows:

$$s_{r_{kt}} = \frac{V_i(r_{kt} + 0.0001, x, y \ldots) - V_i(r_{kt}, x, y \ldots)}{0.0001}$$

where:

r_{kt} = the rate of a risk-free curve k a with maturity t;

Vi (.) = the pricing function of instrument i;

x,y = other **risk factors than r_{kt}** ~~variables~~ in the pricing function **Vi**.

(b) the sensitivities to risk factors consisting of inflation risk and cross-currency basis (s_{x_j}) shall be calculated as follows:

$$s_{x_j} = \frac{V_i(\bar{x}_{ji} + 0.0001\,\overline{I_m}, y, z \ldots) - V_i(\bar{x}_{ji}, y, z \ldots)}{0.0001}$$

where:

$\bar{x}_{ji}$ = a vector of m components representing the implied inflation curve or the cross-currency basis curve for a given currency *j* with m being equal to the number of inflation or cross-currency related variables used in the pricing model of instrument i;

$\overline{I_m}$ = the unity matrix of dimension (1 x m);

Vi (.) = the pricing function of the instrument *i*;

y, z = other variables in the pricing model

2. Institutions shall calculate the delta credit spread risk sensitivities for all securitisation and

non-securitisation positions ($s_{cs_{kt}}$)as follows:

$$s_{cs_{kt}} = \frac{V_i(\, cs_{kt} + 0.0001, x, y, \ldots) - V_i(cs_{kt}, x, y \ldots)}{0.0001}$$

where:

cs_{kt} = the value of the credit spread rate of an issuer j at maturity t;

Vi (.) = the pricing function of instrument i;

x,y = other **risk factors than cs_{kt}** ~~variables~~ in the pricing function **Vi**.

3. Institutions shall calculate delta equity **risk** sensitivities as follows:

(a) the sensitivities to risk factors k (s_k) consisting ~~on~~ **of** equity spot prices shall be calculated as follows:

$$s_k = \frac{V_i(1.01\ EQ_k, x, y, \ldots) - V_i(EQ_k, x, y, \ldots)}{0.01}$$

where:

k is a specific equity security;

EQ_k is the value of the spot price of that equity security; and

V_i (.) is the pricing function of instrument i.

x,y ~~=~~ ~~are~~ other ~~variables~~ **risk factors than EQ_k** in the pricing ~~model~~ **function Vi.**

(b) the sensitivities to risk factors consisting ~~on~~ **of** equity repos rates shall be calculated as follows:

$$s_{x_k} = \frac{V_i(\bar{x}_{ki} + 0.0001\, \overline{I_m}, y, z \ldots) - V_i(\bar{x}_{ji}, y, z \ldots)}{0.0001}$$

where:

k = the index that denotes the equity;

$\bar{x}_{ki}$ = a vector of m components representing the repo term ~~re~~structure for a specific equity k with m being equal to the number of repo rates corresponding to different maturities used in the pricing model of instrument i;

$\overline{I_m}$ = the unity matrix of dimension (1 x m);

Vi (.) = the pricing function of the instrument i;

y, z = other **risk factors than $\bar{x}_{ki}$** in the pricing model of instrument i.

4. Institutions shall calculate the delta commodity **risk** sensitivities to each risk factor k (s_k) as follows:

(deleted) $$s_k = \frac{V_i(1.01\ CTY_k) - V_i(CTY_k)}{0.01}$$

$$s_k = \frac{V_i(1.01\ CTY_k, y, z \ldots) - V_i(CTY_k, y, z \ldots)}{0.01}$$

where:

k = a given commodity risk factor;

CTY_k = the value of risk factor k;

V_i (.) = the market value of instrument i as a function of risk factor k.

y, z = other risk factors than CTY_k in the pricing model of instrument i.

5. Institutions shall calculate the delta foreign exchange **risk** sensitivities to each foreign exchange risk factor k (s_k) as follows:

(deleted)

$$s_k = \frac{V_i(1.01\ FX_k) - V_i(FX_k)}{0.01}$$

$$s_k = \frac{V_i(1.01\ FX_k, y, z \ldots) - V_i(FX_k y, z \ldots)}{0.01}$$

where:

k = a given foreign exchange risk factor;

FX_k = the value of the risk factor;

V_i (.) = the market value of instrument i as a function of the risk factor k.

y, z = other risk factors than FX_k in the pricing model of instrument i.

Article 325t
Vega risk sensitivities

1. Institutions shall calculate the vega risk sensitivity of an option to a given risk factor k (s_k) as follows:

(deleted)

$$s_k = \frac{V_i(0.01 + \ vol_k, x, y) - V_i(vol_k, x, y)}{0.01}$$

$$s_k = \frac{V_i(1.01 * vol_k, x, y) - V_i(vol_k, x, y)}{0.01}$$

where:

k = a specific vega risk factor, consisting of an implied volatility;

vol_k = the value of that risk factor, which should be expressed as a percentage;

x,y = other ~~variables~~ **risk factors than vol_k** in the pricing function **Vi**.

2. In the case of risk classes where vega risk factors have a maturity dimension, but where the rules to map the risk factors are not applicable because the options do not have a maturity, institutions shall map those risk factors to the longest prescribed maturity. Those options shall be subject to the residual risks add-on.

3. In the case of options that do not have a strike or barrier and options that have multiple strike or barriers, institutions shall apply the mapping to strikes and maturity used internally by the institution to price the option. Those options shall also be subject to the residual risks add-on.

4. Institutions shall not calculate the vega risk for securitisation tranches included in the CTP referred to in Article 104(7) to (9) that do not have an implied volatility. **Own funds requirements for** ~~D~~**d**elta and curvature risk ~~charges~~ shall be computed for those securitisation tranches.

Article 325u
Requirements on sensitivity computations

1. Institutions shall derive sensitivities **using the formulas set out in this sub-section** from the institution's pricing model**s** ~~used in their~~ **that serve as a basis for reporting profit and loss to senior management** ~~reporting~~.

By way of derogation from the first sub-paragraph, competent authorities may require an institution that has been granted the permission to use the internal model approach set out in Chapter 1b of this Title to use the pricing models of the risk-measurement model of the internal model approach in the calculation of the sensitivities under this Chapter for the calculation and reporting of the own fund requirements for market risks as required in point (b) of Article 325ba(2).

2. **Where calculating delta risk sensitivites of instruments with optionality or referred to in point(d) of Article 325f,** ~~I~~**i**nstitutions **may** ~~shall~~ assume that the implied volatility **risk factors** remains constant. ~~when computing the delta sensitivities for instruments subject to optionality.~~.

3. **Where calculating vega risk sensitivities of instruments with optionality or referred to in point (d) of Article 325f, the following provisions shall apply:**

(a) for general interest rate risk and credit spread risk, ~~I~~**i**nstitutions shall assume**, for each currency,** that the underlying of **the volatility risk factors for which vega risk is calculated** ~~the option~~ follow~~s~~ either a lognormal or a normal distribution in the pricing models **used for the instruments** ~~from which sensitivities are derived when computing a vega general interest rate risk or credit spread risk sensitivity~~.

(b) for equity risk, commodity risk and foreign exchange risk, ~~I~~**i**nstitutions shall assume that the underlying **of the volatility risk factors for which vega risk is calculated** follow~~s~~ ~~either~~ a lognormal ~~or a normal~~ distribution in the pricing models **used for the instruments.** ~~from which sensitivities are derived when computing a vega equity, commodity or foreign exchange sensitivity~~..

4. Institutions shall calculate all sensitivities excluding **sensitivities to** credit valuation adjustments.

5. By way of derogation from paragraph 1, an institution may, subject to the approval from competent authorities, use alternative definitions of delta risk sensitivities in the calculation of the own fund requirements of a trading book position under this chapter where the institution meets all the following conditions:

(a) these alternative definitions are used for internal risk management purposes and to report profit and loss to senior management by an independent risk control unit within the institution;

(b) the institution shall demonstrate that these alternative definitions are more appropriate to capture the relevant sensititivities for the position than the formulas set out in this subsection and that the resulting sensitivities do not materially differ from those formulas.

6. By way of derogation from paragraph 1, an institution may, subject to the approval from competent authorities, calculate vega sensitivities based on a linear transformation of alternative definitions of sensitivities in the calculation of the own fund requirements of a trading book position under this chapter where the institution meets all the following conditions:
(a) these alternative definitions are used for internal risk management purposes and to report profit and loss to senior management by an independent risk control unit within the institution;

(b) the institution shall demonstrate that these alternative definitions are more appropriate to capture the sensititivities for the position than the formulas set out in this subsection and the linear transformation referred to in the first sub-pragraph reflect a vega risk sensitivity.

SECTION 4
THE RESIDUAL RISK ADD-ON

Article 325v
Own fund requirements for Residual Risks

1. In addition to the own funds requirements for market risk set out in Section 2 of this Chapter, institutions shall apply additional own fund requirements in accordance with this Article to instruments exposed to residual risks.

2. Instruments are exposed to residual risks where they meet any of the following conditions:

(a) the instrument references an exotic underlying;

(b) the instrument bears other residual risks.

3. Institutions shall calculate the additional own fund requirements referred to in paragraph 1 as the sum of gross notional amounts of the instruments referred to in paragraph 2 multiplied by the following risk weights:

(a) 1,0% in the case of instruments referred to in point (a) of paragraph 2;

(b) 0,1% in the case of instruments referred to in point (b) of paragraph 2.

4. By the way of derogation from paragraph 1, institution shall not apply the own fund requirement for residual risks to an instrument that meets any of the following conditions:

(a) the instrument is listed on a recognised exchange;

(b) the instrument is eligible for central clearing in accordance with Regulation (EU) 648/2012;

(c) the instrument perfectly offsets the market risks of another position of the trading book, in which case the two perfectly matching trading book positions shall be exempted from the own fund requirement for residual risks.

5. EBA shall develop **draft** regulatory technical standards to specify in more details what is an exotic underlying and which instruments are exposed to other residual risks for the purpose of paragraph 2.

When developing those draft regulatory technical standards, EBA shall take the following elements into account:

(~~d~~**a**) Exotic underlying shall include exposures that are not in the scope of the delta, vega or curvauture risk tretaments under the sensitivities-based method laid down in Section 2 or the default risk ~~charge~~ **own funds requirements** laid down in Section 5. EBA shall at least examine whether longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlying exposures.

(~~e~~**b**) When defining which instruments ar exposed to other residual risks, EBA shall at least examine instruments that meet any of the following criteria:

(i) An instrument is subject to vega and curvature risk own funds requirements in the sensitivities based method laid down in Section 2 and generates pay-offs that cannot be replicated as a finite linear combination of plain-vanilla options;

(ii) An instrument is a securitisation position that belongs to the CTP, as referred to in Article 104(7) to (9). Non-securitisation hedges that belong to the CTP shall not be considered.

EBA shall submit those draft regulatory technical standards to the Commission by [~~fifteen months~~ two

years after the entry into force of this Regulation]

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with article 10 to 14 of Regulation (EU) No 1093/2010.

SECTION 5

THE DEFAULT RISK ~~CHARGE~~ **OWN FUNDS REQUIREMENTS**

Article 325w
Definitions and general provisions

1. Default risk own funds requirements shall apply to debt and equity instruments, to derivative instruments having the former instruments as underlyings and to derivatives whose pay-offs or fair values are affected by the event of default of an obligor other than the counterparty to the derivative instrument itself. Institutions shall calculate the default risk requirements ~~shall be calculated~~ separately for each of the following types of instruments: non-securitisations, securitisations that do not belong to the-CTP and securitisations that belong to the CTP. The final default risk own funds requirements for an institution shall be the summation of these three components.

2. For the purposes of this Section, the following definitions shall apply:

(a) 'short exposure ' means that the default of an issuer or group of issuers leads to a gain for the institution, regardless of the type of instrument or transaction creating the exposure.

(b) ' long exposure ' means that the default of an issuer or group of issuers leads to a loss for the institution, regardless of the type of instrument or transaction creating the exposure.

(c) gross jump to default (JTD) amount means the estimated size of the loss or gain that the default of the obligor would produce on a specific exposure.

(d) net jump to default (JTD) amount means the estimated size of the loss or gain **that an institution would incur due to the default of** ~~the~~ an obligor ~~would produce on a specific institution~~, after offsetting among gross JTD amounts has taken place.

(e) LGD is the loss given default of the obligor on an instrument issued by this obligor expressed as a share of the notional of the instrument.

(f) default risk weights mean the percentage representing the estimated probabilities of default of each obligor, according to the creditworthiness of that obligor.

SUBSECTION 1
DEFAULT RISK ~~CHARGE~~ **OWN FUNDS REQUIREMENTS** FOR NON-SECURITISATIONS

Article 325x
Gross jump to default amounts

1. Institutions shall calculate the gross JTD amounts for each long exposure to debt instruments ~~formul~~as follows :

$$JTD_{long} = max\{LGD \cdot V_{notional} + P\&L_{long} + Adjustment_{long}\}$$

(deleted)

$\underline{JTD_{long} = max\{LGD \cdot V_{notional} + P\&L_{long} + Adjustment_{long}; 0\}}$

where:

$V_{notional}$ = the notional value of the instrument;

$P\&L_{long}$ = a term which adjusts for gains or losses already accounted for by the institution due to changes in the fair value of the instrument creating the long exposure. Gains shall enter the formula with a positive sign and losses with a negative.

$Adjustment_{long}$ = the amount by which, due to the structure of the derivative instrument, the institution's loss in the event of default would be increased or reduced relative to the full loss on the underlying instrument. Increases shall enter the $Adjustment_{long}$ term with a positive sign and decreases with a negative sign.

2. Institutions shall calculate gross JTD amounts for each short exposure to debt instruments ~~formul~~as follows:

(deleted) $JTD_{short} = max\{LGD \cdot V_{notional} + P\&L_{short} + Adjustment_{short}\}$

$$\underline{JTD_{short} = \min\{LGD \cdot V_{notional} + P\&L_{short} + Adjustment_{short}; 0\}}$$

where:

$V_{notional}$ = the notional value of the instrument that shall enter into the formula with a negative sign;

$P\&L_{short}$ = a term which adjusts for gains or losses already accounted for by the institution due to changes in the fair value of the instrument creating the short exposure. Gains shall enter into the formula with a positive sign and losses with a negative sign.

$Adjustment_{short}$ = the amount by which, due to the structure of the derivative instrument, the institution's gain in the event of default would be increased or reduced relative to the full loss on the underlying instrument. Decreases shall enter the $Adjustment_{short}$ term with a positive sign and **increases** ~~decreases~~ with a negative sign.

3. The LGD for debt instruments to be applied by institutions for the purposes of the calculation set out in paragraphs 1 and 2 shall be the following:

(a) exposures to non-senior debt instruments shall be assigned an LGD of 100%;

(b) exposures to senior debt instruments shall be assigned an LGD of 75%;

(c) exposures to covered bonds, as referred to in Article 129, shall be assigned an LGD of 25%.

4. For the purpose of the calculations set out in paragraph 1 and 2, notional values **are determined as follows:**

(a) in the case of debt instruments**, the notional value** shall be the face value of the debt instrument**:**

~~For the purpose of the calculations set out in paragraph 1 and 2, notional values~~

(b) in the case of derivative instruments on an underlying debt security**, the notional value** shall be the **notional value of the derivative instrument** ~~face value of the underlying debt instrument~~.

(c) for all cases not included in points (i) and (ii) of this paragraph, EBA will specify the method for determining notional values

5. For exposures to equity instruments, institutions **shall** calculate the gross JTD amounts as follows, instead of those referred to in paragraph 1 and 2:

(deleted) $JTD_{long} = max\{LGD \cdot V + P\&L_{long} + Adjustment_{long}\}$

$JTD_{short} = max\{LGD \cdot V + P\&L_{short} + Adjustment_{short}\}$

$$\underline{JTD_{long} = max\{LGD \cdot V + P\&L_{long} + Adjustment_{long}; 0\}}$$

$$JTD_{short} = \min \{LGD \cdot V + P\&L_{short} + Adjustment_{short}; 0\}$$

where

V = the fair value of the equity or, in case of derivative instruments on equities, the fair value of the underlying equity of the derivative instrument.

6. Institutions shall assign an LGD of 100% to equity instruments for the purpose of the calculation set out in paragraph **5** ~~6~~.

7. In the case of exposures to default risk arising from derivative instruments whose payoffs in the event of default of the obligor are not related to the notional value of a specific instrument issued by this obligor or to the LGD of the obligor or an instrument issued by this obligor, institutions shall use alternative methodologies to estimate the Gross JTD amounts, which shall meet the definition of Gross JTD in paragraph ~~3~~**2(c) of** of article 325~~t~~**w**.

8. EBA shall develop draft regulatory technical standards to specify in more detail**:**

(a) how institutions shall calculate JTD amounts for different types of instruments in accordance with this Article**, including the determination of notional values;**

(b) ~~and~~ which alternative methodologies institutions shall use for the purpose of the estimation of Gross JTD amounts referred to in paragraph 7.

EBA shall submit those draft regulatory technical standards to the Commission by [~~fifteen months~~ two years after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with article 10 to 14 of Regulation (EU) No 1093/2010.

Article 325y
Net jump to default amounts

1. Institutions shall calculate net jump to default amounts by offsetting the gross JTD amounts of short and long exposures. Offsetting shall only be possible among exposures to the same obligor where short exposures have the same or lower seniority than long exposures.

2. Offsetting shall be either full or partial depending on the maturities of the offsetting exposures:

(a) offsetting shall be full where all offsetting exposures have maturities of one year or more;

(b) offsetting shall be partial where at least one of the offsetting exposures has a maturity of less than one year, in which case, the size of the JTD amount of each exposure with a maturity of less than one year shall be scaled down by the ratio of the exposure's maturity relative to one year.

3. Where no offsetting is possible gross JTD amounts shall equal net JTD amounts in the case of exposures with maturities of one year or more. Gross JTD amounts with maturities of less than one year shall be scaled down to calculate net JTD amounts.

The scaling factor for those exposures shall be the ratio of the exposure's maturity relative to one year, with a floor of 3 months.

4. For the purposes of paragraphs 2 and 3, the maturities of the derivative contracts, and not those of their underlyings, shall be considered. Cash equity exposures shall be assigned a maturity of either one year or three months, at the institution's discretion.

Article 325z
Calculation of default risk own funds requirement

1. Net JTD amounts, irrespective of the type of counterparty, shall be multiplied by the corresponding default risk weights in accordance with their credit quality as specified in Table 2:

Table 2

Credit quality category	Default risk weight
Credit quality step 1	0.5%
Credit quality step 2	3%
Credit quality step 3	6%
Credit quality step 4	15%
Credit quality step 5	30%
Credit quality step 6	50%
Unrated	15%
Defaulted	100%

2. Exposures which would receive a 0% risk-weight under the Standardised approach for credit risk in accordance with Part III, Title II, Chapter 2 shall receive a 0% default risk weight for the default risk own fund requirements.

3. The weighted net JTD shall be allocated to the following buckets: corporates, sovereigns, and local governments/municipalities.

4. Weighted net JTD amounts shall be aggregated within each bucket in accordance with the following formula:

(deleted) $$\max\left\{\left(\sum_{i \in Long} RW_i \cdot net\,JTD_i\right) - WtS \cdot \left(\sum_{i \in Short} RW_i \cdot |net\,JTD_i|\right); 0\right\}$$

$$DRC_b = \max\left[\begin{array}{l}\left(\sum_{i \in Long} RW_i \cdot net\ JTD_i\right) - \\ WtS \cdot \left(\sum_{i \in Short} RW_i \cdot |net\ JTD_i|\right); 0\end{array}\right]$$

where

i = to the index that denotes an instrument belonging to bucket *b;*

DRC_b = default risk own fund requirement for bucket b;

WtS = a ratio recognising a benefit for hedging relationships within a bucket, which shall be calculated as follows:

$$WtS = \frac{\sum net\,JTD_{long}}{\sum net\,JTD_{long} + \sum |net\,JTD_{short}|}$$

The summation of long and short positions for the purposes of the DRC_b and the WtS shall be made for all positions within a bucket regardless of the credit quality step to which those positions are allocated, resulting in the bucket-specific default risk own fund requirements.

5. The final default risk own fund requirement for non-securitisations shall be calculated as a simple sum of the bucket-level own fund requirements.

SUBSECTION 2
DEFAULT RISK ~~CHARGE~~ **OWN FUNDS REQUIREMENTS** FOR SECURITISATIONS (NON-CTP)

Article 325aa
Jump to default amounts

1. Gross jump to default amounts for securitisation exposures shall be **their market value or, if their market value is not available, their fair value according to IFRS or national GAAP, as applicable** ~~fair values of the securitisation exposures.~~.

2. Net jump to default amounts shall be determined by offsetting long gross jump to default amounts and short gross Jump to default amounts. Offsetting shall only be possible among securitisation exposures with the same underlying asset pool and belonging to the same tranche. No offsetting shall be permitted between securitisation exposures with different underlying asset pools, even where the attachment and detachment points are the same.

3. Where, by decomposing or combining existing securitisation exposures, other existing securitisation exposures can be perfectly replicated, except for the maturity, the exposures resulting from the decomposition or combination may be used instead of the original ones for the purposes of offsetting.

4. Where, by decomposing or combining existing exposures in underlying names, the entire tranche structure of an existing securitisation exposure can be perfectly replicated, the exposures resulting from decomposition or combination may be used for the purposes of offsetting. Where underlying names are used in this way, they shall be removed from the non-securitisation default risk treatment.

5. Article 325y shall apply to both original and replicated securitisation exposures. The relevant maturities shall be those of the securitisation tranches.

Article 325ab
Calculation of default risk own funds requirement for securitisations

1. Net JTD amounts of securitisation exposures shall be multiplied by 8% of the risk weight that applies to the relevant securitisation exposure, including STS securitisations, in the non-trading book in accordance with the hierarchy of approaches set out in Title II, Chapter 5, Section 3, and

irrespective of the type of counterparty.

2. A maturity of one year shall be applied to all tranches where risk weights are calculated in accordance with the SEC-IRBA and SEC-ERBA.

3. The risk-weighted JTD amounts for individual cash securitisation exposures shall be capped at the fair value of the position.

4. Risk-weighted net JTD amounts shall be assigned to the following buckets:

(a) one common bucket for all corporates, regardless the region.

(b) 44 different buckets corresponding to 1 bucket per region for each of the eleven asset classes defined. The eleven asset classes are ABCP, Auto Loans/Leases, RMBS, Credit Cards, CMBS, Collateralised Loan Obligations, CDO-squared, Small and Medium Enterprises, Student loans, Other retail, Other wholesale. The 4 regions are Asia, Europe, North America, and other regions.

5. In order to assign a securitisation exposure to a bucket, institutions shall rely on a classification commonly used in the market. Institutions shall assign each securitisation exposure to only one of the buckets above. Any securitisation exposure that an institution cannot assign to a type or region of underlying shall be assigned to the categories 'other retail', 'other wholesale' or 'other regions' respectively.

6. Weighted net JTD amounts shall be aggregated within each bucket in the same way as for default risk of non-securitisation exposures, using the formula in Article 325z(4), resulting in the default risk own fund requirement for each bucket.

7. The final default risk own fund requirement for non-**CTP** securitisations shall be calculated as a simple sum of the bucket-level own fund**s** requirements.

SUBSECTION 3
DEFAULT RISK ~~CHARGE~~ **OWN FUNDS REQUIREMENTS** FOR SECURITISATIONS (CTP)

Article 325ac
Scope

1. For the CTP, the **own funds requirements**~~capital charges~~ shall include the default risk for securitisation exposures and for non-securitisation hedges. These hedges shall be removed from the default risk non-securitisation calculations. There shall be no diversification benefit between the default risk ~~charge~~ **own funds requirements** for non-securitisations, default risk ~~charge~~ **own funds requirements** for securitisations (non-CTP) and default risk ~~charge~~ **own funds requirements** for the securitisation CTP.

2. For traded non-securitisation credit and equity derivatives, JTD amounts by individual constituent issuer legal entity shall be determined by applying a look-through approach.

Article 325ad
Jump to default amounts for the CTP

1. Gross jump to default amounts for securitisation exposures and non-securitisation exposures in the CTP shall be **their market value or, if its market value is not available, its fair value according to IFRS or national GAAP, as applicable** ~~fair values of the securitisation exposures.~~.

2. Nth-to-default products shall be treated as tranched products with the following attachment and detachment points:

(a) attachment point = (N – 1) / Total Names

(b) detachment point = N / Total Names

where "Total Names" shall be the total number of names in the underlying basket or pool.

3. Net jump to default amounts shall be determined by offsetting long and short gross jump to default amounts. Offsetting shall only be possible among exposures that are otherwise identical except for maturity. Offsetting shall only be possible in the following cases:

(a) for **indices,** index **tranches** ~~products~~ **and bespoke tranches**, offsetting shall be possible across maturities among the same index family, series and tranche, subject to the specifications for exposures of less than one year laid down in Article 325y. Long and short gross jump to default amounts that are perfect replications may be offset through decomposition into single name equivalent exposures using a valuation model. For the purposes of this Article, decomposition with a valuation model means that a single name constituent of a securitisation is valued as the difference between the unconditional value of the securitisation and the conditional value of the securitisation assuming that single name defaults with a LGD of 100%. In such cases, the sum of gross jump to default amounts of single name equivalent exposures obtained through decomposition shall be equal to the gross jump to default amount of the undecomposed exposure.

(b) Offsetting through decomposition as set out is point (a) shall not be allowed for re-securitisations **or derivatives on securitisations**.

(c) For indices and index tranches, offsetting shall be possible across maturities among the same index family, series and tranche by replication or decomposition. For the purposes of this Article:

(i) replication means that the combination of individual securitisation index tranches are combined to replicate another tranche of the same index series, or to replicate an untranched position in the index series.

(ii) decomposition means replicating an index by a securitisation of which the underlying exposures in the pool are identical to the single name exposures that compose the index.

Where the long and short exposures are otherwise equivalent except for one residual component, offsetting shall be allowed and the net Jump to default amount shall reflect the residual exposure.

(d) Different tranches of the same index series, different series of the same index and different index families may not be offset.

Article 325ae
Calculation of default risk own funds requirement for the CTP

1. Net JTD amounts shall be multiplied by:

(a) for tranched products, the default risk weights corresponding to their credit quality as specified in Article **325ab(1)** ~~348(1) and (2)~~;

(b) for non-tranched products, by the default risk weights referred to in Article 325~~y~~**z**(1).

2. Risk-weighted net JTD amounts shall be assigned to buckets that correspond to an index.

3. Weighted net JTD amounts shall be aggregated within each bucket in accordance with the following formula:

$$DRC_b = max\left\{\left(\sum_{i \in Long} RW_i \cdot net\ JTD_i\right) - WtS_{CTP} \cdot \left(\sum_{i \in Short} RW_i \cdot |net\ JTD_i|\right);\ 0\right\}$$

where

i = an instrument belonging to bucket *b*;

DRC_b = the default risk own fund requirement for bucket b;

WtS_{ctp} = the ratio recognising a benefit for hedging relationships within a bucket, which shall be calculated in accordance with the WtS formula set out in Article 325z(4), but using long and short positions across the entire CTP and not just the positions in the particular bucket.

4. Institutions shall calculate the default risk own fund requirements of the CTP (DRC_{CTP}) by using the following formula:

$$DRC_{CTP} = max\left\{\sum_b (max\{DRC_b, 0\} + 0.5 \cdot min\{DRC_b, 0\}), 0\right\}$$

SECTION 6
RISK WEIGHTS AND CORRELATIONS

Commented [A14]: In this section, only need to remove the figures for the risk weights

SUBSECTION 1
DELTA RISK WEIGHTS AND CORRELATIONS

Article 325af
Risk weights for general interest rate risk

1. For currencies not included in the most liquid currency subcategory as referred to in point (b) of Article 325be(5), the risk weights of the sensitivities to the risk-free rate risk factors for each bucket in Table 3 shall be ~~the following:~~ specified in accordance with the delegated act referred to in Article 461a~~set out in the delegated act referred to in Article 461a~~.

Table 3

Bucket	Maturity
1	0.25 year
2	0.5 year
3	1 year
4	2 year
5	3 year
6	5 year
7	10 year
8	15 year

9	20 year
10	30 year

~~Maturity buckets~~	~~0.25 year~~	~~0.5 year~~	~~1 year~~	~~2 year~~	~~3 year~~

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~~Maturity~~	~~5 year~~	~~10 year~~	~~15 year~~	~~20 year~~	~~30 year~~

2. A common risk weight ~~of 2.25% shall be set~~ both for all the sensitivities to inflation and cross currency basis risk factors specified in accordance with the delegated act referred to in Article 461a.

3. For the currencies included in the most liquid currency subcategory as referred to in point (b) of 325be(7) and the domestic currency of the institution, the risk weights of the risk-free rate risk factors shall be the risk weights referred to in Table 3 of this Article divided by $\sqrt{2}$.

Article 325ag
Intra bucket correlations for general interest rate risk

1. Between **two weighted sensitivites of general** interest rate risk factors **WS_k and WS_l** within the same bucket, **and with** the same assigned maturity but corresponding to different curves, correlation ρ_{kl} shall be set at 99.90%.

2. Between **two weighted sensitivites of general** interest rate risk factors **WS_k and WS_l** within the same bucket, corresponding to the same curve, but having different maturities, correlation shall be set in accordance with the following formula:

$$max\left[e^{\left(-\theta\cdot\frac{|T_k-T_l|}{min\{T_k;T_l\}}\right)};40\%\right]$$

where:

T_k (respectively T_l) = the maturity that relates to the risk free rate;

θ = 3%.

3. Between **two weighted sensitivites of general** interest rate risk factors **WS_k and WS_l** within the same bucket, corresponding to different curves and having different maturities, the correlation ρ_{kl} shall be equal to the correlation parameter specified in paragraph 2 multiplied by 99,90%.

4. Between ~~risk-free~~ **any given weighted sensitivity of general interest** rate~~s~~ risk factors **WS_k** and **any given weighted sensitivity of** inflation risk factors **WS_l**, the correlation shall be set at 40%.

5. Between **any given weighted sensitivity of** cross-currency basis risk factors **WS_k** and any ~~other~~ **given weighted sensitivity of general** interest rate risk factors **WS_l**, including another cross-

currency basis risk factor, the correlation shall be set at 0%.

Article 325ah
Correlations across buckets for general interest rate risk

1. The parameter γ_{bc} = 50% shall be used to aggregate risk factors belonging to different buckets.

2. The parameter γbc = 80% shall be used to aggregate risk factors belonging to the relevant buckets of 325aw(2a). ~~The parameter γbc = 70% shall be used to aggregate risk factors belonging to different buckets concerning currency pairs which are composed by the Euro and the currency of a Member State participating in the second stage of the economic and monetary union.~~

Article 325ai
Risk weights for credit spread risk (non-securitisations)

1. Risk weights for the sensitivities to credit spread ~~risk~~ (non-securitisations) risk factors shall be the same for all the maturities (0,5 years, 1 year, 3 years, 5 years, 10 years) within each bucket in Table 4 and shall be specified for each bucket in Table 4 in accordance with the delegated act referred to in Article 461a

Table 4

Bucket number	Credit quality	Sector
1	All	Central government, including central banks, of a Member State
2	Credit quality step 1 to 3	Central government, including central banks, of a third country, multilateral development banks and international organisations referred to in Article 117(2) and 118
3		Regional or local authority and public sector entities
4		Financial sector entities including credit institutions incorporated or established by a central government, a regional government or a local authority and promotional lenders
5		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
6		Consumer goods and services, transportation and storage, administrative and support service activities
7		Technology, telecommunications
8		Health care, utilities, professional and technical activities
9		Covered bonds issued by credit institutions in Member States
10		Covered bonds issued by credit institutions in third countries
11	Credit quality step 4 to 6	Central government, including central banks, of a third country, multilateral development banks and international organisations referred to in Article 117(2) and 118

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12		Regional or local authority and public sector entities
13		Financial sector entities including credit institutions incorporated or established by a central government, a regional government or a local authority and promotional lenders
14		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
15		Consumer goods and services, transportation and storage, administrative and support service activities
16		Technology, telecommunications
17		Health care, utilities, professional and technical activities
18	Other sector	

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2. To assign a risk exposure to a sector, ~~credit~~ institutions shall rely on a classification that is commonly used in the market for grouping issuers by industry sector. ~~Credit~~ **I**nstitutions shall assign each issuer to only one of the sector buckets in the table under paragraph 1. Risk **exposures** ~~positions~~ from any issuer that a**n** ~~credit~~ institution cannot assign to a sector in this fashion shall be assigned to bucket 18.

Article 325aj
Intra bucket correlations for credit spread risk (non-securitisations)

1. Between two sensitivities WS_k and WS_l within the same bucket, the correlation parameter ρ_{kl} shall be set as follows:

$$\rho_{kl} = \rho_{kl}^{(\text{name})} \cdot \rho_{kl}^{(\text{tenor})} \cdot \rho_{kl}^{(\text{basis})}$$

where:

$\rho_{kl}^{(\text{name})}$ shall be equal to 1 where the two names of sensitivities k and l are identical, and 35% otherwise;

$\rho_{kl}^{(\text{tenor})}$ shall be equal to 1 where the two vertices of the sensitivities k and l are identical, and to 65% otherwise;

$\rho_{kl}^{(\text{basis})}$ shall be equal to 1 where the two sensitivities are related to same curves, and 99,90% otherwise.

2. The correlations above do not apply to the bucket 18 referred to in Article 325ai(1). The capital requirement for the delta risk aggregation formula within bucket 18 shall be equal to the sum of the absolute values of the net weighted sensitivities allocated to bucket 18:

$$K_{b(\text{bucket 18})} = \sum_k |WS_k|$$

Article 325ak
Correlations across buckets for credit spread risk (non-securitisations)

1. The correlation parameter γ_{bc} that applies to the aggregation of sensitivities between different buckets shall be set as follows:

$\gamma_{bc} = \gamma_{bc}^{(rating)} \cdot \gamma_{bc}^{(sector)}$

where:

$\gamma_{bc}^{(rating)}$ is equal to 1 where the two buckets have the same credit quality category (either credit quality step 1 to 3 or credit quality step 4 to 6), and 50% otherwise. For the purposes of this calculation, bucket 1 shall be considered as having the same credit quality category as buckets that have credit quality step 1 to 3;

$\gamma_{bc}^{(sector)}$ shall be equal to 1 where the two buckets have the same sector, and to the following percentages otherwise:

Table 5

Bucket	1,2 and 11	3 and 12	4 and 13	5 and 14	6 and 15	7 and 16	8 and 17	9 and 10
1,2 and 11		75%	10%	20%	25%	20%	15%	10%
3 and 12			5%	15%	20%	15%	10%	10%
4 and 13				5%	15%	20%	5%	20%
5 and 14					20%	25%	5%	5%
6 and 15						25%	5%	15%
7 and 16							5%	20%
8 and 17								5%
9 and 10								

2. The capital requirement for bucket 18 shall be added to the overall risk class level capital, with no diversification or hedging effects recognised with any other bucket.

Article 325al
Risk weights for credit spread risk securitisations (CTP)

Risk weights for the sensitivities to credit spread ~~risk~~ securitisations (CTP) risk factors shall be the same for all maturities (0,5 year, 1 year, 3 years, 5 years, 10 years) within each bucket and shall be specified for each bucket in Table 6 in accordance with the delegated act referred to in Article 461a. .

Table 6

Bucket number	Credit quality	Sector

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1	All	Central government, including central banks, of a Member State
2	Credit quality step 1 to 3	Central government, including central banks, of a third country, multilateral development banks and international organisations referred to in Article 117(2) and 118
3		Regional or local authority and public sector entities
4		Financial sector entities including credit institutions incorporated or established by a central government, a regional government or a local authority and promotional lenders
5		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
6		Consumer goods and services, transportation and storage, administrative and support service activities
7		Technology, telecommunications
8		Health care, utilities, professional and technical activities
9		Covered bonds issued by credit institutions in Member States
10		Covered bonds issued by credit institutions in third countries
11	Credit quality step 4 to 6	Central government, including central banks, of a third country, multilateral development banks and international organisations referred to in Article 117(2) and 118
12		Regional or local authority and public sector entities
13		Financial sector entities including credit institutions incorporated or established by a central government, a regional government or a local authority and promotional lenders
14		Basic materials, energy, industrials, agriculture, manufacturing, mining and quarrying
15		Consumer goods and services, transportation and storage, administrative and support service activities
16		Technology, telecommunications
17		Health care, utilities, professional and technical activities
18	Other sector	

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Article 325am
Correlations for credit spread risk securitisations (CTP)

1. The delta risk correlation ρ_{kl} shall be derived in accordance with Article 325aj, except that, for the purposes of this paragraph, $\rho_{kl}^{(basis)}$ shall be equal to 1 where the two sensitivities are related to same curves, and 99,00% otherwise.

2. The correlation γ_{bc} shall be derived in accordance with Article 325ak.

Article 325an
Risk weights for credit spread risk securitisations (non-CTP)

1. Risk weights for the sensitivities to credit spread securitisation (non-CTP) risk factors shall be the same for all the maturities (0,5 year, 1 year, 3 years, 5 years, 10 years) within each bucket in Table 7 and shall be specified for each bucket in Table 7 in accordance with the delegated act referred to in Article 461a.

Table 7

Bucket number	Credit quality	Sector
1	Senior & Credit quality step 1 to 3	RMBS - Prime
2		RMBS - Mid-Prime
3		RMBS - Sub-Prime
4		CMBS
5		ABS - Student loans
6		ABS - Credit cards
7		ABS - Auto
8		CLO non-CTP
9	Non-senior & Credit quality step 1 to 3	RMBS - Prime
10		RMBS - Mid-Prime
11		RMBS - Sub-Prime
12		CMBS
13		ABS - Student loans
14		ABS - Credit cards
15		ABS - Auto
16		CLO non-CTP
17	Credit quality step 4 to 6	RMBS - Prime
18		RMBS - Mid-Prime
19		RMBS - Sub-Prime
20		CMBS

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21		ABS - Student loans
22		ABS - Credit cards
23		ABS - Auto
24		CLO non-CTP
25	Other sector	

2. To assign a risk exposure to a sector, ~~credit~~ institutions shall rely on a classification that is commonly used in the market for grouping issuers by industry sector. ~~Credit~~ ~~i~~**I**nstitutions shall assign each tranche to one of the sector buckets in the table under paragraph 1. Risk **exposures** ~~positions~~ from any tranche that a**n** ~~credit~~ institution cannot assign to a sector in this fashion shall be assigned to bucket 25.

Article *325ao*
Intra bucket correlations for credit spread risk securitisations (non-CTP)

1. Between two sensitivities WS_k and WS_l within the same bucket, the correlation parameter ρ_{kl} shall be set as follows:

$$\rho_{kl} = \rho_{kl}^{(\text{tranche})} \cdot \rho_{kl}^{(\text{tenor})} \cdot \rho_{kl}^{(\text{basis})}$$

where:

$\rho_{kl}^{(\text{tranche})}$ shall be equal to 1 where the two names of sensitivities k and l are within the same bucket and related to the same securitisation tranche (more than 80% overlap in notional terms), and to 40% otherwise;

$\rho_{kl}^{(\text{tenor})}$ shall be equal to 1 where the two vertices of the sensitivities k and l are identical, and to 80% otherwise;

$\rho_{kl}^{(\text{basis})}$ shall be equal to 1 where the two sensitivities are related to same curves, and to 99,90% otherwise.

2. The correlations above shall not apply to bucket 25. The capital requirement for the delta risk aggregation formula within bucket 25 shall be equal to the sum of the absolute values of the net weighted sensitivities allocated to that bucket:

$$K_{b(\text{bucket } 25)} = \sum_k |WS_k|$$

Article 325ap
Correlations across buckets for credit spread risk securitisations (non-CTP)

1. The correlation parameter γ_{bc} shall apply to the aggregation of sensitivities between different buckets and shall be set at 0%.

2. The capital requirement for bucket 25 shall be added to the overall risk class level capital, with no diversification or hedging effects recognised with any other bucket.

Article 325aq
Risk weights for equity risk

1. ~~The r~~Risk weights for the sensitivities to equity and equity repo rates risk factors shall be specified for each bucket in Table 8 in accordance with the delegated act referred to in Article 461a ~~are set out in the following table~~:

Table 8

Bucket number	Market capitalisation	Economy	Sector
1	Large	Emerging market economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
2			Telecommunications, industrials
3			Basic materials, energy, agriculture, manufacturing, mining and quarrying
4			Financials including government-backed financials, real estate activities, technology
5		Advanced economy	Consumer goods and services, transportation and storage, administrative and support service activities, healthcare, utilities
6			Telecommunications, industrials

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7			Basic materials, energy, agriculture, manufacturing, mining and quarrying
8			Financials including government-backed financials, real estate activities, technology
9	Small	Emerging market economy	All sectors described under bucket numbers 1, 2, 3 and 4
10		Advanced economy	All sectors described under bucket numbers 5, 6, 7 and 8
11	Other sector		

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2. For the purposes of this Article, what constitutes a small and a large market capitalisation shall be specified by EBA in accordance with Article 325be.

3. EBA shall develop draft regulatory technical standards to specify what constitutes emerging market and advanced economies for the purpose of this Article.

EBA shall submit those draft regulatory technical standards to the Commission by [~~fifteen months~~ two years after the entry into force of this Regulation]

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

4. When assigning a risk exposure to a sector, ~~credit~~ institutions shall rely on a classification that is commonly used in the market for grouping issuers by industry sector. ~~Credit~~ **I**nstitutions shall assign each issuer to one of the sector buckets in the table under paragraph 1 and shall assign all issuers from the same industry to the same sector. Risk **exposures** ~~positions~~ from any issuer that a**n** ~~credit~~ institution cannot assign to a sector in this fashion shall be assigned to bucket 11. Multinational or multi-sector equity issuers shall be allocated to a particular bucket on the basis of the most material region and sector in which the equity issuer operates.

Article 325ar
Intra bucket correlations for equity risk

1. The delta risk correlation parameter ρ_{kl} shall be set at 99,90% between two sensitivities WS_k and WS_l within the same bucket where one is a sensitivity to an equity spot price and the other a sensitivity to an equity repo rate, where both are related to the same equity issuer name.

2. In other cases than the cases referred to in paragraph 1, the correlation parameter ρ_{kl} between two sensitivities WS_k and WS_l to equity spot price within the same bucket shall be set as follows:

(a) 15% between two sensitivities within the same bucket that fall under large market capitalisation, emerging market economy (bucket number 1, 2, 3 or 4).

(b) 25% between two sensitivities within the same bucket that fall under large market capitalisation, advanced economy (bucket number 5, 6, 7, or 8).

(c) 7,5% between two sensitivities within the same bucket that fall under small market capitalisation, emerging market economy (bucket number 9).

(d) 12,5% between two sensitivities within the same bucket that fall under small market capitalisation, advanced economy (bucket number 10).

3. The correlation parameter ρ_{kl} between two sensitivities WS_k and WS_l to equity repo rate within the same bucket shall be set in accordance with paragraph ~~(~~**2**~~b)~~

4. Between two sensitivities WS_k and WS_l within the same bucket where one is a sensitivity to an equity spot price and the other a sensitivity to an equity repo rate and both sensitivities relate to a different equity issuer name, the correlation parameter ρ_{kl} shall be set at the correlations specified in paragraph 2 multiplied by 99,90%.

5. The correlations above shall not apply to bucket 11. The capital requirement for the delta risk aggregation formula within bucket 11 shall be equal to the sum of the absolute values of the net weighted sensitivities allocated to that bucket:

$$K_{b(\text{bucket } 11)} = \sum_k |WS_k|$$

Article 325as
Correlations across buckets for equity risk

1. The correlation parameter γ_{bc} shall apply to the aggregation of sensitivities between different buckets. It is set at 15% where the two buckets fall within buckets 1 to 10.

2. This capital requirement for bucket 11 shall be added to the overall risk class level capital, with no diversification or hedging effects recognised with any other bucket.

Article 325at
Risk weights for commodity risk

~~The r~~Risk weights for the sensitivities to commodity risk factors~~ies are set out in the following table~~ shall be specified for each bucket in Table 9 in accordance with the delegated act referred to in Article 461a~~:~~.

Table 9

Bucket number	Bucket name
1	Energy - Solid combustibles
2	Energy - Liquid combustibles
3	Energy - Electricity and carbon trading
4	Freight
5	Metals – non-precious
6	Gaseous combustibles
7	Precious metals (including gold)
8	Grains & oilseed
9	Livestock & dairy
10	Softs and other agriculturals
11	Other commodity

Article 325au
Intra bucket correlations for commodity risk

1. For the purpose of **this article** ~~correlation recognition~~, any two commodities shall be considered distinct commodities where there exists in the market two contracts differentiated only by the underlying commodity to be delivered against each contract.

2. Between two sensitivities WS_k and WS_l within the same bucket, the correlation parameter ρ_{kl} shall be set as follows:

$$\rho_{kl} = \rho_{kl}^{(commodity)} \cdot \rho_{kl}^{(tenor)} \cdot \rho_{kl}^{(basis)}$$

where:

$\rho_{kl}^{(commodity)}$ shall be equal to 1 where the two commodities of sensitivities k and l are identical, and to the intra-bucket correlations in the table in paragraph 3 otherwise;

$\rho_{kl}^{(tenor)}$ shall be equal to 1 where the two vertices of the sensitivities k and l are identical, and to 99% otherwise;

$\rho_{kl}^{(basis)}$ shall be equal to 1 where the two sensitivities are identical in both (i) contract grade of the commodity and (ii) delivery location of a commodity, and 99,90% otherwise.

3. The intra-bucket correlations $\rho_{kl}^{(commodity)}$ are:

Table 10

Bucket number	Bucket name	Correlation ($\rho_{commodity}$)
1	Energy - Solid combustibles	55%
2	Energy - Liquid combustibles	95%
3	Energy - Electricity and carbon trading	40%
4	Freight	80%
5	Metals – non-precious	60%
6	Gaseous combustibles	65%
7	Precious metals (including gold)	55%
8	Grains & oilseed	45%
9	Livestock & dairy	15%
10	Softs and other agriculturals	40%
11	Other commodity	15%

4. Notwithstanding paragraph 1, the following provisions apply:

(a) two risk factors allocated to bucket 3 of Table 10 and concerning eletricity but which is generated in different regions or is delivered at different time period as per the contractual agreement shall be considered distinct commodity risk factors;

(b) two risk factors allocated to bucket 4 of Table 10 and concerning freight but which freight route or week of delivery differ shall be considered distinct commodity risk factors.

Article 325av
Correlations across buckets for commodity risk

The correlation parameter γ_{bc} applying to the aggregation of sensitivities between different buckets shall **be** set at:

(a) 20% where the two buckets fall within bucket numbers 1 to 10;

(b) 0% where any of the two buckets is bucket number 11.

Article 325aw
Risk weights for foreign exchange risk

1. ~~A r~~Risk weight ~~of 30% shall apply to~~for ~~-~~all sensitivities to foreign exchange risk factors shall be specified in accordance with the delegated act referred to in Article 461a.

2. The risk weight of the foreign exchange risk factors concerning currency pairs which are composed by the Euro and the currency of a Member State participating in the second stage of the economic and monetary union shall be **one of the following:**

(a) the risk weight referred to in paragraph 1 divided by **3** ~~$\sqrt{2}$;~~

(b) the maximum fluctuation within the fluctuation band formally agreed by the Member State and the European Central Bank if narrower than the fluctuation band defined under the second stage of the economic and monetary union (ERM II).

2a. Notwithstanding paragraph 2, the risk weight of the foreign exchange risk factors concerning currencies referred to in paragraph 2 which participate in the ERM II with a formally agreed fluctuation band narrower than the standard band of plus or minus 15% shall equal the maximum fluctuation within this narrower band.

3. The risk weight of the foreign exchange risk factors included in the most liquid currency pairs subcategory as referred to in point (c) of 325be(7) shall be the risk weight referred to in paragraph 1 divided by $\sqrt{2}$.

Article 325ax
Correlations for foreign exchange risk

A uniform correlation parameter γ_{bc} equal to 60% shall apply to the aggregation of sensitivities to foreign exchange.

SUBSECTION 2
VEGA AND CURVATURE RISK WEIGHTS AND CORRELATIONS

Article 325ay
Vega and curvature risk weights

1. The delta buckets referred to in subsection 1 shall be applied to vega risk factors.

2. The risk weight for a given vega risk factor k (RW_k) shall be determined as a share of the current value of that risk factor k, which represents the implicit volatility of an underlying, as described in Section 3.

3. The share referred to in paragraph 2 shall be made dependent on the presumed liquidity of each type of risk factor in accordance with the following formula:

$$RW_k = (Value\ of\ risk\ factor\ k)x \min\left[RW_\sigma \cdot \frac{\sqrt{LH_{risk\ class}}}{\sqrt{10}}; 100\%\right]$$

where:

RW_σ shall be set at 55%;

$LH_{risk\ class}$ is the regulatory liquidity horizon to be prescribed in the determination of each vega risk factor k. $LH_{risk\ class}$, shall be set in accordance with the following table:

Table 11

Risk class	$LH_{risk\ class}$
GIRR	60
CSR non-securitisations	120
CSR securitisations (CTP)	120
CSR securitisations (non-CTP)	120
Equity (large cap)	20
Equity (small cap)	60
Commodity	120
FX	40

4. Buckets used in the context of delta risk in subsection 1 shall be used in the curvature risk context unless specified otherwise in this Chapter.

5. For foreign exchange and **equity** curvature risk factors, the curvature risk weights shall be relative shifts equal to the delta risk weights referred to in subsection 1.

6. For general interest rate, credit spread and commodity curvature risk factors, the curvature risk

weight shall be the parallel shift of all the vertices for each curve based on the highest prescribed delta risk weight in subsection 1 **of this section** for ~~each~~ **the relevant** risk class.

Article 325az
Vega and curvature risk correlations

1 ~~7~~. Between vega risk sensitivities within the same bucket of the GIRR risk class, the correlation parameter ρ_{kl} shall be set as follows:

$$\rho_{kl} = min\left[\rho_{kl}^{(option\ maturity)} \cdot \rho_{kl}^{(underlying\ \ maturity)}; 1\right]$$

where:

$\rho_{kl}^{(option\ maturity)}$ shall be equal to $e^{-\alpha \cdot \frac{|T_k - T_l|}{min\{T_k; T_l\}}}$ where α shall be set at 1%, T_k and T_l shall be the maturities of the options for which the vega sensitivities are derived, expressed as a number of years;

$\rho_{kl}^{(underlying\ maturity)}$ is equal to $e^{-\alpha \cdot \frac{|T_k^U - T_l^U|}{min\{T_k^U; T_l^U\}}}$, where α is set at 1%, T_k^U and T_l^U are the maturities of the underlyings of the options for which the vega sensitivities **are** ~~are,~~ derived minus the maturities of the corresponding options, expressed in both cases as a number of years.

2 ~~8~~. Between vega risk sensitivities within a bucket of the other risk classes, the correlation parameter ρ_{kl} shall be set as follows:

$$\rho_{kl} = min\left[\rho_{kl}^{(DELTA)} \cdot \rho_{kl}^{(option\ \ maturity)}; 1\right]$$

where:

$\rho_{kl}^{(DELTA)}$ shall be equal to the delta intra bucket correlation corresponding to the bucket to which vega risk factors k and l would be allocated to.

$\rho_{kl}^{(option\ maturity)}$ shall be defined as in paragraph 1.

3 ~~9~~. With regard to vega risk sensitivities between buckets within a risk class (GIRR and non-GIRR), the same correlation parameters for $\gamma_{bc,}$ as specified for delta correlations for each risk class in Section 4, shall be used in the vega risk context.

4 ~~10~~. There shall be no diversification or hedging benefit recognised in the standardised approach between vega and delta risk factors. Vega and delta risk charges shall be aggregated by simple summation.

5 ~~11~~. The curvature risk correlations shall be the square of corresponding delta risk correlations ρ_{kl} *and* γ_{bc} referred to in subsection 1.

Chapter 1b
The alternative internal model approach

SECTION 1
PERMISSION AND CALCULATION OF OWN FUNDS REQUIREMENTS

Article 325ba
Permission to use alternative internal models

1. After having verified institutions' compliance with the requirements set out in Articles 325bi to 325bk, competent authorities shall grant permission to institutions to calculate their own funds requirements by using their internal models in accordance with Article 325bb for the purposes of Article 101a(3) for the portfolio of all positions attributed to trading desks that fulfil the **all** following requirements:

(a) the trading desks have been established in accordance with Article 104b;

(b) the trading desks have met the ~~P~~**p**rofit & ~~L~~**l**oss attribution ('P&L attribution') requirement set out in Article 325bh ~~for the immediately preceding 12 months~~;

Commented [A15]: Frequency of P&L attribution under review in Basel

(c) the trading desks have met the back-testing requirements referred to in Article 325bg(1) for the immediately preceding 250 business days;

(d) for trading desks that have been assigned at least one of those trading book positions referred to in Article 325bm, the trading desks fulfil the requirements set out in Article 325bn for the internal default risk model~~.~~**;**

(e) No securitisation or resecuritisation positions have been assigned to the trading desks.

2. Institutions **shall report to the competent authorities** **in accordance with Article 101a(3)** ~~**on a monthly basis for each trading desk** that have been granted the permission referred to in paragraph 1 to use their internal models~~ **the following values** ~~for each trading desk shall report to the competent authorities as follows:~~

~~(a) the weekly unconstrained expected shortfall measure UES, calculated in accordance with paragraph 5~~ **6** ~~for all the positions in the trading desk which shall be reported to the competent authorities on a monthly basis.~~

~~(b) the monthly own funds requirements for market risks calculated in accordance with Chapter 1a of this Title as if the institution not been granted the permission referred to in paragraph 1 and with all the positions attributed to the trading desk considered on a standalone basis as a separate portfolio. These calculations shall be reported to the competent authorities on a monthly basis.~~

3. An institution that has been granted the permission referred to in paragraph 1 shall immediately notify its competent authorities that one of its trading desks no longer meets ~~**any**~~ **at least one** of the requirements set out in paragraph 1. That institution shall no longer be permitted to apply this Chapter for the purposes of the reporting requirement of Article 101a(3) to any of the positions attributed to that trading desk and shall calculate the own funds requirements for market risks in accordance with the approach set out Chapter 1a for all the positions attributed to that trading desk for the purposes of the reporting requirement of Article 101a(3) at the earliest reporting date and until the institution demonstrates to the competent authorities that the trading desk again fulfils all the requirements set out in paragraph 1.

4 By way of derogation from paragraph 3, competent authorities may, in extraordinary circumstances, permit an institution to continue using its internal models for the purpose of calculating the own fund requirements for market risks of a trading desk that no longer meets the conditions

referred to in points (b) or (c) of paragraph 1 for the purposes of the reporting requirements of Article 101a(3). When competent authorities exercise that discretion, they shall notify EBA and substantiate their decision.

5. For positions attributed to trading desks for which an institution has not been granted the permission referred to in paragraph 1, the own funds requirements for market risk shall be calculated by that institution for the purposes of the reporting requirements of Article 101a(3) in accordance with Chapter 1a of this Title. For the purpose of that calculation, all those positions shall be considered on a standalone basis as a separate portfolio.

6. For a given trading desk, the unconstrained expected shortfall measure referred to in point (a) of paragraph 2 shall mean the unconstrained expected shortfall measure calculated in accordance with Article 325bc for all the positions assigned to that trading desk considered on a standalone basis as a separate portfolio. By way of derogation from Article 325bd, institutions shall fulfil the following requirements when calculating that unconstrained expected shortfall measure for each trading desk:

(a) the stress period used in the calculation of the partial expected shortfall number **PES_t^{RS}** ~~PES_t^{FC}~~ for a given trading desk shall be the stress period identified in accordance with point (c) of Article 325bd(1) for the purpose of determining **PES_t^{RS}** ~~PES_t^{FC}~~ for all the trading desks for which institutions have been granted the permission referred to in paragraph 1;

(b) when calculating the partial expected shortfall numbers PES_t^{RS} and PES_t^{RC} for a given trading desk, the scenarios of future shocks shall only be applied to the modellable risk factors of positions assigned to the trading desk which are included in the subset of modellable risk factors chosen by the institution in accordance with point (a) of Article 325bd(~~1~~**2**) for the purpose of determining PES_t^{RS} for all the trading desks for which institutions have been granted the permission referred to in paragraph 1.

7. Material changes to the use of internal models that an institution has received permission to use, the extension of the use of internal models that the institution has received permission to use and material changes to the institution's choice of the subset of modellable risk factors referred to in Article 325bd(2) shall require a separate permission by its competent authorities.

Institutions shall notify the competent authorities of all other extensions and changes to the use of the internal models for which the institution has received permission to use.

8. EBA shall develop draft regulatory technical standards to specify the following:

(a) the conditions for assessing materiality of extensions and changes to the use of internal models and changes to the subset of modellable risk factors referred to in Article 325bd;

(b) the assessment methodology under which competent authorities verify an institution's compliance with the requirements set out in Article 325bi to ~~370~~ **325bj and Articles 325bo to 325 bq**~~r~~.

EBA shall submit those draft regulatory technical standards to the Commission by [~~two years~~ ~~fifteen~~ three ~~months~~ years after the entry into force of this Regulation]

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

9. EBA shall develop draft regulatory technical standards to specify in greater detail the extraordinary circumstances under which competent authorities may permit an institution to continue using its internal models for the purpose of calculating the own fund requirements for market risks of a trading desk that no longer meets the conditions referred to in points (b) or (c) of paragraph 1.

EBA shall submit those draft regulatory technical standards to the Commission by [~~six months~~ five years after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 325bb
Own funds requirements when using internal models

1. An institution using an internal model shall calculate the own funds requirements for the portfolio of all positions attributed to trading desks for which the institution has been granted the permission referred to in Article 325ba(1) as the ~~sum~~ **higher** of the following:

(a) the **sum** ~~higher~~ of the following values:

(i) the institution's previous day's expected shortfall risk measure calculated in accordance with Article 325bc (ES_{t-1});

(ii) **the institution's previous day's stress scenario risk measure calculated in accordance Section 5 of this Title (SS_{t-1}).** ~~an average of the daily expected shortfall risk measure calculated in accordance with Article 325bc for each of the preceding sixty business days (ES^{avg}), multiplied by the mult;iplication factor (m_c) in accordance with Article 325bg;~~

(b) the **sum** ~~higher~~ of the following values:

(i) **an average of the institution's daily expected shortfall risk measure calculated in accordance with Article 325bc for each of the preceding sixty business days (ES^{avg}), multiplied by the multiplication factor (m_c).** ~~the institution's previous day's stress scenario risk measure calculated in accordance Section 5 of this Title (SS_{t-1});~~

(ii) an average of the **institution's** daily stress scenario risk measure calculated in accordance with Section 5 of this Title for each of the preceding sixty business days (SS^{avg}).

2. Institutions holding positions in traded debt and equity instruments that are included in the scope of the internal default risk model and attributed to trading desks referred to in paragraph 1 shall fulfil an additional own funds requirement expressed as the higher of the following values:

(a) the most recent own funds requirement for default risk calculated in accordance with Section 3;

(b) the average of the amount referred to in point(a) over the preceding 12 weeks.

SECTION 2
GENERAL REQUIREMENTS

Article 325bc
Expected shortfall risk measure

1. Institutions shall calculate the expected shortfall risk measure 'ES_t' referred to in point(a) of Article 325bb(1) for any given date 't′ and for any given portfolio of trading book positions as follows:

$$ES_t = \rho * (UES_t) + (1 - \rho) * \sum_i UES_t^i$$

where:

i = the index that denotes the five broad risk factor categories listed in the first column of Table ~~13~~ **2** of Article 325be;

UES_t = the unconstrained expected shortfall measure calculated as follows:

$$UES_t = PES_t^{RS} * max\left(\frac{PES_t^{FC}}{PES_t^{RC}}, 1\right)$$

UES_t^i = the unconstrained expected shortfall measure for broad risk factor category 'i′ and calculated as follows:

$$UES_t^i = PES_t^{RS,i} * max\left(\frac{PES_t^{FC,i}}{PES_t^{RC,i}}, 1\right)$$

ρ = the supervisory correlation factor across broad risk categories; ρ = 50%;

PES_t^{RS} = the partial expected shortfall number that shall be calculated for all the positions in the portfolio in accordance with Article 325bd(2);

PES_t^{RC} = the partial expected shortfall number that shall be calculated for all the positions in the portfolio in accordance with Article 325bd(3);

PES_t^{FC} = the partial expected shortfall number that shall be calculated for all the positions in the portfolio in accordance with Article 325bd(4);

$PES_t^{RS,i}$ = the partial expected shortfall number for broad risk factor category 'i′ that shall be calculated for all the positions in the portfolio in accordance with Article 325bd(2);

$PES_t^{RC,i}$ = the partial expected shortfall number for broad risk factor category 'i′ that shall be calculated for all the positions in the portfolio in accordance with Article 325bd(3);

$PES_t^{FC,i}$ = the **partial** expected shortfall number for broad risk factor category 'i′ that shall be calculated for all the positions in the portfolio in accordance with of Article 325bd(4).

2. Institutions shall only apply scenarios of future shocks to the specific set of modellable risk factors applicable to each partial expected shortfall number as set out in Article 325bd when determining each partial expected shortfall number for the calculation of the expected shortfall risk measure in accordance with paragraph ~~2~~**1**.

3. Where at least one transaction of the portfolio has at least one modellable risk factor which has been mapped to the broad risk category 'i′ in accordance with Article 325be, institutions shall calculate the unconstrained expected shortfall measure for broad risk factor category 'i′ and include it in the formula of the expected shortfall risk measure referred to in paragraph 2.

4. By way of derogation from paragraph 1, an institution may reduce, subject to the approval of the competent authorities, the frequency of calculation the unconstrained expected shortfall measures UESti for all broad risk factor categories 'i' from daily to weekly where the institution can demonstrate to the competent authoritites that calculating the unconstrained expected shortfall measures UES_{ti} do not underestimate the market risks of the relevant trading book positions.

Article 325bd
Partial expected shortfall calculations

1. Institutions shall calculate all the partial expected shortfall numbers referred to in Article 325bc(1) as follows:

(a) daily calculations of the partial expected shortfall numbers;

(b) at 97,5th percentile, one tailed confidence interval;

(c) for a given portfolio of trading book positions, institution shall calculate the partial expected shortfall number $\boldsymbol{ES_t}$ at time 't' accordance with the following formula:

$$PES_t = \sqrt{(PES_t(T))^2 + \sum_{j\geq 2}\left(PES_t(T,j) * \sqrt{\frac{(LH_j - LH_{j-1})}{10}}\right)^2}$$

j = index that denotes the five liquidity horizons listed in the first column of Table 1;

LH_j = the length of liquidity horizons *j* as expressed in days in Table 1;

T = the base time horizon, where T= 10 days;

$PES_t(T)$ = the partial expected shortfall number that is determined by applying scenarios of future shocks with a 10-days' time horizon only to the specific set of modellable risk factors of the positions in the portfolio set out in paragraphs 2, 3 and 4 for each partial expected shortfall number referred to in Article 325bc(2).

$PES_t(T, j)$ = the partial expected shortfall number that is determined by applying scenarios of future shocks with a 10-days' time horizon only to the specific set of modellable risk factors of the positions in the portfolio set out in paragraphs 2, 3 and 4 for each partial expected shortfall number referred to in Article 325bc(2) and of which the effective liquidity horizon, as determined in accordance with Article 325be(2), is equal or longer than LH_j.

Table 1

Liquidity horizon *j*	Length of liquidity horizon *j* (in days)
1	10
2	20
3	40
4	60
5	120

2. For the purposes of calculating the partial expected shortfall numbers PES_t^{RS} and $PES_t^{RS,i}$ referred to in Article 325bc(**1**~~2~~), institutions shall, in addition to the requirements set out in paragraph 1, meet the following requirements:

(a) in calculating PES_t^{RS}, institutions shall only apply scenarios of future shocks to a subset of modellable risk factors of positions in the portfolio which has been chosen by the institution, to the satisfaction of competent authorities, so that the following condition is met **on a daily basis** ~~at time *t*~~, with the sum taken over the preceding 60 business days:

$$\frac{1}{60} * \sum_{k=0}^{59} \frac{PES_{t-k}^{RC}}{PES_{t-k}^{FC}} \geq 75\%$$

An institution that no longer meets the requirement referred to in the first subparagraph of this point shall immediately notify the competent authorities thereof and update the subset of modellable risk factors within two weeks in order to meet that requirement. Where, after two weeks, that institution has failed to meet that requirement, it shall revert to the approach set out in Chapter 1a to calculate the own fund requirements for market risks for some trading desks, until that institution can demonstrate to the competent authority that it is meeting the requirement set out in the first subparagraph of this point;

(b) in calculating $PES_t^{RS,i}$ institutions shall only apply scenarios of future shocks to the subset of modellable risk factors of positions in the portfolio chosen by the institution for the purposes of point (a) and which have been mapped to the broad risk factor category *i* in accordance with Article 325be;

(c) the data inputs used to determine the scenarios of future shocks applied to the modellable risk factors referred to in points (a) and (b) shall be calibrated to historical data from a continuous 12-month period of financial stress that shall be identified by the institution in order to maximise the value of PES_t^{RS}. Institutions shall review the identification of this stress period at least on a monthly basis and shall notify the outcome of that review to the competent authorities. For the purpose of identifying that stress period, institutions shall use an observation period starting at least from 1 January 2007, to the satisfaction of the competent authorities.

(d) the model inputs of $PES_t^{RS,i}$ shall be calibrated to the 12-month stress period that has been identified by the institution for the purposes of point (c).

3. For the purpose of calculating the partial expected shortfall numbers PES_t^{RC} and $PES_t^{RC,i}$ referred to in Article 325bc(2), institutions shall, in addition to the requirements set out in paragraph 1, meet the following requirements:

(a) in calculating PES_t^{RC}, institutions shall only apply scenarios of future shocks to the subset of modellable risk factors of positions in the portfolio referred to in point (a) of paragraph 2 ~~3~~;

(b) in calculating $PES_t^{RC,i}$, institutions shall only apply scenarios of future shocks to the subset of modellable risk factors of positions in the portfolio referred to in point (b) of paragraph **2** ~~3~~;

(c) the data inputs used to determine the scenarios of future shocks applied to the modellable risk factors referred to in points (a) and (b) shall be calibrated **in accordance with the historical data referred to in point (c) of paragraph 4** ~~to historical data as used from the preceding 12-months period~~. Those data shall be updated at least on a monthly basis.

4. For the purpose of calculating the partial expected shortfall numbers PES_t^{FC} and $PES_t^{FC,i}$ referred to in Article 325bc(2), institutions shall, in addition to the requirements set out in paragraph 1, meet the following requirements:

(a) in calculating PES_t^{FC} , institutions shall apply scenarios of future shocks to all the modellable risk factors of positions in the portfolio;

(b) in calculating $PES_t^{FC,i}$, institutions shall apply scenarios of future shocks to all the modellable risk factors of positions in the portfolio which have been mapped to the broad risk factor category *i* in accordance with Article 325be;

(c) the data inputs used to determine the scenarios of future shocks applied to the modellable risk factors referred to in points (a) and (b) shall be calibrated to historical data from the preceding 12-months period. Those data shall be updated at least on a monthly basis. Where there is a significant upsurge in the price volatility of a material number of modellable risks factors of an institution's portfolio which are not in the subset of risk factors referred to in point (a) of paragraph 2, competent authorities may require an institution to use historical data from a period shorter than the preceding 12-months, but such shorter period shall not be shorter than the preceding 6-months period. Competent authorities shall notify EBA of any decision requiring an institution to use historical data from a shorter period than 12 months and substantiate it.

5. In calculating a given partial expected shortfall number referred to in Article 325bc(**1** ~~2~~), institutions shall maintain the values of the modellable risks factors for which they have not been required in paragraphs 2, 3 and 4 to apply scenarios of future shocks for this partial expected shortfall number.

6. By way of derogation from point (a) of paragraph 1, institutions may decide to calculate the partial expected shortfall numbers $PES_t^{RS,i}$, $PES_t^{RC,i}$ and $PES_t^{FC,i}$ on a weekly basis.

Article 325be
Liquidity horizons

1. Institutions shall map each risk factor of positions attributed to trading desks for which they have been granted the permission referred to in Article 325ba(1) or are in the process of being granted that permission to one of the broad risk factor categories listed in Table 2, as well as to one of the broad risk factor subcategories listed in that Table.

2. The liquidity horizon of a risk factor of the positions referred to in paragraph 1 shall be the liquidity horizon of the corresponding broad risk factor subcategor**y**~~ies~~ it has been mapped to.

3. By way of derogation from paragraph 1, an institution may decide, for a given trading desk, to replace the liquidity horizon of a broad risk subcategory listed in Table 2 with one of the longer liquidity horizons listed in Table 1. Where an institution takes this decision, the longer liquidity horizon shall apply to all the modellable risk factor**s** of the positions attributed to this trading desk **and** mapped to this broad risk subcategory for the purpose of calculating the partial expected short**t**fall

numbers in accordance with point (c) of Article 325bd(1).

An institution shall notify the competent authorities of the trading desks and the broad risk subcategories for which it decides to apply the treatment referred to in the first subparagraph.

4. For calculating the partial expected short**t**fall numbers in accordance with point (c) of Article 325bd(1), the effective liquidity horizon 'EffectiveLH' of a given modellable risk factor of a given trading book position shall be calculated as follows:

(deleted)

$$EffectiveLH = \begin{cases} SubCatLH & if\ Mat > LH_6 \\ min\left(SubCatLH, \underset{j}{min}\{LH_j / LH_j \geq Mat\}\right) & if\ LH_1 \leq Mat \leq LH_6 \\ LH_1 & if\ Mat < LH_1 \end{cases}$$

$$\mathbf{EffectiveLH} = \begin{cases} \mathbf{SubCatLH} & \mathbf{if\ Mat > LH_5} \\ \mathbf{min}\left(\mathbf{SubCatLH}, \underset{\mathbf{j}}{\mathbf{min}}\left(\mathbf{LH_j} \middle| \mathbf{LH_j \geq Mat}\right)\right) & \mathbf{if\ LH_1 \leq Mat \leq LH_5} \\ \mathbf{LH_1} & \mathbf{if\ Mat < LH_1} \end{cases}$$

where:

Mat = the maturity of the trading book position;

SubCatLH = the length of liquidity horizon of the modellable risk factor determined in accordance with paragraph 1;

$\min_j \{LH_j / LH_j \geq Mat\}$ = the length of one of the liquidity horizons listed in Table ~~...~~ **1 of Article 325bd(1)** which is the nearest above the maturity of the trading book position.

5. Currency pairs that are composed by the EUR and ~~the~~ **a** currency **other than EUR** of a Member State participating in the second stage of the economic and monetary union shall be included in the most liquid currency pairs subcategory in the foreign exchange broad risk factor category of Table 2.

6. An institution shall verify the appropriateness of the mapping referred to in paragraph 1 at least on a monthly basis.

7. EBA shall develop draft regulatory technical standards to specify in greater detail:

(a) how institutions shall map ~~trading book~~ **risk factors of** positions **referred to in paragraph 1** to broad risk factors categories and broad risk factor subcategories for the purpose of paragraph 1;

(b) the currencies that constitute the most liquid currencies subcategory in the interest rate broad risk factor category of Table 2;

(c) the currency pairs that constitute the most liquid currency pairs subcategory in the foreign exchange broad risk factor category of Table 2;

(d) the definition of a small and large capitalisation for the equity price and volatility subcategory in the equity broad risk factor category of Table 2;

EBA shall submit those draft regulatory technical standards to the Commission by [~~six months~~ nine months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Table 2

Broad risk factor categories	Broad risk factor subcategories	Liquidity horizons	Length of the liquidity horizon (in days)
Interest rate	Most liquid currencies and domestic currency	1	10
	Other currencies (excluding most liquid currencies)	2	20
	Volatility	4	60
	Other types	4	60
Credit spread	Central government, including central banks, of Member States of the Union	2	20
	Covered bonds issued by credit institutions established in Member States of the Union (Investment Grade)	2	20
	Sovereign (Investment Grade)	2	20
	Sovereign (High Yield)	3	40
	Corporate (Investment Grade)	3	40
	Corporate (High Yield)	4	60
	Volatility	5	120
	Other types	5	120
Equity	Equity price (Large capitalisation)	1	10
	Equity price (Small capitalisation)	2	20
	Volatility (Large capitalisation)	2	20
	Volatility (Small capitalisation)	4	60
	Other types	4	60
Foreign Exchange	Most liquid currency pairs	1	10
	Other currency pairs (excluding most liquid currency pairs)	2	20
	Volatility	3	40
	Other types	3	40

Commodity	Energy price and carbon emissions price	2	20
	Precious metal price and non-ferrous metal price	2	20
	Other commodity prices (excluding Energy price, carbon emissions price, precious metal price and non-ferrous metal price)	4	60
	Energy volatility and carbon emissions volatility	4	60
	Precious metal volatility and non-ferrous metal volatility	4	60
	Other commodity volatilities (excluding Energy volatility, carbon emissions volatility, precious metal volatility and non-ferrous metal volatility)	5	120
	Other types	5	120

Article 325bf
Assessment of the modellability of risk factors

1. Institutions shall assess, on a monthly basis, the modellability of all the risk factors of the positions attributed to trading desks for which they have been granted the permission referred to in Article 325ba(1) or are in the process of being granted that permission.

~~2. An institution shall consider a risk factor of a trading book position as modellable where all the following conditions are met:~~

~~(a) the institution has identified~~ **~~, over the preceding 12 months period~~** ~~, at least 24 verifiable prices~~ **~~from~~** ~~which contained~~ **~~a value~~** ~~for that risk factor~~ **~~can be inferred~~** ~~over the preceding 12 months period;~~

~~(b) there is no more than one month between the dates of two consecutive observations of verifiable prices identified by the institution in accordance with point (a);~~

~~(c) there is a clear and apparent relationship between the value of the risk factor and each verifiable price identified by the institution in accordance with point (a).~~

~~3. For the purposes of paragraph 2, a verifiable price means any one of the following:~~

~~(a) the market price of an actual transaction to which the institution was one of the parties;~~

~~(b) the market price of an actual transaction that was entered into by third parties and for which price and trade date are publicly available or have been provided by a third party;~~

~~(c) the price obtained from a committed quote provided~~ **~~at arm's length~~** ~~by a third party,~~ **~~where the third party is legally obliged to buy or sell the corresponding financial instrument at that price if requested.~~**

~~4. For the purposes of points (b) and (c) of paragraph 3, institutions may consider a price or a committed quote provided by a third party as a verifiable price, provided that the third party agrees to provide evidence of the transaction or a committed quote to competent authorities upon request.~~

~~5. An institution may **use** identify a verifiable price for the purpose of point (a) of paragraph 2 for more than one risk factor.~~

~~6. Institutions shall consider risk factors derived from a combination of modellable risk factors as modellable.~~

~~7. Where an institution considers a risk factor to be modellable in accordance with paragraph 1, the institution may use data other than the verifiable prices it used to prove that the risk factor is modellable in accordance with paragraph 2 to calculate the scenarios of future shocks applied to that risk factor for the purpose of calculating the partial expected shortfall referred to in Article **325bc** 365 as long as that data inputs fulfils the relevant requirements set out in Article 325bd.~~

2~~8~~. As part of this assessment, ~~Institutions shall consider as non-modellable a risk factor that does not fulfil all the conditions set out in paragraph 2 and~~ institutions shall calculate the own funds requirements for market risk ~~that risk factor~~ in accordance with Article 325bl for those risk factors that are non-modellable.

~~9. Institutions shall consider risk factors derived from a combination of modellable and non-modellable risk factors as non-modellable.~~

~~10. By way of derogation from paragraph 2, competent authorities may permit an institution to consider a risk factor that meets all of the conditions in paragraph 2 as non-modellable for a period of less than one year.~~

3. EBA shall develop draft regulatory technical standards to further specify the criteria to assess how risk factors are modellable in accordance with paragraph 1.

EBA shall submit those draft regulatory technical standards to the Commission by [nine months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010

Commented [A16]: Removal of all the details under review in Basel and introduction of a new RTS mandate for the EBA with a nine month deadline

Article 325bg
Regulatory back-testing requirements and multiplication factors

1. For any given date, an institution's trading desk meets the backtesting requirements referred to in Article 325ba(1) where the number of overshootings as referred to in paragraph 2 for that trading desk that occurred over the most recent 250 business days do not exceed any of the following:

(a) 12 overshootings for the value-at-risk number, calculated at a 99th percentile one tailed-confidence ~~internal~~ **interval** on the basis of back-testing hypothetical changes in the portfolio's value;

(b) 12 overshootings for the value-at-risk number, calculated at a 99th percentile one tailed-confidence ~~internal~~ **interval** on the basis of back-testing actual changes in the portfolio's value;

(c) 30 overshootings for the value-at-risk number, calculated at a 97,5th percentile one tailed-confidence ~~internal~~ **interval** on the basis of back-testing hypothetical changes in the portfolio's value;

(d) 30 overshootings for the value-at-risk number, calculated at a 97,5th percentile one tailed-confidence ~~internal~~ **interval** on the basis of back-testing actual changes in the portfolio's value;

2. For the purpose of paragraph 1, institutions shall count daily overshootings on the basis of back-testing hypothetical and actual changes in the portfolio's value composed of all the positions attributed to the trading desk. An overshooting shall mean a one-day change in that portfolio's value that exceeds the related value-at-risk number calculated by the institution's internal model in accordance with the following requirements:

(a) a one-day holding period;

(b) scenarios of future shocks shall apply to the risk factors of the trading desk's positions referred to in Article 325bh(3) and which are considered modellable in accordance with Article 325bf;

(c) data inputs used to determine the scenarios of future shocks applied to the modellable risk factors shall be calibrated **in accordance with the historical data referred to in point (c) of Article 325bd(4)** ~~to historical data from the preceding 12 months period~~. Th~~o~~se data shall be updated at least on a monthly basis;

(d) unless stated otherwise in this Article, the institution's internal model shall be based on the same modelling assumptions as those used for the calculation of the expected shortfall risk measure referred to in point (a) of Article 325bb(1).

3. Institutions shall count the daily overshootings referred to in paragraph 2 in accordance with the following:

(a) back-testing hypothetical changes in the portfolio's value shall be based on a comparison between the portfolio's end-of-day value and, assuming unchanged positions, its value at the end of the subsequent day;

(b) back-testing actual changes in the portfolio's value shall be based on a comparison between the portfolio's end-of-day value and its actual value at the end of the subsequent day excluding fees~~,~~ **and** commissions~~, and net interest income~~;

(c) an overshooting shall be counted each **business** day the institution is not able to assess the portfolio's value or is not able to calculate the value-at-risk number referred to in paragraph 1;

4. An institution shall calculate, in accordance with paragraphs 5 and 6, the multiplication factor (m_c) referred to in Article 325bb for the portfolio of all the positions attributed to trading desks for which it has been granted the permission referred to in Article 325ba(1). That calculation shall be updated on at least a monthly basis.

5. The multiplication factor (m_c) shall be the sum of the value of 1,5 and an add-on between 0 and 0,5 in accordance with Table 3. For the portfolio referred to in paragraph 4, this add-on shall be calculated by the number of overshootings that occurred over the most recent 250 business days as evidenced by the institution's back-testing of the value-at-risk number calculated in accordance with point (a) of this paragraph in accordance with the following:

(a) an overshooting shall be a one-day change in the portfolio's value that exceeds the related value-at-risk number calculated by the institution's internal model in accordance with the following:

(i) a one-day holding period;

(ii) a 99th percentile, one tailed confidence interval;

(iii) scenarios of future shocks shall apply to the risk factors of the trading desks' positions referred to in Article 325bh(3) and which are considered modellable in accordance with Article 325bf;

(iv) data inputs used to determine the scenarios of future shocks applied to the modellable risk factors shall be calibrated **in accordance with the historical data referred to in point (c) of Article 325bd(4)** ~~to historical data from the preceding 12 months period~~. Those data shall be updated on at least a monthly basis;

(v) unless stated otherwise in this Article, the institution's internal model shall be based on the same modelling assumptions as those used for the calculation of the expected shortfall risk measure referred to in point (a) of Article 325bb(1);

(b) the number of overshootings shall be equal to the higher of the number of overshootings under hypothetical and actual changes in the value of the portfolio;

(c) in counting daily overshootings, institutions shall apply the provisions set out in paragraph 3.

Table 3

Number of overshootings	Add-on
Fewer than 5	0,00
5	0,20
6	0,26
7	0,33
8	0,38
9	0,42
More than 9	0,50

6. Competent authorities may limit the add-on to that resulting from overshootings under back-testing hypothetical changes where the number of overshootings under back-testing actual changes does not result from deficiencies in the internal model.

7. Competent authorities shall monitor the appropriateness of the multiplication factor referred to in paragraph 4 **and** ~~or~~ a trading desk's compliance with the backtesting requirements referred to in paragraph 1. Institutions shall notify promptly, and in any case no later than within five working days after the occurrence of an overshooting, the competent authorities of overshootings that result from their back-testing programme and provide an explanation for those overshootings.

8. By way of derogation from paragraphs 2 and 5, competent authorities may permit an institution not to count an overshooting where a one-day change in its portfolio's value **that** exceeds the related value-at-risk number calculated by that institution's internal model is attributable to a non-modellable risk factor. To do so, the institution shall substantiate to the competent authorities that the stress scenario risk measure calculated in accordance with Article 325bl for this non-modellable risk factor is higher than the positive difference between the institution's portfolio's value and the related value-at-risk number.

9. EBA shall develop draft regulatory technical standards to further specify the technical elements that shall be included in the actual and hypothetical changes the portfolio's value of an institution for the purpose of this Article.

EBA shall submit those draft regulatory technical standards to the Commission by [~~six~~ nine months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 325bh
Profit and loss attribution requirement

1. ~~For any given month, a~~An institution's trading desk meets the profit and loss (P&L) attribution requirements for the purpose of Article 325ba(1) where that trading desk complies with the requirements set out in this Article.

2. The P&L attribution requirement shall ensure that the theoretical changes in a trading desk portfolio's value, based on the institution's risk-measurement model, are sufficiently close to the hypothetical changes in the trading desk portfolio's value, based on the institution's pricing model.

3. An institution's compliance with the P&L attribution requirement shall lead, for each position in a given trading desk, to the identification of a precise list of risk factors that are deemed appropriate

for verifying the institution's compliance with the backtesting requirement set out in Article 325bg.

4. EBA shall develop draft regulatory technical standards to further specify:

(a) in light of international regulatory developments, the ~~technical~~ criteria that shall ensure that the theoretical changes in a trading desk portfolio's value is sufficiently close to the hypothetical changes in the trading desk portfolio's value for the purposes of paragraph 2;

(b) the consequences for an institution where the theoretical changes in a trading desk portfolio's value is not sufficiently close to the hypothetical changes in the trading desk portfolio's value for the purposes of paragraph 2;

(c) the frequency at which the P&L attribution has to be performed by an institution;

(b) the technical elements that shall be included in the theoretical and hypothetical changes in a trading desk portfolio's value for the purpose of this Article.

EBA shall submit those draft regulatory technical standards to the Commission by [~~six~~ nine months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

Article 325bi
Requirements on risk measurement

1. Institutions using an internal risk-measurement model used to calculate the own funds requirements for market risks as referred to in Article 325bb shall ensure that that model meets all of the requirements:

(a) the internal risk-measurement model shall capture a sufficient number of risk factors, which shall include at least the risk factors referred to in subsection 1 of section 3 of Chapter 1a unless the institution demonstrates to the competent authorities that the omission of those risk factors does not have a material impact on the results of the P&L attribution requirement as referred to in Article 325bh. An institution shall be able to explain to the competent authorities why it has incorporated a risk factor in its pricing model but not in its internal risk-measurement model**:**~~;~~

(b) the internal risk-measurement model shall capture nonlinearities for options and other products as well as correlation risk and basis risk. ~~Proxies used for risk factors shall show a good track record for the actual position held;~~

(c) the internal risk-measurement model shall incorporate a set of risk factors corresponding to the interest rates in each currency in which the institution has interest rate sensitive on- or off-balance sheet positions. The institution shall model the yield curves using one of the generally accepted approaches. **The yield curve shall be divided into various maturity segments to capture the variations of volatility of rates along the yield curve.** For material exposures to interest-rate risk in the major currencies and markets, the yield curve shall be ~~divided into~~ modelled using a minimum of six maturity segments~~, to capture the variations of volatility of rates along the yield curve and the number of risk factors used to model the yield curve shall be proportionate to the nature and complexity of the institution's trading strategies.~~ The model shall also capture the risk **spread** of less than perfectly correlated movements between different yield curves **or different financial instruments on the same underlying issuer**;

(d) the internal risk-measurement model shall incorporate risk factors corresponding to gold and to the individual foreign currencies in which the institution's positions are denominated. For CIUs the actual foreign exchange positions of the CIU shall be taken into account. Institutions may rely on third party reporting of the foreign exchange position of the CIU, where the correctness of that report is

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adequately ensured. Foreign exchange positions of a CIU of which an institution is not aware of shall be carved out from the internal models approach and treated in accordance with Chapter 1a of this Title;

(e) ~~the internal risk-measurement model shall use a separate risk factor for at least each of the equity markets in which the institution holds significant positions.~~ The sophistication of the modelling technique shall be proportionate to the materiality of the institutions' activities in the equity markets. **The internal risk-measurement model shall use a separate risk factor for at least each of the equity markets in which the institution holds significant positions and** ~~The model shall incorporate~~ at least one risk factor that captures systemic movements in equity prices and the dependency of that risk factor with the individual risk factors for each equity markets**:** ~~. For material exposures to equity markets, the model shall incorporate at least one idiosyncratic risk factor for each equity exposure.~~

(f) the internal risk-measurement model shall use a separate risk factor for at least each commodity in which the institution holds significant positions unless the institution has a small aggregate commodity position compared to all its trading activities in which case a separate risk factor for each broad commodity type will be acceptable. For material exposures to commodity markets, the model shall capture the risk of less than perfectly correlated movements between similar, but not identical, commodities, the exposure to changes in forward prices arising from maturity mismatches and the convenience yield between derivative and cash positions**;** ~~.~~

(g) proxies **used shall show a good track record for the actual position held**, shall be appropriately conservative and shall be used only where available data are insufficient, including during the period of stress **referred to in point (c) of Article 325bd(2) ;** ~~.~~

(h) for material exposures to volatility risks in instruments with optionality, the internal risk-measurement model shall capture the dependency of implied volatilities across strike prices and options' maturities.

2. Institutions may use empirical correlations within broad risk factor categories and, for the purposes of calculating the unconstrained expected shortfall measure $\boldsymbol{UES_t}$ as referred to in Article 325bc(1), across broad risk factor categories only where the institution's approach for measuring those correlations is sound, consistent with the applicable liquidity horizons, and implemented with integrity.

3. By [three years after entry into force], EBA shall issue guidelines specifying criteria for the use of data inputs in the risk measurement model.

Those guidelines shall be adopted in accordance with Article 16 of Regulation (EU) No 1093/2010.

Commented [A18]: New guidelines introduced since these guidelines will be introduced as part of the Basel review

Article 325bj
Qualitative requirements

1. Any internal risk-measurement model used for the purposes of this Chapter shall be conceptually sound**, calculated correctly** and implemented with integrity and shall comply with all of the following qualitative requirements:

(a) any internal risk-measurement model used to calculate capital requirements for market risks shall be closely integrated into the daily risk-management process of the institution and serve as the basis for reporting risk exposures to senior management;

(b) an institution shall have a risk control unit that is independent from business trading units and that reports directly to senior management. That unit shall be responsible for designing and implementing any internal risk-measurement model. That unit shall conduct the initial and on-going validation of any internal model used for purposes of this Chapter and shall be responsible for the overall risk management system. That unit shall produce and analyse daily reports on the output of any internal model used to calculate capital requirements for market risks, and on the appropriateness of measures to be taken in terms of trading limits;

(c) the institution's management body and senior management shall be actively involved in the risk-control process and the daily reports produced by the risk-control unit shall be reviewed by a level of management with sufficient authority to enforce reductions of positions taken by individual traders and reductions in the institution's overall risk exposure;

(d) the institution shall have a sufficient number of staff skilled to a level appropriate to the sophistication of any internal risk-measurement models, and being skilled in the trading, risk-control, audit and back-office areas;

(e) the institution shall have in place a documented set of internal policies, procedures and controls for monitoring and ensuring compliance with the overall operation of any internal risk-measurement models;

(f) any internal risk-measurement model, **including pricing models,** shall have a proven track record of reasonable accuracy in measuring risks **and shall not differ significantly from the models that the institution use for its internal risk management**;

(g) the institution shall frequently conduct a rigorous programme of stress testing, including reverse stress tests, which shall encompass any internal risk-measurement model. The results of these stress tests shall be reviewed by senior managementat on at least a monthly basis and comply with the policies and limits approved by the institution's management body. The institution shall take appropriate actions where the results of those stress tests show excessive losses arising from the trading's business of the institution under certain circumstances;

(h) the institution shall conduct an independent review of any internal risk-measurement models, either as part of its regular internal auditing process,or by mandating a third-party undertaking to conduct that review, to the satisfaction of competent authorities.

For the purpose of point (h), a third-party undertaking means an undertaking that provides auditing or consulting services to institutions and that has staff that is sufficiently skilled in the area of market risks in trading activities.

2. The review referred to in point (h) of paragraph 1 shall include both the activities of the business trading units and the independent risk-control unit. The institution shall conduct a review of its overall risk-management process at least once a year. That review shall assess the following:

(a) the adequacy of the documentation of the risk-management system and process and the organisation of the risk-control unit;

(b) the integration of risk measures into daily risk management and the integrity of the management information system;

(c) the processes the institution employs for approving risk-pricing models and valuation systems that are used by front and back-office personnel;

(d) the scope of risks captured by the model, the accuracy and appropriateness of the risk-measurement system and the validation of any significant changes to the internal risk-measurement model;

(e) the accuracy and completeness of position data, the accuracy and appropriateness of volatility and correlation assumptions, the accuracy of valuation and risk sensitivity calculations and the accuracy and appropriateness for generating data proxies where the available data are insufficient to meet the requirement set out in this Chapter;

(f) the verification process the institution employs to evaluate the consistency, timeliness and reliability of data sources used to run any of its internal risk-measurement models, including the independence of those data sources;

(g) the verification process the institution employs to evaluate back-testing requirements and P&L attribution requirements that are conducted in order to assess the internal risk-measurement models' accuracy;-

(h) where the review is performed by a third-party undertaking in accordance to point (h) of paragraph 1, the verification that the internal validation process set out in Article 325bk fulfils its objectives.

3. Institutions shall update the techniques and practices they use for any of the internal risk-measurement models used for the purposes of this Chapter in line with the evolution of new techniques and best practices that develop in respect of those internal risk-measurement models.

Article 325bk
Internal Validation

1. Institutions shall have processes in place to ensure that any internal risk-measurement model used for purposes of this Chapter has been adequately validated by suitably qualified parties independent of the development process to ensure that any such models are conceptually sound and

adequately capture all material risks.

2. Institutions shall conduct the validation referred to in paragraph 1 in the following circumstances:

(a) when any internal risk-measur**e**ment model is initially developed and when any significant changes are made to that model;

(b) on a periodic basis and especially where there have been significant structural changes in the market or changes to the composition of the portfolio which might lead to the internal risk-measurment model no longer being adequate.

3. The validation of any internal risk-measur**e**ment model of an institution shall not be limited to back-testing and P&L attribution requirements, but shall, as a minimum, includes the following:

(a) tests to verify whether the assumptions made in the internal model are appropriate and do not underestimate or overestimate the risk;

(b) own internal model validation tests, including back-testing in addition to the regulatory back-testing programmes, in relation to the risks and structures of their portfolios;

(c) the use of hypothetical portfolios to ensure that the internal risk-measur**e**ment model is able to account for particular structural features that may arise, for example material basis risks and concentration risk or the risks associated with the use of proxies.

Article 325bl
Calculation of stress scenario risk measure

1. At ~~time~~ **each calculation date** t, an institution shall calculate the stress scenario risk measure for all the non-modellable risk factors of the trading book positions in a given portfolio as follows:

(deleted)
$$SS_t = \sqrt{\sum_m ICSS_t^m(t)} + \sum_l SS_t^l(t)$$

$$\boldsymbol{SS_t = \sqrt{\sum_m (ICSS_t^m(t))^2} + \sum_l SS_t^l(t)}$$

Where:

m = the index that denotes all the non-modellable risk factors of the positions in the portfolio which represent an id~~y~~**i**osyncratic risk which has been mapped to the credit spread broad risk factor category in accordance with Article 325be(1) and for which the institution has demonstrated, to the satisfaction of the competent authorities, that those risk factors are uncorrelated;

l = the index that denotes all the non-modellable risk factors of the positions in the portfolio other than those denoted by the index 'm';

$ICSS_t^m$ = the stress scenario risk measure **for an idiosyncratic credit spread risk factor**, as determined in accordance with paragraphs 2 and 3, of the non-modellable risk factor 'm';

SS_t^l = the stress scenario risk measure, as determined in accordance with paragraphs 2 and 3, of the non-modellable risk factor 'l';

2. The stress scenario risk measure of a given non-modellable risk factor means the loss that is incurred in all the trading book positions of the portfolio which includes that non-modellable risk factor where an extreme scenario of future shock is applied to that risk factor.

3. Institutions shall determine to the satisfaction of competent authorities appropriate extreme scenarios of future shock for all the **non-**modellable risk-factors.

4. EBA shall develop draft regulatory technical standards to specify in greater details:

(a) how institutions shall determine the extreme scenario of future shock applicable to non-modellable risk factors and how they shall apply that extreme scenario of future shock to those risk factors;

(b) a regulatory extreme scenario of future shock for each broad risk factor subcategory listed in Table 2 of Article 325be which institutions may use when they cannot determine an extreme scenario of future shock in accordance with point (a), or which competent authorities may require the institution to apply when those authorities are not satisfied with the extreme scenario of future shock determined by the institution.

In developing those draft regulatory technical standards, EBA shall take into consideration that the level of own funds requirements for market risk of a non-modellable risk factor as set out in this Article shall be as high as the level of own funds requirements for market risks that would be calculated under this Chapter were this risk factor modellable.

EBA shall submit those draft regulatory technical standards to the Commission by [~~six~~ fifteen months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.

SECTION ~~2~~**3**
INTERNAL DEFAULT RISK MODEL

Article 325bm
Scope of the internal default risk model

~~5~~**1**. All the institution's positions that have been attributed to trading desks for which the institution has been granted the permission referred to in Article 325ba(1) shall be subject to an own funds requirement for default risk where the positions contain at least one risk factor mapped to the broad risk categories 'equity' or 'credit spread' in accordance with Article 325be(1). That own funds requirement, which is incremental to the risks captured by the own funds requirements referred to in Article 325bb(1), shall be calculated with the institution's internal default risk model which shall comply with the requirements laid down in this Section

~~6~~**2**. **For each of the positions referred to in paragraph 1, an institution** ~~There~~ shall **identify** ~~be~~ one issuer of traded debt or equity instruments related to at least one risk factor ~~for each of the positions referred to in paragraph 1~~.

Article 325bn
Permission to use an internal default risk model

1. Competent authorities shall grant an institution permission to use an internal default risk

model to calculate the own funds requirements referred to in Article 325bb(2) for all the trading book positions referred to in Article 325bm that are assigned to a ~~given~~ trading desk ~~provided that~~ **for which** the internal default risk model complies with **the requirements set out in** Articles 325bo, 325bp, 325bq, Articles 325bj and 325bk ~~for that trading desk~~.

~~2. EBA shall issue guidelines on the requirements of Articles 325bo, 325bp and 325bq by [two years after the entry into force of this Regulation]~~.

~~3~~**2**. Where an institution's trading desk, for which at least one of the trading book positions referred to in Article 325bm has been assigned to, do not meet the requirements set out in paragraph 1, the own funds requirements for market risks of all the positions in this trading desk shall be calculated in accordance with the approach set out in Chapter 1a.

Article 325bo
Own funds requirements for default risk using an internal default risk model

1. Institutions shall calculate the own funds requirements for default risk using an internal default risk model for the portfolio of all the positions referred to in Article 325bm as follows:

(a) the own funds requirements shall be equal to a value-at-risk number measuring potential losses in the market value of the portfolio caused by the default of issuers related to those positions at the 99,9 % confidence interval over a time horizon of one year;

(b) the potential loss referred to in point (a) means a direct or indirect loss in the market value of a position caused by the default of the issuers and which is incremental to any losses already taken into account in the current valuation of the position. The default of the issuers of equity positions shall be represented by the issuers' equity prices dropping to zero;

(c) institutions shall determine default correlations between different issuers based on a conceptually sound methodol**o**gy and using objective historical data of market credit spreads ~~and~~ **or** equity prices covering at least a 10 year time period including the stress period identified by the institution in accordance with Article 325bd(2). The calculation of default correlations between different issuers shall be calibrated to a one-year time horizon;

(d) the internal default risk model shall be based on a one-year constant position assumption.

2. Institutions shall calculate the own funds requirement for default risk using an internal default risk model as referred to in paragraph 1 on at least a weekly basis.

3. By way of derogation from points (a) and (c) of paragraph 1, an institution may replace the time horizon of one year by a time horizon of sixty days for the purpose of calculating the default risk of, **where appropriate, some or all of the** equity positions, in which case the calculation of default correlations between equity prices and default probabilities shall be consistent with a time horizon of sixty days and the calculation of default correlations between equity prices and bond prices shall be consistent with a time horizon of one year.

Article 325bp
Recognition of hedges in an internal default risk model

1. Institutions may incorporate hedges in their internal default risk model and they may net positions where the long and short positions refer to the same financial instrument.

2. Institutions may in their internal default risk model only recognise hedging or diversification effects associated with long and short positions involving different instruments or different securities

of the same obligor, as well as long and short positions in different issuers by explicitly modelling the gross long and short positions in the different instruments, including modelling of basis risks between different issuers.

3. Institutions shall capture in their internal default risk model material risks **between a hedge and the hedged instrument** that could occur during the interval between the hedge's maturity and the one year time horizon as well as the potential for significant basis risks in hedging strategies **arising from differences in** ~~by~~ product **type**, seniority in the capital structure, internal or external rating, maturity, vintage and other differences ~~in their instruments~~. Institutions shall recognise a hedge only to the extent that it can be maintained even as the obligor approaches a credit or other event.

Article 325bq
Particular requirements for an internal default risk model

1. The internal default risk model referred to in Article 325bn(1) shall be capable of modelling the default of individual issuers as well as the simultaneous default of multiple issuers and take into account the impact of those defaults in the market values of the positions included in the scope of that model. For that purpose, the default of each individual issuer shall be modelled using at least two type of systematic risk factors and ~~at least~~ two type**s** of systematic risk factors ~~and at least one idiosyncratic risk factor~~.

2. The internal default risk model shall reflect the economic cycle, including the dependence between recovery rates and the systematic risk factors referred to in paragraph 1.

3. The internal default risk model shall reflect the nonlinear impact of options and other positions with material nonlinear behaviour with respect to price changes. Institutions shall also have due regard to the amount of model risk inherent in the valuation and estimation of price risks associated with those products.

4. The internal default risk model shall be based on data that are objective and up-to-date.

5. To simulate the default of issuers in the internal default risk model, the institution's estimates of default probabilities shall meet the following requirements:

(a) the default probabilities shall be floored at 0,03%;

(b) the default probabilities shall be based on a one-year time horizon, unless stated otherwise in this Section;

(c) default probabilities shall be measured using, solely or in combinat~~is~~on with current market prices, ~~default~~ data **observed during a historical time period of at least five years of actual past defaults and extreme declines in market prices equivalent to default events** ~~from a historical time period of at least five years~~; default probabilities shall not be inferred solely from current market prices.

(d) an institution that has been granted the permission to estimate default probabilities in accordance with Section 1, Chapter 3, Title II, Part 3 shall use the methodology set out in Section 1, Chapter 3, Title II, Part 3 to calculate default probabilities;

(e) an institution that has not been granted the permission to estimate default probabilities in accordance with Section 1, Chapter 3, Title II, Part 3 shall develop an internal methodology or use external sources to estimate default probabilities. In both situations, the estimates of default probabilities shall be consistent with the requirements set out in this Article.

6. To simulate the default of issuers in the internal default risk model, the institution's estimates of loss given default shall meet the following requirements:

(a) the loss given default estimates are floored at 0%;

(b) the loss given default estimates shall reflect the seniority of each position;

(c) an institution that has been granted the permission to estimate loss given default in accordance with Section 1, Chapter 3, Title II, Part 3 shall use the methodology set out in Section 1, Chapter 3, Title II, Part 3 to calculate loss given default estimates;

(d) an institution that has not been granted the permission to estimate loss given default in accordance with Section 1, Chapter 3, Title II, Part 3 shall develop an internal methodology or use external sources to estimate **loss given default** ~~default probabilities~~. In both situations, the estimates of loss given default shall be consistent with the requirements set out in this Article.

7. As part of the independent review and validation of their internal models used for the purposes of this Chapter, including for the risk measurement system, institutions shall do all of the following:

(a) verify that their modelling approach for correlations and price changes is appropriate for their portfolio, including the choice and weights of thesystematic risk factors of the model;

(b) perform a variety of stress tests, including sensitivity analysis and scenario analysis, to assess the qualitative and quantitative reasonableness of the internal default risk model, in particular with regard to the treatment of concentrations. Those tests shall not be limited to the range of past events experienced;

(c) apply appropriate quantitative validation including relevant internal modelling benchmarks.

8. The internal default risk model shall appropriately reflect issuer concentrations and concentrations that can arise within and across product classes under stressed conditions.

9. The internal default risk model shall be consistent with the institution's internal risk management methodologies for identifying, measuring, and managing trading risks.

10. Institutions shall have clearly defined policies and procedures for determining the default correlation assumptions between different issuers in accordance with Article 325bo(2) **and the preferred choice of methods to estimate the default probabilities in point (e) of paragraph 5 and the loss given defaults in point (d) of paragraph 6.**

11. Institutions shall document their internal models so that their correlation and other modelling assumptions are transparent for the competent authorities.

12. EBA shall develop draft regulatory technical standards to specify the requirements that have to be fulfilled by an institution's internal methodology or external sources for estimating default probabilities and loss given default in accordance with point (e) of paragraph 5 and point (d) of paragraph 6.

EBA shall submit those draft regulatory technical standards to the Commission by [15 months after the entry into force of this Regulation].

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010.".

~~(85) In Title IV of Part Three, the Title of Chapter 2 is replaced by the following:~~

~~"Chapter 2~~

~~Own funds requirements for position risks under the simplified standardised approach".~~

~~(85a) In Article 348, paragraph 1 is replaced by the following:~~

~~"1. Without prejudice to other provisions in this Section, after [date of application of this Regulation], positions in CIUs shall be subject to an own funds requirement for position risk, comprising specific and general risk, of 32 %. Without prejudice to Article 353 taken together with the amended gold treatment set out in Article 352(4) positions in CIUs shall be subject to an own funds requirement for position risk, comprising specific and general risk, and foreign exchange risk of 40 %."~~

~~(86) In Title IV of Part Three, the Title of Chapter 3 is replaced by the following:~~

~~"Chapter 3~~
~~Own funds requirements for foreign exchange risk under the simplified standardised approach".~~

~~(86a) In Article 352, paragraph 2 is deleted~~

~~(87) In Title IV of Part Three, the Title of Chapter 4 is replaced by the following:~~

~~"Chapter 4~~
~~Own funds requirements for commodity risks under the simplified standardised approach".~~

~~(88) In Title IV of Part Three, the Title of Chapter 5 is replaced by the following:~~

~~"Chapter 5~~
~~Own funds requirements using the simplified internal models approach".~~

In part Eight:

Article 445
Disclosure of exposures to market risk under the standardised approach

Commented [A19]: Go back to current 445 for disclosure of the standardised approach

Article 455
Use of Internal Market Risk Models

Commented [A20]: Go back to current 445 for disclosure of the internal model approach

(119) The following new Article 461a is inserted:

Article 461a
~~Own funds requirements for market risks~~ Alternative standardised approach for market risks

1. For the purposes of the reporting requirements set out in point (a) of Article 101a, ~~T~~the Commission shall be empowered to adopt delegated act in accordance with Article 462, to make technical adjustments to Articles 325h, 325i, 325j, 325af, 325ai, 325al, 325an, 325aq, 325at, 325aw of the alternative standardised approach set out in Part Three, Title IV, Chapter 1a ~~in the following elements of the own funds requirements for market risk~~ taking into account of developments in international regulatory standards. Any other changes technical adjustments that would be required to align the alternative standardised approach to the international regulatory standards for the purposes of point (a) of Article 101a shall also be included in the delegated act

Commented [A21]: The Delegated Act to finalise the operationalisation of the standardised approach for reporting purposes only in accordance with the final Basel standards.

Commented [A22]: In case some changes are proposed by the Basel Committee which are not considered in the consultation document, there is a need to have some flexibility to introduce them in the text for the purposes of reporting.

The Commission shall adopt the delegated act referred to in paragraph 1 by 31 December 2019 :

(a) the Profit & Loss attribution requirement, set out in Articles 325ba and 325bh;

(b) the modellability of risk factors, set out in Articles 325bf and 325bi;

2. By the [date of entry into force + 2 years], the Commission shall review and report on the appropriateness of developments in international regulatory standards as regards to own fund requirements for market risk, other than the developments referred to in paragraph 1, in particular on calibration, and submit a report to the European Parliament and the Council, together with a legislative proposal, if appropriate.

Article 501b

Own funds requirements for market risks

[This Article on Market risk transitionals and level 2 may have to change depending on how on-going discussions in Basel pan-out]

[1. Until [date of application + 3 **2** years], **where the own funds requirement for market risks calculated and reported by an institution in accordance with the approaches set out in Chapters 1a and 1b, Title IV, Part Three, as applicable, are higher than the own funds requirement for market risks calculated by the institution on the same date in accordance with the approaches set out in Chapters 2, 3, 4 and 5, Title IV, Part Three, as applicable, this** institutions that use the approaches set out in Chapters 1a and 1b, Title IV, Part Three to calculate the own funds requirement for market risks shall multiply their own funds requirements for market risks calculated under **the approaches set out in Chapters 1a and 1b, Title IV, Part Three, as applicable** these approaches by a **the following** factor**s of 65%.**

(a) 65% until [date of application + 1 year]

(b) 75% until [date of application + 2years]

2. The application of these multiplicative factors referred in to paragraph 1 shall not result in own funds requirements for market risks that are lower than the own funds requirements for market risks calculated on the same date according to the approaches set out in Chapters 2, 3, 4 and 5 Title IV, Part Three, as applicable.

3. For the purposes of paragraphs 1 and 2, the calculation of the own funds requirements for market risks calculated in accordance with according to the approaches set out in Chapters 2, 3, 4 shall include the application of the relevant multiplicative factor set out in paragraph 4.

4. Institutions that use the approaches set out in Chapter 2, 3 and 4, Title IV, Part Three to calculate and report their own funds requirements for market risks shall multiply their own funds requirements for market risks calculated under these approaches by the following factors:

(a) 110% until [date of application + 1 year]

(b) 130% until [date of application + 2 years]

(c) 150% after [date of application +2 years]

2 **5**. EBA shall monitor the appropriateness of the level of own funds requirement for market risks calculated in accordance with the approaches set out in Chapters 1a**,** and 1b, **2, 3 and 4,** Title IV, Part Three by institutions in the Union and report to the Commission on the opportunity to change the calibration of these approaches by [date of application + 2 **1** years]. This report shall at least assess:

(a) for the most common financial instruments assigned to the trading book of institutions in the Union, whether the level of own funds requirements for market risks calculated by institutions in accordance with the approach set out in Chapters 1a, Title IV, Part Three is excessive as compared to the own funds requirements for market risks calculated by institutions in accordance with the approach

~~set out in point (c) of paragraph 1 of Article 325.~~

~~(b~~**a)** ~~for the most common financial instruments assigned to the trading book of institutions in the Union, whether the level of own funds requirements for market risks calculated by institutions in accordance with the approach set out in Chapter 1b, Title IV, Part Three is excessive as compared to the own funds requirements for market risks calculated by institutions in accordance with the approach set out Chapter 5, Title IV, Part 3.~~

~~(c~~**b)** ~~for the most common financial instruments assigned to the trading book of institutions in the Union, whether the level of own funds requirement for market risks calculated by institutions in accordance with the approach set out in Chapter 1a, Title IV, Part Three is excessive as compared to the level of own funds requirement for market risks calculated by institutions in accordance with the approach set out in Chapter 1b, Title IV, Part Three.~~

~~**(c) for the most common financial instruments assigned to the trading book of institutions in the Union, whether the level of own funds requirement for market risks calculated by institutions in accordance with the approach set out in Chapters 2, 3 and 4, Title IV, Part Three is sufficient as compared to the level of own funds requirement for market risks calculated by institutions in accordance with the approach set out in Chapter 1a, Title IV, Part Three.**~~

~~3~~ **6. Taking into account the report referred to in paragraph 5, international regulatory developments and the specificities of financial and capital markets in the Union, the Commission shall,** ~~W~~**w**~~ithin the three~~ **two** ~~years after the date of application of the approaches set out in Chapters 1a~~**,** ~~and 1b,~~ **2, 3 and 4**~~, Title IV, Part Three, the Commission shall be empowered to adopt a delegated act in accordance with Article 462 of this Regulation to prolong the application of the treatment referred to in paragraph 1 or amend the factor referred to in that paragraph, if considered appropriate and taking into account the report referred to in paragraph 2, international regulatory developments and the specificities of financial and capital markets in the Union.~~ **submit a report to the European Parliament and the Council on the appropriateness of the calibration of the approaches set out in Chapters 1a, 1b, 2, 3 and 4, Title IV, Part Three to calculate the own funds requirements for market risks. Where appropriate, the report shall be accompanied by a legislative proposal amending the calibration of those approaches or the factors referred to in paragraphs 1 and 3.**

~~4~~ **7.** ~~In the absence of adoption of the~~ **legislative proposal** ~~delegated act referred to in the previous subparagraph within the specified timeframe, the treatment set out in paragraph 1 shall cease to apply~~ **after [date of application + 2years].**

Commented [A23]: Transitional arrangements set out in Article 501b no longer needed.

(131) The following Article 519a is inserted:

"Article 519a

Own funds requirements for market risks

Commented [A24]: Report mandated to the EBA in 519a to review some technical elements of the FRTB 5 years after the entry into force replaced by report mandated to on the impacts of the impacts of the new Basel standards by end-2019.

1. By 31 December 2019, EBA shall report on the impact, on institutions in the Union, of international standards to calculate own funds requirement for market risks.

2. By 31 December 2020, the Commission shall, taking into account the results of the report referred to in paragraph 1, ~~and~~ the international standards and the approaches set out in Part Three, Title IV, Chapters 1a and 1b, submit a report together with a legislative proposal, where appropriate, to the European Parliament and the Council on how to ensure institutions in the Union calculate appropriately own funds requirements for market risks.

~~1. EBA shall, by [five years after the entry into force of this Regulation], report to the Commission on the suitability of:~~

~~(a) the methodologies used by institutions to calculate sensitivities for the purposes of calculating the own funds requirements for market risks with the standardised approach set out in Chapter 1a, Title IV, Part Three;~~

~~(b) the use of the simplified standardised approach referred to in point (c) of Article 325(1), Title IV, Part Three to calculate the own funds requirements for market risks;~~

~~(c) the assessment of the modellability of risk factors as set out in Article 325bf;~~

~~(d) the conditions of Article 325bg that define compliance with the backtesting requirements.~~

~~On the basis of this proposal, the Commission may submit a legislative proposal to amend this Regulation.~~

~~2. The report referred to in paragraph 1(a) shall take into account:~~

~~(a) the extent to which the use of sensitivities is a source of variability in the own funds requirements for market risks calculated with the standardised approach by institutions;~~

~~(b) the extent to which additional specifications in the assumptions of pricing models used for the calculation of sensitivities would be beneficial to ensure the appropriateness of the own funds requirements for market risks;~~

~~3. The report referred to in paragraph 1(b) shall take into account:~~

~~(a) whether the simplified standardised approach may be kept and recalibrated to achieve a comparable level of own funds requirements as the methods;~~

~~(b) whether the simplified standardised approach may be replaced by another new simplified method for the calculation of the own funds requirements for market risks, in light of international regulatory developments, while ensuring that any new simplified method for the calculation of the own funds requirements for market risks shall not create additional undue complexity for the institutions eligible to apply it.~~

~~4. The report referred to in paragraph 1(c) shall take into account the condition referred to in Article 325bf(1~~ **2**~~)(b) and whether it is in line with the liquidity horizon of the risk factor.~~

~~5. The report referred to in paragraph 1(d) shall take into account:~~

~~(a) the extent to which the value at risk may be replaced by a more appropriate risk measure for the purpose of backtesting the risk measure calculated in for modellable risk factors, in which case how would be re-defined the multiplication factors based on the more appropriate risk measure;~~

~~(b) whether the derogation referred to in Article 325bg(8) is appropriate.".~~

Article 3
Entry into force and date of application

1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

2. This Regulation shall apply from [two years after date of entry into force], with the following exceptions:

(a) the provisions on the introduction of the new requirements for own funds and eligible liabilities in points (4)(b), (7) to (9), and (12) to (38) and (40), which shall apply from 1 January 2019;

(a)(bis) the provisions on the introduction of the new requirement for own funds in point (39)(a)(bis), which shall apply from 1 January 2022;

(b) the provisions in point (119) concerning amendments to Article 473a of Regulation (EU) No 575/2013, which shall apply from the date of entry into force of this Regulation~~.~~;

(c) the provisions on the introduction of the new own funds requirements for market risk in points (41), (46) to (51), (83) to (88), which shall apply from [three four years after date of entry into force] of this Regulation;

(cd) the provisions in point (123) concerning amendments to Article 497 of Regulation (EU) No 575/2013, which shall apply from the date of entry into force of this Regulation.

This Regulation shall be binding in its entirety and directly applicable in all Member States.