EBA/CP/2021/10

12 March 2021

Consultation Paper

Draft Regulatory Technical Standards on the specification of what an exotic underlying is and which instruments are instruments bearing residual risks for the purposes of Article 325u(2) under Article 325u(5) of Regulation (EU) No 575/2013 (revised Capital Requirements Regulation – CRR2)

Contents

1. Responding to this consultation

The EBA invites comments on all proposals put forward in this paper and in particular on the specific questions summarised in 5.2.

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the views expressed/ rationale proposed; and
- describe any alternative regulatory choices the EBA should consider.

Submission of responses

To submit your comments, click on the 'send your comments' button on the consultation page by 12 June 2021. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by the EBA's Board of Appeal and the European Ombudsman.

Data protection

The protection of individuals with regard to the processing of personal data by the EBA is based on Regulation (EU) 1725/2018 of the European Parliament and of the Council of 23 October 2018. Further information on data protection can be found under the Legal notice section of the EBA website.

2. Executive Summary

The amendments to Regulation (EU) No 575/2013[1] (the Capital Requirements Regulation 2 – CRR2) implement in EU legislation, inter alia, the revised framework to compute own funds requirements for market risk.

Institutions using the alternative standardised approach are required to compute three separate own funds requirements for market risk: the sensitivities-based method (SbM) own funds requirements, the residual risk add-on (RRAO) and the own funds requirements for the default risk (DRC).

The RRAO is intended to provide a simple and conservative capital treatment for any other risks not covered by the SbM or the DRC. Therefore, instruments exposed to residual risks, i.e. instruments referencing an exotic underlying or instruments bearing other residual risks, are subject to the RRAO treatment.

The RRAO amounts to 1% or 0.1% of the gross notional amount of the instrument, depending on whether the instrument is an instrument referencing an exotic underlying or an instrument bearing other residual risks, respectively.

Article 325u(2) of the CRR provides guidance on the meaning of instruments referencing an exotic underlying and instruments bearing other residual risks. Instruments referencing exotic underlyings can be identified as soon as they have underlying exposures to risk factors that are outside the scope of the SbM or the DRC. Similarly, instruments bearing other residual risks can be identified as those instruments subject to vega and curvature risk whose pay-offs cannot be written or perfectly replicated as a finite linear combination of vanilla options with a single underlying, or as those instruments falling under the definition of the ACTP (and not recognised as eligible hedges within the ACTP).

These draft regulatory standards specify what an exotic underlying is and which instruments are instruments bearing residual risks, for the purpose of Article 325u(2) of the CRR. In addition, longevity risk, weather, natural disasters and future realised volatility were assessed and determined as constituting exotic underlyings.

[1] REGULATION (EU) 2019/876 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012

3. Background and rationale

1. The Basel Committee on Banking Supervision (BCBS) published standards on minimum capital requirements for market risk (also known as Fundamental Review of the Trading Book – FRTB) in January 2019. The amendments[2] to Regulation (EU) No 575/2013 (Capital Requirements Regulation 2 – CRR2), which were published in the Official Journal of the European Union on 7 June 2019, introduced into EU legislation the FRTB, including the revised standardised approach (indicated as alternative standardised approach and included in Part 3 Title IV Chapter 1a of the CRR).

2. According to Article 430b of the CRR, from the date of application of the European Commission Delegated Regulation (EU)[3] 2021/424 referred to in Article 461a, institutions that do not meet the conditions set out in Article 94(1) or in Article 325a(1) of the CRR shall report, for all their trading book positions and all their non-trading book positions that are subject to foreign exchange (FX) or commodity risks, the results of the calculations based on using the alternative standardised approach.

3. The alternative standardised approach comprises three parts:

   - the sensitivities-based method (SbM);
   - the residual risk add-on (RRAO);
   - the own funds requirements for the default risk (DRC).

4. Article 325u of the CRR transposes into EU legislation the RRAO, which is intended to provide a simple and conservative capital treatment for any other risks not covered by the SbM or the DRC.

5. Under the RRAO, own funds requirements for residual risks should be calculated in addition to other own funds requirements computed under either the SbM or the DRC, for instruments exposed to residual risks. Instruments are considered exposed to residual risks where they are either instruments referencing an exotic underlying or instruments bearing other residual risks.

6. According to Article 325u(3) of the CRR, the additional own funds requirements amount to 1% or 0.1% of the gross notional amount of the instrument, depending on whether the instrument is an instrument referencing an exotic underlying or an instrument bearing other residual risks, respectively.

7. Article 325u(5) of the CRR includes a mandate for the EBA to draft RTS:

[2] Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012

[3] COMMISSION DELEGATED REGULATION (EU) 2021/424 of 17 December 2019 amending Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to the alternative standardised approach for market risk

"5. EBA shall develop draft regulatory technical standards to specify what an exotic underlying is and which instruments are instruments bearing residual risks for the purposes of paragraph 2.

When developing those draft regulatory technical standards, EBA shall examine whether longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings.

EBA shall submit those draft regulatory technical standards to the Commission by 28 June 2021.

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

8. Article 325u(2) of the CRR specifies that instruments exposed to residual risks are i) instruments referencing an exotic underlying and ii) instrument bearing other residual risks, with points (a) and (b) of that Article providing guidance on what i) and ii) mean, respectively:

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

   (a) the instrument references an exotic underlying, which, for the purposes of this Chapter, means a trading book instrument referencing an underlying exposure that is not in the scope of the delta, vega or curvature risk treatments under the sensitivities-based method laid down in Section 2 or the own funds requirements for the default risk set out in Section 5;

   (b) the instrument is an instrument bearing other residual risks, which, for the purposes of this Chapter, means any of the following instruments:

   (i) instruments that are subject to the own funds requirements for vega and curvature risk under the sensitivities-based method set out in Section 2 and that generate pay-offs that cannot be replicated as a finite linear combination of plain-vanilla options with a single underlying equity price, commodity price, exchange rate, bond price, credit default swap price or interest rate swap;

   (ii) instruments that are positions that are included in the ACTP referred to in Article 325(6); hedges that are included in that ACTP, as referred to in Article 325(8), shall not be considered."

9. Having the above specifications in the CRR text should allow for an immediate identification of instruments that should be subject to the RRAO without the need for waiting the finalisation and adoption of these EBA RTS. Indeed, instruments referencing 'exotic underlyings' can readily be identified as soon as they have underlying exposures to risk factors that are outside the scope of the sensitivities-based method (SbM) or the default risk charge (DRC).

10. Similarly, instruments bearing 'other residual risks' can be identified as those instruments subject to vega and curvature risk (i.e. options) whose pay-offs cannot be written or perfectly replicated as

a finite linear combination of vanilla options with a single underlying, or as those instruments falling under the definition of the ACTP (and not recognised as eligible hedges within the ACTP).

11. In addition to general criteria set out in paragraphs MAR23.3 and MAR23.4 (and included in points (a) and (b) of Article 325u(2) of the CRR), the Basel text also provides:

- a non-exhaustive list of risks which may meet the criteria to identify instruments exposed to residual risks (paragraph MAR23.5 of the Basel text),
- a list of risks which by themselves will not cause the instrument to be subject to the RRAO (paragraph MAR23.6 of the Basel text);
- a list of instruments that should be excluded from the scope of the RRAO, (paragraph MAR23.7 of the Basel text).

12. With regard to the list of instruments that should be excluded from the scope of the RRAO, Article 325u(4) transposes into the CRR paragraph MAR23.7 of the Basel text, i.e. an instrument should be excluded from the scope of the RRAO in the following cases:

a) the instrument is listed on a recognised exchange,

b) the instrument is eligible for central clearing in accordance with Regulation (EU) No 648/2012,

c) the instrument perfectly offsets the market risk of another position in the trading book (i.e. a back-to-back transaction). In such a case, the two perfectly matching positions should be excluded from the RRAO capital requirement.

3.1 Feedback from the Discussion Paper

13. The EBA published the Discussion Paper (DP) on the implementation in the European Union of the revised market risk and counterparty credit risk frameworks on 18 December 2017. Section 4.5 was dedicated to the FRTB RRAO, and eight questions were included to gather views from the respondents on different aspects of the framework.

14. According to the feedback provided by the respondents, the general conditions on instruments referencing an exotic underlying and instrument bearing other residual risks, included in the CRR2, seem to be sufficiently clear.

15. The majority of respondents were not in favour of having a non-exhaustive list of instruments bearing ‘other residual risks’, being more in favour of maintaining the approach principle-based. In addition, the majority of respondents did not see the need for including under the scope of the RRAO any other instruments that do not meet the general definitions and whose risks would otherwise be poorly captured within the standardised approach.

16. All respondents were in support of the possibility of excluding some instruments from the RRAO. Many respondents expressed support for a list of risk types that by themselves will not cause an instrument to be subject to the RRAO. In addition, it was requested to consider an assessment of the materiality of the exotic underlying or residual risks before deciding whether the instrument should be subject to the RRAO.

17. Paragraph 142 of the DP included a list of instruments that could be considered as instruments bearing other residual risks. Respondents felt that no instrument types were missing from such a list of instruments bearing other residual risks, and that those listed options did meet the general definition of instruments bearing other residual risks.

18. Point (k) of paragraph 142 of the DP proposed a potential treatment for options subject to behavioural risks, i.e. one of the instruments included in the non-exhaustive list of instruments bearing 'other residual risks'. The inclusion of behavioural risk in the scope of the RRAO follows from paragraph MAR23.5 of the Basel text. In the Basel text, a concrete reference is made to 'callable bonds', which would be in the scope of the RRAO only if the holder is a retail client, but the overall scope is not clearly defined. On such a point, some respondents suggested that the RRAO should apply only where the uneconomic exercise of the option could increase the duration or result in a loss.

19. Finally, some respondents noted that variance swaps may fall into both the category of instruments referencing an exotic underlying and that of instruments bearing other residual risks.

3.2 Definition of exotic underlyings and instruments bearing residual risks

20. The mandate included in Article 325u(5) of the CRR requires the EBA to draft RTS which should include the following:

- the specification of what an exotic underlying is;
- the specification of which instruments are instruments bearing residual risks;
- the assessment of longevity risk, weather, natural disasters and future realised volatility, in order to determine whether they should be considered as exotic underlyings.

21. The EBA acknowledges that the provisions laid down in point (a) of Article 325u(2) of the CRR provide clear guidance for identifying instruments that reference exotic underlyings, allowing institutions to identify those instruments dependent on exotic underlyings and therefore under the scope of the RRAO. Such consideration is also valid for the provisions included in point (b) of Article 325u(2), which allow for a clear identification of instruments bearing other residual risks and that should be treated under the RRAO.

22.The EBA considers, therefore, that it is not necessary to further specify any of the elements of the provisions included in Article 325u(2)(a) and (b) of the CRR. Such an approach takes also into consideration the feedback received on the DP, which highlighted that the provisions in Article 325u(2) are sufficiently clear for identifying which instruments should fall under the scope of the RRAO.

3.2.1 Specification of what an exotic underlying is

23.According to the CRR, exotic underlyings are defined as any underlying exposures that are not in the scope of the delta, vega or curvature risk treatments under the SbM (set out in Part Three Title IV Chapter 1a Section 2 of the CRR) or the own funds requirements for the default risk (set out in Part Three Title IV Chapter 1a Section 5 of the CRR). As mentioned before, no additional guidance have been included with respect of such a definition, given that that definition should be sufficiently clear for identifying which instruments should fall under the scope of the RRAO.

Longevity risk, weather, natural disasters and future realised volatility

24.As explicitly requested in the mandate, the EBA has examined the characteristics of longevity risk, weather, natural disasters and future realised volatility, confirming that all those underlyings should be considered as exotic underlyings, in line with the indication provided in the Basel text.[4]

3.2.2 Specification of which instruments are instruments bearing residual risks

25.The definition of instruments bearing other residual risks included in point (b) of Article 325u(2) of the CRR identifies such instruments as either of the following:

- the instruments that are subject to the own funds requirements for vega and curvature risk under the SbM and that generate pay-offs that cannot be replicated as a finite linear combination of plain-vanilla options with a single underlying equity price, commodity price, exchange rate, bond price, credit default swap price or interest rate swap;
- the instruments that are included in the ACTP referred to in Article 325(6) of the CRR.

For the purpose of the last point, hedges that are included in an ACTP, as referred to in Article 325(8), shall not be considered under the RRAO.

[4] See Footnote 1 in paragraph MAR23.3 of the Basel text: “Examples of exotic underlying exposures include: longevity risk, weather, natural disasters, future realised volatility (as an underlying exposure for a swap).” See also FAQ1 in paragraph MAR23.3: “Is future realised volatility considered an “exotic underlying” for the purpose of the RRAO? Yes, future realised volatility is considered an exotic underlying for the purpose of the RRAO.”

26.The EBA considers that the general provisions in Article 325u(2)(b) are sufficiently clear for identifying the scope of instruments bearing other residual risks.

27.However, the EBA is also of the opinion that additional guidance could be provided, in order to complement such provisions and ensure a harmonised application across the Union. Therefore, these RTS additionally specify, on the one side, a non-exhaustive list of instruments, which are deemed to constitute 'instruments bearing residual risks'. On the other side, the RTS also specify risks the exposure to which does not constitute, by itself, a reason to consider an instrument as exposed to residual risks.

Non-exhaustive list of instruments bearing residual risks

28.With respect to the non-exhaustive list of 'instruments bearing residual risks', the EBA considers that having such a list in the RTS represents a useful tool, enabling an immediate allocation of instruments to the scope of the RRAO.

29.In this respect, paragraph MAR23.5 of the Basel text proposes a non-exhaustive list of residual risks types that may fall within the criteria set out in paragraph MAR23.4, including gap risk, correlation risk and behavioural risk. The Basel text also provides a general definition for each of such risks. Gap risk is defined as the risk of a significant change in the vega parameter of the option due to small movements in the underlying price, which can result in hedge slippage. Correlation risk is defined as the risk of a change in a correlation parameter necessary for determining the value of an instrument with multiple underlyings. Behavioural risk is defined as the risk of a change in exercise/prepayment outcomes such as those that arise in fixed rate mortgage products where retail clients may make decisions motivated by factors other than pure financial gain. For each of the three types of risks mentioned, the Basel text also provides examples of instruments that are subject to such types of risks.

30.Article 325u(2)(b)(i) of the CRR indicates that an instrument bearing other residual risks is an instrument that is subject to the own funds requirements for vega and curvature risk under the sensitivities-based method and that generate pay-offs that cannot be replicated as a finite linear combination of plain-vanilla options with a single underlying. In addition, Article 325e, as amended by the European Commission Delegated Regulation (EU) 2021/424, identifies the positions in instruments with optionality to be subject to the own funds requirements for vega and curvature risk under the sensitivities-based method. Article 325e also clarifies that instruments with optionality include, among others: calls, puts, caps, floors, swap options, barrier options and exotic options, while instruments whose cash flows can be written as a linear function of the underlying's notional amount shall be considered to be instruments without optionality.

31.Therefore, taking into account the indications provided in the Basel text, and with a view to covering a vast majority of exotic derivatives meeting the conditions in Article 325u(2)(b)(i), the EBA considers that the non-exhaustive list of 'instruments bearing residual risks' included in the RTS should cover at least the following elements:

- options where the pay-offs depend on the path followed by the price of the underlying asset, and not just on the price of the underlying asset at exercise. Such options are normally indicated as 'path-dependent' options and are exposed to gap risk. Examples of path-dependent options are Asian options, barrier options, options with autocallable features and lookback options;

- options that start at a predefined date in the future and whose strike price (or other characteristic of the pay-offs) is set according to the market conditions of a future date. Examples of that kind of options are forward start options and, in general, options belonging to the cliquet family;

- options whose underlying is another option. Such options are normally indicated as compound options, and they can be of the following types: Call-on-Call, Call-on-Put, Put-on-Put, and Put-on-Call;

- options with discontinuous pay-offs, including, for example, digital options, which give fixed pay-offs if the underlying is below or above a certain point, and do not give any pay-offs in all other cases. Depending on the pay-offs, digital options can be of the following types: Cash-or-Nothing or Asset-or-Nothing. Such options are exposed to gap risk.

- options allowing the holder to modify the strike price or other terms of the contract before the maturity of the option. An example of that kind of options is represented by shout options. In particular, an example of shout option is one where the holder of the option owns the flexibility to reset the strike price when deemed optimal to do so. Another example is a European option where the holder has the possibility during the life of the option to mark the underlying's price at one specific point in time. At the end of the life of such option, the holder receives either the usual pay-offs from a European option or the intrinsic value at the time of the shout, whichever is greater.

- options that can be exercised on more than one predetermined date. Such options are normally indicated as Bermudan options, and their feature differentiate them from plain-vanilla options. An example of that kind of options is represented by Bermudan swaptions, i.e. options where the holder has the right to enter into an Interest Rate Swap (IRS) on multiple dates. Cancellable swaps, where an IRS can be cancelled at predetermined dates, can be represented as an IRS with an embedded Bermudan swaption and, according to the Basel text[5], should also be assigned to the scope of the RRAO. Additionally, also bonds with multiple call dates, i.e. bonds with optionality features and where the embedded option can be exercised on more than one predetermined date, should be considered as instruments bearing other residual risks, according to Basel text;[6]

[5] See FAQ1 in paragraph MAR21.26 of the Basel text.

[6] See FAQ1 in paragraph MAR23.4 of the Basel text.

- multi-underlying options, where the underlyings can be either in the same asset class or in different asset classes. Such options are exposed to correlation risk. There are different types of multi-underlying options, including (but not limited to):
  - basket options (i.e. options whose pay-offs are dependent on the value of a portfolio of underlyings),
  - best-of and worst-of options (i.e. options where the pay-offs depend on the value of the best or the worst performing underlying among a number of predefined underlyings),
  - spread options (i.e. options where the pay-offs depend on the difference in price between two or more underlyings).

  It is worth mentioning here that the Basel text also envisages, in paragraph MAR23.6, a list of risks types the exposure to which, by itself, does not cause an instrument to be subject to the RRAO. Correlation risk is mentioned among those risks types, referring in particular to correlation risk arising from index options. Therefore, with the aim to align these RTS with the international standards, the EBA considers to cover such index options when setting out a list of risks that do not constitute by themselves residual risk (see below in this section).

- options whose underlying is denominated in a currency but whose pay-offs are received in another currency. Such options are normally indicated as quanto options and are exposed to correlation risk.

- options subject to behavioural risk, i.e. depending on the behaviour of agents, which may be affected by factors other than pure financial gain, such as elements related to remaining maturity and size of the loan, demographical features and/or other social factors. Institutions should include the instrument under the scope of the RRAO only where:
  - the option lies with a retail client;
  - a significant amount of these instruments with prepayment risk is held in the trading book;
  - the behavioural risk for those instruments is considered material (the materiality of behavioural risk is assessed based on the criteria embedded in the Guidelines on corrections to modified duration for debt instruments under Article 340(3) of Regulation (EU) 575/2013).[7]

32. The list would be used to automatically assign an instrument to the scope of the RRAO. However, should an instrument not figure among the listed ones, the criteria based on the definitions provided in the CRR would apply.

[7] Final Report Guidelines on corrections to modified duration for debt instruments under Article 340(3) of Regulation (EU) 575/2013

Specific instruments mentioned in the CRR that shall fall under the scope of the RRAO

33. Finally, although not included in the above list of instruments bearing residual risks, the following instruments shall also be considered in the scope of RRAO, as explicitly stated in the CRR:

- options that do not have a maturity, as mentioned in Article 325s(2);
- options that do not have a strike or barrier and options that have multiple strikes or barriers, as mentioned in Article 325s(3).

3.2.3 List of risks that do not constitute by themselves residual risks

34. Regarding the list of risks that *per se* do not constitute residual risks, the EBA considers that having such a list in the RTS helps to provide greater legal certainty and transparency around the scope of application of the RRAO.

35. In this respect, paragraph MAR23.6 of the Basel text proposes a list of risk types that, by themselves, do not cause an instrument to be subject to the RRAO.

36. Considering the additional guidance provided in the Basel text and with a view to complementing the general notions of instruments exposed to residual risks, the EBA considers that the risks that, *per se*, do not imply an instrument to fall within the criteria set out in points (a) and (b) of Article 325u(2), should be the following:

- risk from a cheapest-to-deliver option, with this option to be intended as the possibility to fulfil a delivery obligation within a range of deliverable instruments, and where usually the delivery of the least valuable instrument within that range (“cheapest to deliver”) is assumed;
- smile risk, i.e. the risk of a change in the implied volatility parameter necessary for determining the value of an instrument with optionality, relative to the implied volatility of other instruments with optionality with the same underlying and maturity, but different moneyness;
- correlation risk arising from index options or from positions in CIUs, where such index options or positions in CIUs meet certain specific conditions. This case will be discussed more in detail below in this section;
- dividend risk arising from a derivative instrument whose underlying does not consist solely of dividend payments.

Index options, multi-underlying options and CIUs.

37. Correlation risk is one of the risk types that the Basel text indicates as meeting the criteria in paragraph MAR23.4 and that, hence, should be treated under the RRAO. In particular, paragraph

MAR23.5(2) describes correlation risk as the risk of a change in a correlation parameter necessary for determining the value of an instrument with multiple underlyings. Among the relevant instruments subject to correlation risk, the Basel text includes the following instruments: all basket options, best-of-options, spread options, basis options, Bermudan options and quanto options.

38. However, in paragraph MAR23.6(3), the Basel text includes correlation risk as also one of the risk types that, by themselves, do not cause an instrument to be subject to the RRAO, referring in particular to the correlation risk arising from multi-underlying European or American plain vanilla options, and from any options that can be written as a linear combination of such options. In addition, it is specified that such exemption applies in particular to the relevant index options.

39. In addition, paragraph MAR23.6(5) makes explicit mention of index instruments and multi-underlying options of which treatment for delta, vega or curvature risk is set out in paragraphs MAR21.31 and MAR21.32 of the Basel text. According to the Basel text, thus, such instruments should be understood as not being subject, *per se*, to the RRAO, but only if they fall within the definitions set out in chapter MAR23.

40. Paragraphs MAR21.31 and MAR21.32 set out the treatment to be applied in the delta and curvature risk context. In particular, MAR21.31 prescribes that, for index instruments and multi-underlying options, a look-through approach should be used. However, an institution may opt not to apply the look-through approach for instruments referencing any listed, widely recognised and accepted equity or credit index, where specific conditions are met. If an institution opts not to apply the look-through approach, a single sensitivity shall be calculated to each index that the instrument references, as stated in paragraph MAR21.33.

41. From a sequential reading of paragraphs MAR23.5(2), MAR23.6(3), MAR21.31, MAR21.32 and MAR21.33 of the Basel text, it appears that:

- paragraph MAR23.5(2) requires, in general, options subject to correlation risk to be treated under the RRAO;
- paragraph MAR23.6(3), by way of derogation from MAR23.5(2), excludes from the scope of the RRAO multi-underlying European or American plain vanilla options, without clarifying however which instruments should be considered as multi-underlying European or American plain vanilla options;
- paragraph MAR23.6(3) is clear in excluding the relevant index options from the scope of the RRAO;
- paragraph MAR23.6(5) seems to imply that the relevant index options to be excluded from the scope of the RRAO should be understood as those for which the treatment in MAR21.31 and MAR21.32 applies;
- paragraph MAR21.31, while saying that in general institutions should use a look-through approach, sets out the conditions that should be satisfied for not applying a look-through approach, as a derogation from the general look-through approach treatment;

- according to paragraph MAR21.33, if an institution opts not to apply the look-through approach, a single sensitivity shall be calculated to each index that an instrument references.

42. Therefore, the EBA understands that the exemptions mentioned in MAR23.6(3) and MAR23.6(5) should be identified as the ones where an institution has the possibility of not applying the look-through approach and to treat the underlying index as a single underlying asset. In such a case, the EBA is indeed of the opinion that the correlation risk should not be considered as a residual risk of the instrument.

43. In addition, the EBA understands that, without specific indications of which instruments the Basel text is targeting in paragraph MAR23.6(3) when mentioning multi-underlying European or American plain vanilla options, the general provision included in paragraph MAR23.5(2) should be applied to all the multi-underlying options, with the only exception being the index instruments where the index is meeting the conditions to be treated as a single underlying.

44. Hence, the EBA considers that the index options that, *per se*, do not imply the application of the RRAO, are the ones referred to in Article 325i(2) of the CRR, as amended by the European Commission Delegated Regulation (EU) 2021/424, which is the Article transposing into EU Legislation the provisions of paragraphs MAR21.31 and MAR21.33 of the Basel text.

45. However, notwithstanding the considerations made above and in line with paragraph MAR23.6(5), the EBA considers that the index options referred to in Article 325i(2) are still eligible for the application of the RRAO, in case they meet the conditions in Article 325u(2) for other reasons.

46. The EBA considers that such approach is fully consistent with Article 325i(6), as amended by the European Commission Delegated Regulation (EU) 2021/424. Article 325i(6) prescribes that index or multi-underlying instruments which bear other residual risks, as referred to in Article 325u(5), shall be subject to the RRAO. As the reference in Article 325i(6) is to Article 325u(5), which is the Article where the EBA is mandated to specify which instruments are instruments bearing residual risks, the EBA understands that it is also intention of the co-legislators to cover the cases of index or multi-underlying instruments under these RTS.

47. In addition, according to Article 325j(1), as amended by the European Commission Delegated Regulation (EU) 2021/424, collective investment undertakings (CIUs) are also subject to the RRAO, where:

- an institution uses one of the approaches set out in point (b) of Article 325j(1), and
- the mandate of the CIU implies that some exposures in the CIU shall be subject to RRAO.

48. Moreover, Article 325j(2), by way of derogation from Article 325j(1), allows institutions to treat a position in a CIU that tracks an index benchmark as a position in the tracked index benchmark, subject to the condition that the annualised return difference between the CIU and the tracked index benchmark over the last 12 months is below 1% in absolute terms, ignoring fees and commissions.

49. In order to ensure consistency in the application of the RRAO and in light of the discussion above in respect of the treatment of index instruments, the EBA is proposing to align the treatment of options on CIUs to the one envisaged for options on indices.

50. More specifically, where institutions may treat an option in a CIU that tracks an index benchmark as a position in the tracked index benchmark, and where the index of the resulting position is meeting the conditions to be treated as a single underlying, the correlation risk should not be considered as a residual risk of that position. However, as specified for index options in paragraph 45, also in this case the EBA considers that such position is still eligible for the application of the RRAO, in case the conditions in Article 325u(2) are met for other reasons.

51. In addition, as specified in Article 325j(1), whenever a position in a CIU is treated under one of the approaches in Article 325j(1)(b), such position shall be eligible for the application of the RRAO, in case the mandate of the CIU implies that some exposures in the CIU meet the criteria in Article 325u(2).

4. Draft regulatory technical standards on the specification of what an exotic underlying is and which instruments are instruments bearing residual risks for the purposes of Article 325u(2) under Article 325u(5) of Regulation (EU) No 575/2013 (revised Capital Requirements Regulation - CRR2)

In between the text of the draft RTS that follows, further explanations on specific aspects of the proposed text are occasionally provided, which either offer examples or provide the rationale behind a provision, or set out specific questions for the consultation process. Where this is the case, this explanatory text appears in a framed text box.

EUROPEAN
COMMISSION

Brussels, XXX
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COMMISSION DELEGATED REGULATION (EU) …/...

of XXX

supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards for specifying what an exotic underlying is and which instruments are instruments bearing residual risks for the purposes of Article 325u(2) under Article 325u(5)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/20121, and in particular the fourth subparagraph of Article 325u(5) thereof,

Whereas:

(1) Since the definition of an instrument referencing an exotic underlying provided in Article 325u(2)(a) of Regulation (EU) 575/2013 is sufficiently clear and exhaustive, no further specification is necessary other than clarifying that longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings for the purpose of that Article, given that such underlyings are not treated under the sensitivities-based method or the own funds requirements for the default risk, and considering the indication provided in the relevant international framework defined by the Basel Committee on Banking Supervision (BCBS).[2]

(2) While Article 325u(2) of Regulation (EU) No 575/2013 provides sufficiently clear, specific and exhaustive criteria for identifying instruments bearing residual risks, a non-exhaustive list of instruments bearing residual risks should be specified to further complement the notion of such instruments and to ensure a harmonised treatment for them. The elements of such a list should be selected considering the relevant international BCBS framework. In addition, the instrument specified in Article 325u(4) of Regulation (EU) No 575/2013, the instruments mentioned in paragraphs 2 and 3 of Article 325s of that Regulation and the hedges included in an ACPT as referred to in Article 325(8) of that Regulation, should not be included in such a list, given that the treatment for those instruments is already set out in that Regulation.

(3) Given the non-standard nature of many of the instruments bearing residual risk, a non-exhaustive list of risks which should not in themselves trigger the inclusion of an instrument under the definition of instruments bearing residual risks should also be specified in order to provide greater legal certainty and transparency. Again, in accordance with the relevant international BCBS framework, an instrument exposed to any of the risks included in such list should not be considered as exposed to residual risk merely because of the exposure to such risks. However, that instrument could still be considered as an instrument exposed to residual risk on the basis of the other reasons referred to in Article 325u(2) of Regulation (EU) 575/2013.

(4) This Regulation is based on the draft regulatory technical standards submitted by the European Supervisory Authority (European Banking Authority) (EBA) to the Commission.

(5) EBA has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits and

1 OJ L 176, 27.6.2013, p. 1.

2 Minimum capital requirements for market risk, January 2019 (rev. February 2019).

requested the advice of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010[3].

HAS ADOPTED THIS REGULATION:

Article 1

Specification of exotic underlyings

Longevity risk, weather, natural disasters and future realised volatility shall be considered as exotic underlyings for the purposes of point (a) of Article 325u(2) of Regulation (EU) No 575/2013.

Explanatory text for consultation purposes

When developing these draft RTS, the EBA is requested to specify what an exotic underlying is. Given that the EBA considers that the general condition in Article 325u(2)(a) are sufficiently clear for identifying what an exotic underlying is (and therefore for identifying the scope of instruments referencing an exotic underlying), no additional specification has been included in these RTS.

In, addition, the EBA is requested to examine whether longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings. The EBA, after having examined the characteristics of those risks, confirms that longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings, as indicated in Footnote 1 of paragraph MAR23.3 of the Basel text.

Such list of exotic underlying should be considered non-exhaustive and should serve to complete the general definition, allowing for an immediate identification of the underlyings included in the list as exotic. While the Basel text does not mention any other exotic underlyings other than longevity risk, weather, natural disasters and future realised volatility, it should be assessed, however, whether it would be needed to extend such list.

Questions for consultation:

Q1: Do you think that any of the elements constituting the conditions in Article 325u(2)(a) require additional clarification? If yes, which elements should be clarified?

[3] Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2020, p. 12).

Q2: Do you think that the list of exotic underlyings should be extended beyond the ones mentioned in the CRR mandate (i.e. longevity risk, weather, natural disasters and future realised volatility)? If yes, which other exotic underlyings should be included?

Article 2

Specification of instruments bearing residual risks

The instruments listed in the Annex to this Regulation shall be considered as instruments meeting the conditions of Article 325u(2) of Regulation (EU) No 575/2013 and constituting instruments bearing residual risks.

Explanatory text for consultation purposes

When developing these draft RTS, the EBA is requested to specify which instruments are instruments bearing residual risks. Given that the EBA considers that the general provisions in Article 325u(2)(b) are sufficiently clear for identifying which instruments are instruments bearing residual risks, no additional specification in this sense has been included in these RTS.

However, the EBA is also of the opinion that additional guidance could be provided, in order to complement such provisions and to ensure their harmonised application. Therefore, these RTS additionally specify a non-exhaustive list of instruments bearing residual risks.

The non-exhaustive list of instruments bearing residual risks and that should fall under the scope of the RRAO follows the one proposed in paragraph 142 of the DP on the implementation in the European Union of the revised market risk and counterparty credit risk frameworks.

The non-exhaustive list of instruments bearing residual risks has been included in the RTS with the purpose of facilitating an immediate identification of a number of instruments exposed to residual risks.

The list, included for clarification purposes, uses a specific terminology for referring to the different instruments. However, the absence of a fully standardised financial instruments taxonomy could potentially pose some issues for clearly defining the scope of the list. Therefore, respondents are asked to provide feedback on the clarity of the terminology used in the list. In addition, it should be assessed whether such list needs to be extended or reduced.

Questions for consultation:

Q3: Do you think that any of the elements constituting the conditions in Article 325u(2)(b) require additional clarification? If yes, which elements should be clarified?
Q4: Do you think that the terminology used in the non-exhaustive list of instruments bearing residual risks is clear? If not, please provide your views, including rationale and alternative terminology that it would be preferable to use.
Q5: Do you think that the non-exhaustive list of instruments bearing residual risks should be extended? If yes, which other instruments should be included?
Q6: Do you think that the non-exhaustive list of instruments bearing residual risks should be reduced? If yes, which instruments should be excluded?

Article 3

Specification of risks that, in themselves, do not constitute residual risks

Where an instrument includes one or more of the following risks, this, in itself, does not cause the instrument to be exposed to residual risks in accordance with Article 325u(2) of Regulation (EU) No 575/2013:

(a) risk arising from transactions where the delivery obligation can be fulfilled within a range of deliverable instruments and where the counterparty has the possibility to deliver the least valuable of those instruments ('cheapest-to-deliver' option);

(b) risk of a change in the implied volatility of an instrument with optionality, relative to the implied volatility of other instruments with optionality with the same underlying and maturity, but different moneyness;

(c) correlation risk arising from an index option, where the index meets the conditions set out in Article 325i(3) of Regulation (EU) No 575/2013;

(d) correlation risk arising from an option in a CIU tracking an index benchmark, where the tracking meets the conditions set out in Article 325j(2) of Regulation (EU) No 575/2013 and the index meets the conditions set out in Article 325i(3) of that Regulation;

Explanatory text for consultation purposes

As indicated in Articles 2 and 3 (and in the Annex of the RTS), and as also explained in detail in the Background section of the CP, the proposed treatment for correlation risk can be summarised as follows:

- As a general treatment, relevant instruments subject to correlation risk include all multi-underlying options (e.g. basket options, best-of-options, spread options, basis options) and those instruments should be in the scope of the RRAO;

- As a specific treatment, plain-vanilla options on index instruments that meet the conditions in Article 325i(3) of the CRR, as amended by the European Commission Delegated Regulation (EU) 2021/424, may be considered out of the scope of the RRAO;

- A similar specific treatment is envisaged for CIUs, in case an option in a CIU is equivalent to a position treated under the point above;

Respondents are asked to provide feedback on the clarity of the proposed treatment for correlation risk, including alternatives in case they do not agree with the proposed treatment.

Question for consultation:

Q7: Do you agree with the proposed approach for the treatment of correlation risk? If not, please provide your views, including rationale motivating your preference for an alternative treatment.

(e) dividend risk arising from a derivative instrument whose underlying does not consist solely of dividend payments.

Explanatory text for consultation purposes

In these RTS, the EBA provided specific guidance on a number of instruments and risks which trigger or not the conditions in Article 325u(2) of the CRR. However, the EBA acknowledges that additional clarification may be needed for other instruments, not explicitly mentioned currently in the RTS.

Therefore, the EBA invites respondents to provide feedback on additional instruments or risks, which can be considered to be explicitly mentioned in one of the parts of the RTS, including rationale motivating such needs.

Question for consultation:

Q8: Do you think that there are other products, not currently covered in these RTS (e.g. CMS derivatives), which are potential candidates for being covered in one of the parts of these RTS? Please provide your views, including rationale motivating the needs for such inclusions.

Article 4

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President

[For the Commission
On behalf of the President

[Position]

ANNEX

Non-exhaustive list of instruments bearing residual risks for the purpose of Article 2

1. Options where the pay-offs depend on the path followed by the price of the underlying asset and not just its final price on the exercise date;

2. Options that start at a predefined date in the future and whose strike price is not yet determined at the time at which the option is in the trading book of the institution;

3. Options whose underlying is another option;

4. Options with discontinuous pay-offs;

5. Options allowing the holder to modify the strike price or other terms of the contract before the maturity of the options;

6. Options that can be exercised on a finite set of predetermined dates;

7. Options whose underlying is denominated in one currency but whose pay-offs are settled in a different currency, with a predetermined exchange rate between the two currencies;

8. Multi-underlying options, excluding the options referred to in points (c) and (d) of Article 3;

9. Options subject to behavioural risk, only where all the following conditions are met:

    (a) the option lies with a retail client;

    (b) a significant amount of these instruments are held in the trading book;

    (c) the behavioural risk of those instruments is assessed to be material, based on the criteria used for determining the materiality of behavioural factors for the purpose of the second subparagraph of Article 340(3) of Regulation (EU) No 575/2013.

5. Accompanying documents

5.1 Draft cost-benefit analysis / impact assessment

Article 325u(5) of the CRR mandates the EBA to develop a draft RTS to specify what an exotic underlying is and which instruments are instruments bearing residual risks for the purposes of paragraph 2 of Article 325u. In addition, when developing those draft RTS, the EBA shall examine whether longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings.

Article 10(1) of Regulation (EU) No 1093/2010 (EBA Regulation) provides that any RTS developed by the EBA should be accompanied by an analysis of the potential related costs and benefits. This analysis should provide an overview of the findings regarding the problem to be dealt with, the options proposed and the potential impact of these options.

This section presents the cost-benefit analysis of the main policy options included in the draft RTS described in this CP. The analysis is high level and of a qualitative nature.

A. Background, Problem identification, Baseline scenario

The alternative standardised approach comprises of three parts: a) the sensitivities-based method (SbM) for calculating the own funds requirement for market risk; b) the residual risk add-on (RRAO); c) the own funds requirements for the default risk (DRC).

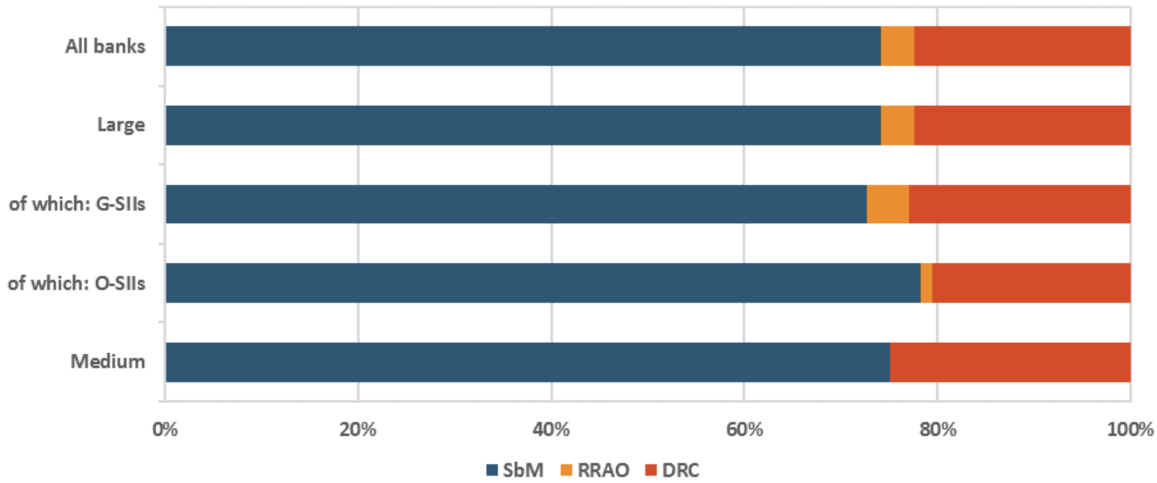
According to Article 325u, the RRAO applies to instruments exposed to residual risks where they are either instruments referencing to an exotic underlying or instruments bearing other residual risks. Article 325u(2) provides additional guidance on the meaning of those notions.

The EBA is mandated to develop draft RTS specifying what an exotic underlying is and which instruments are instruments bearing residual risks. The lack of common specification could result in an inconsistent application of the RRAO across institutions, undermining the implementation of the alternative standardized approach in the EU. Given that institutions may hold various types of instruments, it is important to set minimum requirements identifying which instruments are considered to be exposed to residual risks and would therefore be subject to the RRAO.

Based on the EBA QIS 2018 Q2 data, only a small share of the market risk requirements under the alternative standardised approach is attributed to RRAO.[11] On average, the overall contribution of RRAO to total market risk SA capital requirements stands at around 3.5% (see Figure 1).

[11] These figures do not take into account the provisions put forward in this CP.

Figure 1 Composition of FRTB-SA RWA, by bank size



Sources: EBA 2018-Q4 QIS data and EBA calculations.
Notes: Based on a sample of 44 banks: large (39), of which G-SIIs (7) and of which O-SIIs (27); medium (4); small* (1). SbM, sensitivities-based method; RRAO, residual risk add-on; DRC, default risk capital requirement.
*Not shown in the chart because there are fewer than three entities in the cluster.

B. Policy objectives

The specific objective of these draft RTS is to establish a common specification of what an exotic underlying is and which instruments are instruments bearing residual risks. In this way, these draft RTS aim to ensure a consistent implementation of the RRAO across EU institutions.

Generally, these draft RTS aim to create a level playing field, promote convergence of institutions practises and enhance comparability of own funds requirements across the EU. Overall, these draft RTS are expected to promote the effective and efficient functioning of the EU banking sector.

C. Options considered, Cost-Benefit Analysis, Preferred Options

Longevity risk, weather, natural disasters and future realised volatility as exotic underlyings

Article 325u(5) of the CRR requests the EBA to examine whether longevity risk, weather, natural disasters and future realised volatility should be considered as exotic underlyings.

The EBA has considered the following options:

Option 1a: Consider longevity risk, weather, natural disasters and future realised volatility as an exotic underlying

Option 1b: Do not consider some or all of the above underlyings as exotic underlyings

According to paragraph (a) of Article 325u(2) of the CRR2, an instrument referencing an exotic underlying means a trading book instrument referencing an underlying exposure that is not in the scope of the delta, vega or curvature risk treatments under the sensitivities-based method or the own funds requirements for the default risk. Longevity risk, weather, natural disasters and future realised volatility are considered to meet this definition as they are underlyings which are not properly captured either under the sensitivities-based method (i.e. they are not general interest rate, credit spread, equity, commodity or foreign exchange risk factors) or the default risk charge.

Therefore, Option 1a is consistent with the general definition provided in paragraph (a) of Article 325u(2) of the CRR for instruments with an exotic underlying. In addition, it is in line with the Basel text, which recognise longevity risk, weather, natural disasters and future realised volatility as exotic underlyings and thus has the advantage of ensuring international harmonisation on what constitutes an exotic underlying.

According to the feedback received in the DP, some respondents have flagged several issues with respect to future realised volatility (in relation to variance swaps). They noted that variance swaps may meet the definitions of both ‘instrument referencing an exotic underlying’ and ‘instrument bearing other residual risks’. In these cases, they asked to clarify how they should calculate RRAO charges, e.g. if only the higher of the two risk weights should be applied or both of them apply simultaneously. As a simple solution, they suggested to remove future realised volatility from the specification of ‘exotic underlyings’. However, the EBA considered the clarification of the treatment of instruments meeting both conditions of Article 325u(2) of the CRR outside the scope of this RTS. Indeed, these respondents appear to acknowledge that future realised volatility is an exotic underlying (in line with Option 1a), but their main concern was rather the calculation of RRAO charge in cases where both the conditions of Article 325u(2) of the CRR are met.

The respondents to the DP did not raise any concern with respect to longevity risk, weather and natural disasters being treated as exotic underlyings.

Option 1a is preferred.

Options subject to behavioural risk as instruments bearing residual risks

The RTS provides for a non-exhaustive list of instruments that are deemed to constitute instruments bearing residual risks. These includes options subject to behavioural risk. The EBA has assessed if additional conditions need to be met, for those options to be included in the scope of RRAO:

Option 2a: Specify additional conditions for options subject to behavioural risk to fall under the scope of the RRAO

Option 2b: Do not specify additional conditions for options subject to behavioural risk to fall under the scope of the RRAO

Under Option2a, the EBA has considered that options subject to behavioural risk should fall under the scope of the RRAO only where: (a) the option lies with a retail client; (b) a significant amount of these instruments with prepayment risk is held in the trading book; (c) the behavioural risk for those instruments is considered material. The Basel text specifies only condition (a). Conditions (b) and (c) ensure that instruments with insignificant amounts of prepayment risk or immaterial levels of behavioural risk are not in scope of RRAO, alleviating the operational burden for institutions.

Option 2b does not specify any additional condition and leaves more room for interpretation of which options subject to behavioural risk will fall under the scope of RRAO. This may create an unlevel playing field across the EU.

Option 2a is preferred.

5.2 Overview of questions for consultation

Q1 Do you think that any of the elements constituting the conditions in Article 325u(2)(a) require additional clarification? If yes, which elements should be clarified?

Q2 Do you think that the list of exotic underlyings should be extended beyond the ones mentioned in the CRR mandate (i.e. longevity risk, weather, natural disasters and future realised volatility)? If yes, which other exotic underlyings should be included?

Q3 Do you think that any of the elements constituting the conditions in Article 325u(2)(b) require additional clarification? If yes, which elements should be clarified?

Q4 Do you think that the terminology used in the non-exhaustive list of instruments bearing residual risks is clear? If not, please provide your views, including rationale and alternative terminology that it would be preferable to use.

Q5 Do you think that the non-exhaustive list of instruments bearing residual risks should be extended? If yes, which other instruments should be included?

Q6 Do you think that the non-exhaustive list of instruments bearing residual risks should be reduced? If yes, which instruments should be excluded?

Q7: Do you agree with the proposed approach for the treatment of correlation risk? If not, please provide your views, including rationale motivating your preference for an alternative treatment.

Q8: Do you think that there are other products, not currently covered in these RTS (e.g. CMS derivatives), which are potential candidates for being covered in one of the parts of these RTS? Please provide your views, including rationale motivating the needs for such inclusions.