

EBA/CP/2021/38

---

2 December 2021

---

## Consultation Paper

---

Draft Regulatory Technical Standards specifying

standardised and simplified standardised methodologies to evaluate the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution's non-trading book activities in accordance with 84(5) of Directive 2013/36/EU

# Contents

---

<b>1. Responding to this consultation</b>	<b>3</b>
<b>2. Executive Summary</b>	<b>4</b>
<b>3. Background and rationale</b>	<b>6</b>
<b>4. Draft regulatory technical standards</b>	<b>13</b>
<b>5. Accompanying documents</b>	<b>51</b>
5.1 Draft cost-benefit analysis / impact assessment	51
5.2 Overview of questions for consultation	63

# 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 4 April 2022. A public consultation period of four months is proposed on an exceptional basis, considering the concomitant publication of 3 different regulatory products on the same topic. 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

---

Pursuant to the mandate of paragraph 5 of Article 84 of Directive 2013/36/EU the EBA has developed a standardised (SA) and simplified standardised (S-SA) methodology for the purpose of the evaluation of the risks arising from potential changes in interest rates that affect both the economic value of equity (EVE) and the net interest income (NII) of an institution's non-trading book activities. This Regulatory Technical Standard (RTS) will meet the need of institutions and supervisors to avail of reliable numerical estimates of institutions' exposures to interest rate risk in the banking book, for the performance of appropriate risk management and supervision, for example in case an institution's internal systems are insufficient.

To harmonise the calculation the EBA has specified common definitions, components and steps for institutions to apply, which lead to estimates comparing the economic value of equity and net interest income between a baseline scenario and an interest rate shock scenario. Where possible, these proposals are based on the standardised methodology published by the Basel Committee on Banking Supervision in April 2016, as well as the practices established in the EBA Guidelines (EBA/GL/2018/02) on the management of interest rate risk arising from non-trading book activities from 18 July 2018.

The common definitions and steps consist largely of rules on the slotting of cash flows. Regarding the main categories of behavioural cash flows institutions will use relevant historical data, subject to standardised constraints. This includes the Basel caps regarding the core component for non-maturing deposits (NMDs). In addition, to reflect the interest rate sensitivity of client behaviour regarding NMDs, loans subject to prepayment risk, and term deposits subject to early redemption risk, the institutions' estimates are multiplied by scalars depending on the shock scenario.

In the absence of a final Basel SA on NII, the EBA has developed ab initio the part of the methodology where the NII logic differs from that of EVE. Three main components are identified to estimate the level of NII within a given horizon, namely: i) the aggregation of interest rate payments that are already fixed, the projection of ii) risk free yield and of iii) commercial margin for repricing cash flows. To project risk free yield with appropriate forward rates, additional slotting is needed based on original maturity. Additional components take into account automatic optionality and basis risk.

Regarding the simplified standardised approach (S-SA), to reflect the generally less advanced capacities of the small and non-complex institutions, and to meet the need for a methodology that is at least as conservative, various simplifications have been included.

### Next steps

The draft regulatory technical standards will be submitted to the Commission for endorsement following which they will be subject to scrutiny by the European Parliament and the Council before being published in the Official Journal of the European Union.

### 3. Background and rationale

---

In June 2019 the Directive (EU) 2019/878 amended the Directive 2013/36/EU and introduced, under Article 84, and in the context of the supervisory review and evaluation process (SREP)<sup>1</sup>, the requirement that competent authorities “ensure that institutions implement internal systems, use the standardised methodology or the simplified standardised methodology to identify, evaluate, manage and mitigate the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution's non-trading book activities.”<sup>2</sup>.

As clarified in paragraph 5 of Article 84 of Directive 2013/36/EU, the EBA is mandated to specify the standardised and simplified standardised methodologies as envisaged in paragraph 1 of Article 84 of Directive 2013/36/EU, which serve the purpose of the evaluation of the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution's non-trading book activities. In the same paragraph it is specified that the simplified standardised methodology is for small and non-complex institutions as defined in point (145) of Article 4(1) of Regulation (EU) No 575/2013, and is required to be at least as conservative as the standardised methodology.

Paragraph 3 of Article 84 of Directive 2013/36/EU clarifies that an evaluation based on the standardised methodology (henceforth “standardised approach” – SA) may be required where the institutions internal systems for the purpose of evaluating the risk of IRRBB on economic value of equity and net interest income are not satisfactory. The assessment of whether an internal system is satisfactory is not part of this RTS (EBA aims to refer to it in its Guidelines on IRRBB instead).

Further it is to be noted that paragraph 4 of Article 84 of Directive 2013/36/EU provides the power to the competent authority to “require a small and non-complex institution as defined in point (145) of Article 4(1) of Regulation (EU) No 575/2013 to use the standardised methodology where it considers that the simplified standardised methodology is not adequate to capture interest rate risk arising from non-trading book activities of that institution”.

The decision regarding whether an institution implements internal systems, the standardised approach or the simplified standardised approach, will affect the conduct of the Supervisory Outlier Tests (SOTs). For the SOTs the EBA is mandated to specify a draft RTS under paragraph 5 of Article 98 Directive 2013/36/EU, which provides common modelling and parametric assumptions. As the RTS on SOT does not provide exhaustive rules on the evaluation of IRRBB, and an exhaustive evaluation of IRRBB regarding economic value of equity as well as net interest income is needed, institution shall use those

---

<sup>1</sup> Section III (on ‘Supervisory review and evaluation process’) of Chapter 2 (on ‘Review Processes’) in Title VII (on ‘Prudential Supervision’) of the Directive 2013/36/EU.

<sup>2</sup> Paragraph 1 of Article 84 of the Directive (EU) 2013/36/EU..

that they employ in their IRRBB measurement and management, i.e. their internal measurement methodologies, the standardised or the simplified standardised approach.

### 3.1 Basel standards and EU rules

The implementation into EU rules of the Basel standards on interest rate risk in the banking book published by the Basel Committee on Banking Supervision in April 2016<sup>3</sup> started with the EBA Guidelines “*on the management of interest rate risk arising from non-trading book activities*” published on 18 July 2018. The 2018 EBA Guidelines introduced supervisory expectations regarding the management of IRRBB, encompassing the identification, measurement, monitoring and control of IRRBB. The Guidelines also included the revised SOT on EVE as an early warning signal and high level guidance on credit spread risk in the banking book (CSRBB).

The Directive (EU) 2019/878 introduced the remaining elements of the Basel standards and added some new ones (e.g. the standardised approach on net interest income, with a mandate to the EBA to develop it). The Directive mandates the EBA to draft Guidelines and draft regulatory technical standards to elaborate those items. Specifically:

- a. Draft regulatory technical standards on SOTs (Article 98(5a) of the Directive 2013/36/EU)
- b. Draft regulatory technical standards on standardised and simplified standardised approaches (Article 84(5) of the Directive 2013/36/EU)
- c. Guidelines on IRRBB and CSRBB (Article 84(6) of the Directive 2013/36/EU)

These draft regulatory technical standards and Guidelines are currently under public consultation in parallel. This consultation paper deals with point b.

### 3.2 Draft regulatory technical standards on SA

#### 3.2.1 General structure of the standardised approaches

The EBA has developed the draft RTS specifying a collection of procedural aspects and applicable assumptions both for the SA on Economic Value of Equity (EVE) and SA on Net Interest Income (NII), as well as for the respective simplified standardised approaches.

As approaches on EVE and NII are equally based on cash flows and assumptions on clients’ behaviour, many procedural aspects and assumptions of the final Basel SA on EVE equally apply in the SA on NII. For example, the slotting of cash flows into 19 pre-defined time buckets in accordance with their repricing date is a key feature of the Basel approach that can apply equally within the EVE and NII.

---

<sup>3</sup> Available online: <http://www.bis.org/bcbs/publ/d368.htm>.

However, there are differences, particularly in the further processing of the cash flows, which makes NII inherently more laborious than EVE.

In a nutshell, EVE generally represents the discounted sum of all future cash flows, assuming a run-off balance sheet (which avoids the complexity of determining the applicable interest rates for the renewal of exposures). In contrast, NII is the forward-looking projection of interest income (and expenses) over a pre-defined time horizon (e.g., of up to one, two or three years). While both are based on notional repricing cash flows (interest payments or principal amounts of fixed rate instruments that mature or principal amounts of floating rate instruments that reprice) under EVE they typically are discounted to the present and under NII they are projected to the end of the NII horizon.

In the absence of a final Basel SA on NII, the EBA has developed ab initio the part of the methodology where the NII computational logic differs from that of EVE. This resulted in the development of 3 sub-components, which would need to be summed up to arrive at the NII value for exposures other than automatic options:

- a. The aggregation of interest payments up to and including the repricing date (i.e., NII flows which are already fixed and its amount will not change due to interest rate changes).
- b. The projection of risk-free yield for each repricing cash flow between the moment of repricing up to the end of the projection horizon, in accordance with the assumption of a constant balance sheet.
- c. The projection of the commercial margin for each notional repricing cash flow between the moment of the reset of the margin (typically at the instrument's maturity) up to the end of the projection horizon, in accordance with the assumption of a constant balance sheet.

This allows for a calculation of the NII for each interest rate scenario separately, as opposed to an approach that would solely allow for the estimation of the difference in NII between two scenarios (sensitivity only approach). In addition, the SA on NII can be calculated with different assumptions regarding the NII horizon. The focus of this Regulation lies on an NII horizon of 1 year, while it also caters for the need of calculating other horizons necessary for the evaluation of interest rate risk, such as 2 or 3 years.

In addition, for both the SA on EVE as for the SA on NII, an add-on for automatic optionality will have to be computed. As per above, a distinction is to be made: where under the EVE computation the option values are discounted to the present, under the NII measure, the pay-offs are only considered to the extent they materialise within the NII horizon with in addition fair value changes for options that mature beyond the NII horizon.

### **3.2.2 Assumptions in the calculation**



The EBA has developed the steps and assumptions in the calculation of EVE and NII, taking into account the need of Basel compliance and the avoidance of unnecessary complexity as much as possible. These include the following areas:

### Behavioural cash flows

Regarding behavioural cash flows, which refers to instruments for which the timing and amount of the cash flows depend on the behaviour of customers, the EBA has further specified the methodology provided in the 2016 Basel SA on EVE. This affects the main categories of behavioural cash flows, comprising i) Non-Maturing Deposits (NMDs), ii) loans subject to prepayment risk, and iii) term deposits subject to the risk of early redemption risk.

Institutions are expected to determine several components regarding behavioural cash flows in the baseline scenario based on relevant historical data, combined with standardised constraints and assumptions provided by the EBA. Also, proportionality / simplicity should be considered. Specifically, the following assumptions apply (applicable to both the EVE and NII):

- a. For Non-Maturing Deposits (NMDs) the Basel caps (of 50% to 90%) should apply on the proportion of core deposits (i.e. deposits that are assumed unlikely to be repriced even under significant changes in the interest rate environment) in total deposits as well as the current EBA cap (4 to 5 year) on the weighted average maturity of core deposits.
- b. To reflect the interest rate sensitivity of client/counterparty behaviour the shock scenario scalars of 0.8 and 1.2 from the Basel framework (which are applied to the institutions' baseline estimates) regarding loans subject to prepayment risk and term deposits subject to early redemption risk are implemented as well in this proposed regulation. It is proposed to extend the use of these scalars as well to the core proportion of NMDs, to adequately reflect interest rate sensitivity of client behaviour also in this area.
- c. Further, consistent with the Basel standard, the EBA has specified that wholesale NMDs from financial customers cannot be categorised as core, due to the professional nature of these counterparties.
- d. Regarding the estimation of the conditional prepayment rate associated with loans subject to prepayment risk, institutions should perform an estimation of the average prepayment rate based on historic observation that is consistent over time. Consistent with Basel, the average prepayment rate reflects the annual expected prepayments, and shall be used to slot the cash flows of loans over time.
- e. Regarding the estimation of the term deposit redemption rate associated with term deposits subject to early redemption, the same requirements are proposed as for prepayments, however with the difference that the redemption rate reflects the

cumulative expected redemptions over the lifetime of the term deposit to be slotted in the overnight bucket, consistent with Basel.

To allow for proportionality and simplicity, the EBA has developed materiality thresholds for the 3 main categories of behavioural outflows at the level of 2% of interest rate sensitive assets respectively liabilities in the banking book. Below these thresholds, institutions may opt to disregard these aspects (and instead set the conditional prepayment rate and term deposit redemption rate at 0 and slot all NMDs in the overnight bucket).

### Calculation risk free rate and commercial margins

For the calculation of the risk-free rate and commercial margins, it is necessary to make assumptions regarding the following:

- a. For the risk-free curve, since there is no universal risk-free spot rate curve per currency, it is left to institutions to select it, in line with paragraph 115(n) of the 2018 EBA GL.
- b. Original maturity of repricing cash flows: to project NII, in line with the constant balance sheet assumption, it is necessary to replace maturing cash flows with new business production assumptions, having similar characteristics (product type, fixed/floating etc). Importantly, the original maturity of the product (e.g., a loan) underlying a repricing cash flow is a significant determinant of the risk-free interest rate to be expected on new business. To capture this aspect, the EBA proposes a double slotting of cash flows, where in addition to the repricing time buckets (which were already necessary for the EVE) institutions will have to slot the same amounts in their original maturity time buckets, leading to a matrix/table of cash flows slotted along an axis of repricing time buckets and an axis of original maturity time buckets. The applicable forward rates will then be based on the mid-points of the time buckets. From an impact assessment perspective, it appears that the use of time buckets, which averts the need of calculating a unique forward rate on a product-by-product basis would be easier to implement. In particular, for a given risk free rate and reference date all institutions would have to calculate the same matrix of forward rates given the standardised time buckets.
- c. The rate used as the commercial margin component of NII (to project commercial margin of new business production) will be based on the commercial margin of instruments originated in the last year. The historical observation should be segmented by product, counterparty and geographic category. This segmentation has been based on general experience with materiality of FINREP categories. In case no instrument has been originated in the last year in the applicable category, institutions are allowed to draw from observations of comparable portfolios in different product categories. In case of products with observable market quotes, the implied

commercial margin can be used based on the fair value and deduction of the risk-free rate.

### Simplified Standardised Approaches

In the interest of proportionality, and in accordance with the mandate of Article 84 of the CRD, the EBA has developed simplified standardised approaches for EVE and NII. The simplifications compared to the Standardised Approach are the following:

- a. For the simplified SA on EVE and NII the proportion of the core component of NMDs is fully prescribed. Moreover, instead of requesting institutions to use their own estimates in the slotting of core NMDs (under the constraint of 4 to 5 years of weighted average maturity) the simplified approach prescribes a linear slotting up to 4, 4.5 or 5 years. The prescribed slotting depends on the scenario (baseline, short rates up, short rates down), the 0.7 or 1.3 scalar used in the computation as well as the category of NMDs (retail transactional, retail non-transactional, wholesale non-financial).
- b. For the simplified SA on EVE and NII institutions will calculate the impact of automatic optionality on the basis of pay-outs, by scenario (without having to perform a more complex analysis) that includes effects of a 25% increase in volatility. Instead, the impact of automatic optionality, when it is negative, will be multiplied by 110% in accordance with the median impact of increases in volatility reported by institutions.
- c. In addition, just for the simplified SA on NII, there are further simplifications:
  - i. Regarding the cash flow slotting institutions will not be required to slot cash flows according to their original maturity, but instead can take the average original maturity for the entire product category.
  - ii. Regarding the empirical determination of commercial margins, only a breakdown into product categories will be required, without any geographic breakdown.
  - iii. Regarding the interest payments up to and including the repricing date (i.e., NII flows which are already fixed and its amount will not change due to interest rate changes), instead of aggregating interest payments for all instruments, an approximation can be made based on an estimate of the average interest rate and the outstanding notional values.

To support the objective that, in line with Article 84(5) of the CRD, the Simplified Standardised Approach is at least as conservative as the regular Standardised Approach, the EBA has tested the impact of the simplification regarding the slotting of NMDs as mentioned under point a) of the previous paragraph. The estimated impact on EVE and NII substantiate this expectation (see impact assessment).

### Overall conservatism of the SA compared to IMS

The EBA has developed the standardised approach with the objective of creating an accurate portrayal of risk under standardised, proportionate assumptions, which is as accurate as possible. However, a standardised methodology will not be able to capture each feature of individual risk and it is not intended to replace internal methods with standardised methodologies. Furthermore, supervisors could require institutions to use the standardised methodology to measure IRRBB if internal systems are not satisfactory. Therefore, an appropriate level of conservatism has to be assured, when applying the standardised methodology.

### Inclusion of fair value effects in the NII

The EBA is considering to include the effect of fair value changes resulting from interest rate changes in the NII supervisory outlier test. Accordingly, the EBA has included a component in the SA on NII measuring the fair value effect. In particular, the add-on would be based on a calculation similar to that for the EVE but would exclude instruments that are not fair valued. Moreover, cash flows that fall within the NII horizon would be excluded from the fair value calculation to avoid double counting.

### Inclusion of basis risk in the NII

The EBA has included a component in the SA on NII in accordance to which institutions are required to estimate and add the impact of basis risk (as in line with the requirement in the EBA Guidelines (EBA/GL/2018/02) for institutions to include basis risk in their assessment). This calculation, which forms an add-on to delta NII, is proposed to be mainly based on the notionals of floating rate instruments, and an upward and downward shock calibrated by institutions in a consistent manner.

## 4. Draft regulatory technical standards

# COMMISSION DELEGATED REGULATION (EU) .../...

of **XXX**

**supplementing Directive 2013/36/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying standardised and simplified standardised methodologies to evaluate the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution's non-trading book activities in accordance with 84(5) of Directive 2013/36/EU**

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

Having regard to Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, as amended by Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 and in particular the third subparagraph of Article 84(5) thereof,

Whereas:

- (1) The standardised methodologies to evaluate risks should be understood as specifying components and steps for institutions to apply in the calculation of reliable numerical estimates for the comparison of the economic value of equity and net interest income between a baseline scenario and interest rate shock scenario. This facilitates the need of institutions and supervisors to avail of reliable numerical estimates of institutions' exposures to interest rate risk in the banking book, for the performance of appropriate risk management and supervision.
- (2) To foster harmonisation of practices, when laying out the standardised methodology for the calculation of reliable estimates, this Regulation provides institutions with common definitions and components necessary for the evaluation including rules on the slotting of cash flows, the add-on calculations for automatic options, instruments valued at fair value, and the discounting and projection of cash flows
- (3) The specification of the general definitions, components and steps of the methodology builds upon those established in the EBA Guidelines<sup>4</sup> on the management of interest rate risk arising from non-trading book activities and those established in the standardised methodology of the Basel Committee on Banking Supervision of April 2016<sup>5</sup>.
- (4) Standardised assumptions should be prescribed where possible, in particular with regard to automatic options which should take into account that professional counterparties generally trigger options to their benefit. In situations where prescriptive assumptions cannot be made, as to do so could lead to risk assessments that lack accuracy, such as

<sup>4</sup> EBA/GL/2018/02 of 18 July 2018 ([link](#))

<sup>5</sup> "Interest rate risk in the banking book" of April 2016 available at: <https://www.bis.org/bcbs/publ/d368.htm>.

with retail client behaviour to interest rate shocks in the context of specific instruments, this Regulation should prescribe as much as possible the steps, definitions, and restrictions to estimations by the institutions.

- (5) To facilitate institutions implementation and in recognition of the fact that both economic value of equity and net interest income estimations can be based on repricing cash flows, both approaches should be based on the same rules regarding slotting in time buckets, apart from some exceptional cases where the objectives of net interest income require an additional slotting.
- (6) To strike the right balance between ensuring comparability of the results and providing the flexibility necessary due to the long-term horizon and the inherent operational complexity, this Regulation should set out that commercial margins and spread components that should be included in the calculation of the net interest income, but for the calculation of the economic value of equity, institutions should proceed in accordance with their internal management and measurement approach for interest rate risk in the non-trading book.
- (7) To enhance risk sensitivity and take into account institution specific conditions regarding behavioural outflows; assumptions underlying the cash flow slotting of non maturing deposits; term deposits subject to the risk of early redemption; and, loans subject to prepayment risk, should primarily be based on estimations of the institutions in a way that is consistently applied over time. However, to underline the standardised nature of the methodology, the conservatism of these behavioural flows should be enhanced by the multiplication by fixed scalars of 0.8 and 1.2, depending on the shock type. In addition, regarding non maturing deposits conservatism should be preserved by the implementation of standardised caps of 90%, 70% and 50% on the proportion of core component depending the counterparty category, and caps on average maturity on the core component of 5, 4.5, and 4 years.
- (8) To assure there is sufficient proportionality, for the purposes of performing the cash flow slotting, several estimations in the context of non maturing deposits; loans subject to prepayment risk; term deposits subject to the risk of early redemption; and, non performing exposures should be exempt if the materiality of these exposures fall below pre-defined thresholds.
- (9) For the discounting of cash flows in the calculation of economic value of equity, and for the projection of risk free interest income in the calculation of net interest income, in line with the standardised nature of the methodology and to facilitate institutions' implementation, this Regulation should not require neither a calculation of the discount rate nor the risk free forward rate, for each repricing cash flow.. Instead, the determination of the relevant rate should be performed for each repricing bucket, or combination of repricing and reference term bucket.
- (10) For the determination of commercial margins for the projection of new business in the calculation of net interest income, to produce estimates that are up to date, recent observations should be used per relevant product type, counterparty category and geographic location. This should generally be based on transactions observed in the last year, or based on observable market prices for the instrument with available market quotes.
- (11) To complement the economic value of equity metric, the outcomes of the standardised methodology on net interest income provide the most informational value if the net interest income horizon is set at 1 year. Against this background the 1 year horizon,

should be a minimum. However, the calculation of the interest sensitivity of net interest income over a longer horizon can often provide additional useful information for institutions with significant concentrations of maturities around or beyond the 1 year horizon.

- (12) To reflect that basis risk can have an impact on institutions' net interest income, and to build on existing practice established by EBA Guidelines on the management of interest rate risk arising from non-trading book activities, regarding expectations on institutions to evaluate this risk, a methodology for institutions to estimate the impact of basis risk should be provided.
- (13) The simplified nature of the simplified standardised methodology provides for the lower risk assessment capacities of the small and non-complex institutions. To reflect this various simplifications and conservative measures should be included in this simplified standardised approach. This should include a prescriptive, linear slotting of non-maturing deposit cash flows applying scenario dependant scalars to the core component; a simplified calculation of automatic optionality based on pay-outs; and, for the purpose of net interest income, a calculation of interest rates based on an average reference term per product type and average commercial margin per product type, as well as interest rate up to their reset date calculated with estimates of average interest rates.
- (14) This Regulation is based on the draft regulatory technical standards submitted to the Commission by the European Banking Authority.
- (15) EBA has conducted an open public consultation on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits and requested the advice of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010.

HAS ADOPTED THIS REGULATION:



CHAPTER I  
GENERAL PROVISIONS

*Article 1*  
*General definitions*

1. For the purposes of this Regulation, the following definitions apply:
- (1) ‘Notional repricing cash flow’ means:
    - (a) Any amount of the principal at the time of its repricing that is deemed to occur, either on the date at which the institution or its counterparty is entitled to unilaterally change the interest rate, or on the date at which the rate of a floating rate instrument changes automatically in response to a change in an interest rate benchmark as defined in Article 3(1)(22) of Regulation (EU) 2016/1011 of the European Parliament and of the Council, whichever the earliest;
    - (b) In the absence of repricing as referred to in (a), any principal amount at the time of repayment of the principal, either in its entirety or at a part of it;
    - (c) Any interest payment on a part of the principal that has not yet been repaid or repriced.
  - (2) ‘Repricing date’ means the date at which a notional repricing cash flow as defined in point (1) occurs.
  - (3) ‘Risk free interest rate’ means, for a given currency, the interest rate corresponding to a maturity on a yield curve that does not include instrument-specific or entity-specific credit spreads or liquidity spreads.
  - (4) ‘Fixed rate instrument’ means an instrument generating cash flows of interest payments that are pre-determined based on a fixed interest rate till the point of their contractual maturity.
  - (5) ‘Floating rate instrument’ means an instrument whose interest rate is reset at pre-determined dates on the basis of an interest rate benchmark as defined in Article 3(1)(22) of Regulation (EU) 2016/1011 of the European Parliament and of the Council of June 8th 2016 or on the basis of an institution’s internally managed index.
  - (6) ‘Automatic interest rate option’ means an option referred to in the second subparagraph of Article 325e(2) of Regulation (EU) No 575/2013, either explicit or embedded in another financial instrument, including an option under which the institution is likely to provide its counterparty with pay-outs yet absent of a contractual obligation (implicit option), where the pay-outs of the options are interest rate sensitive and the exercise of the option is purely driven by the monetary incentives of the option holder.
  - (7) ‘Geographical location’ means the country of incorporation of the debtor that is a legal entity or country of residence of the debtor that is a natural person

- (8) ‘Behavioural interest rate option’ means an option, referred to in the second subparagraph of Article 325e(2) of Regulation (EU) No 575/2013, either explicit or embedded in another financial instrument, including an option under which the institution is likely to provide its counterparty with pay-outs yet absent of a contractual obligation (implicit option), where the pay-outs of the options are interest rate sensitive and where the exercise of the option is not purely driven by the monetary incentive of the counterparty but is dependent on that counterparty’s behaviour. Retail non-maturity deposits, non-financial wholesale deposits referred to in Article 7, fixed rate loans to retail counterparties subject to the risk of early repayment as referred to in Article 8, term deposits to retail counterparties subject to the risk of early redemption as referred to in Article 9 and fixed rate loan commitments to retail counterparties referred to in Article 11(3) shall be positions with behavioural options.
- (9) ‘Non-maturity deposits’ means a liability without a maturity date, in which the depositor is free to withdraw the deposit at any point in time.
- (10) ‘Retail deposits’ means a deposit qualifying as retail deposit as defined in Article 411 (2) of Regulation 575/2013.
- (11) ‘Retail non-maturity deposits held in a transactional account’ means a retail non-maturity deposit in an account in which salaries, income or expenses (transactions) are regularly credited and debited or a retail non-maturity deposit which bears no interest even in a high interest rate environment.
- (12) “Retail non-maturity deposit held in a non-transactional account” means a retail non-maturity deposit that is not a retail non-maturity deposit held in a transactional account as defined in point (10).
- (13) ‘Wholesale deposits’ means a deposit which is not a retail deposit, including a deposit of a financial customer as defined in Article 411 (1) of Regulation (EU) 575/2013.
- (14) ‘Stable non-maturity deposits’ means the total amount of the part of the non-maturity deposit that is highly likely to remain undrawn, under the current level of interest rates.
- (15) ‘Pass-through rate’ means the percentage of change of the market interest rate assigned to the deposit to enable the institution to maintain the same level of stable deposits at the current level of interest rates.
- (16) ‘Core component of non-maturity deposits’ means the amount of a stable non-maturity deposit that is unlikely to reprice even under significant changes in the interest rate environment.
- (17) ‘Non-core component of a non-maturity deposit’ means the amount of the non-maturity deposit other than its core component. The non-stable part of a non-maturity deposit shall be a non- core component.
- (18) ‘Reference term’ means the period in reference to which the instrument reprices. For fixed rate instruments the reference term is their original maturity which is the time between the origination of the instrument and its contractual maturity date. For floating rate instruments, the reference term is the maturity term of the interest rate benchmark that the instrument refers to and not the remaining time to the next repricing date of the instrument.

## Article 2

### *Positions included in the evaluation*

1. In the absence of an internal system and for the purposes of identification, evaluation, management and mitigation of the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution's non-trading book activities, non-trading book positions in financial assets, liabilities and off-balance sheet items at least for each currency where they have a position that is material in accordance with Article 3(1) shall be included for evaluation under the standardised approaches (“positions”).
2. The positions referred to in paragraph 1 shall be, at least, the following:
  - (a) Interest rate derivatives;
  - (b) non-interest rate derivatives for which the cash flows are determined in total or in part, by referencing an interest rate;
  - (c) pension obligations and pension plan assets except where their interest rate risk is captured in another risk measure;
  - (d) Interest rate-sensitive assets, other than those referred to in points (a) to (c), which are not deducted from Common Equity Tier 1 capital;
  - (e) Interest rate-sensitive liabilities other than those referred to in points (a) to (c) and other than Common Equity Tier 1 and other perpetual instruments without any call dates, including non-remunerated deposits; Interest rate sensitive off-balance sheet items other than those referred to in points (a) to (c); and
  - (f) Small trading book positions referred to in Article 94 of Regulation (EU) No 575/2013, except where their interest rate risk is captured in another risk measure.

## Article 3

### *Materiality, time horizon, and shock scenarios*

1. A position shall be material, where the accounting value of assets or liabilities denominated in a currency amounts to at least 5% of the total non-trading book financial assets (excluding tangible assets as defined under Article 4(10) of Directive 86/635/EEC) or liabilities, or to less than 5% where the sum of financial assets or liabilities included in the calculation is lower than 90% of the total non-trading book financial assets (excluding tangible assets) or liabilities.
2. The net interest income shall be calculated for the purposes of this Regulation at a minimum on a time horizon of one year.
3. The remaining time up to the end of a net interest income horizon shall be the net interest rate horizon minus the relevant repricing mid points of the buckets referred to in Annex I, point 1.
4. Institutions shall classify shock scenarios into one of the following types:
  - (a) Parallel shocks, of which:
    - (i) A shock of increased interest rates in parallel across all maturities;

- (ii) A shock of decreased interest rates in parallel across all maturities.
- (b) A shock involving rotations to the term structure, of which:
  - (i) with a decrease of the interest rate at long-term maturities and increase of the interest rate at short-term maturities, leading to a flattening of the interest rate curve;
  - (ii) with an increase of the interest rate at long-term maturities and decrease of the interest rate at short-term maturities, leading to a steepening of the interest rate curve.
- (c) Uneven shocks, of which:
  - (i) A shock of increased interest rates that is greater at short-term maturities;
  - (ii) A shock of decreased interest rates that is greater at short-term maturities.

For the purposes of Articles 7(6), 7(7) and 9(5), the shock types in points (a.i), (b.i), and (c.i). shall be referred to as shocks prescribing an increase of short-term interest rates, and the shock types in points (a.ii), (b.ii), and (c.ii) shall be referred to as shocks prescribing a decrease of short-term interest rates.

For the purposes of Article 8(3), the shock types in points (a.i), (b.ii), and (c.i). shall be referred to as shocks prescribing an increase of interest rates, and the shock types in points (a.ii), (b.i), and (c.ii) shall be referred to as shocks prescribing a decrease of interest rates.

## *CHAPTER II*

### *STANDARDISED APPROACH ON ECONOMIC VALUE OF EQUITY*

#### *SECTION 1*

#### *ALLOCATION OF REPRICING CASHFLOWS*

##### *Article 4*

##### *General requirements for allocating repricing cashflows*

1. Institutions shall slot by repricing date, currency and type of shock scenario the notional repricing cash flows of their positions into the repricing time buckets laid down in Annex I, point 1, as follows:
  - (a) For fixed rate instruments in accordance with Article 5.
  - (b) For floating rate instruments in accordance with Article 6.
  - (c) For non-maturity deposits in accordance with Article 7.
  - (d) For fixed rate loans subject to the risk of early repayment in accordance with Article 8.
  - (e) For term deposits subject to early redemption in accordance with Article 9.
  - (f) For derivatives not subject to optionality in accordance with Article 10.
  - (g) For other instruments in accordance with Article 11.
2. Commercial margins and other spread components in interest payments in terms of their exclusion from or inclusion in the cash flows shall be treated in accordance with the

institutions' internal risk management and measurement approach for interest rate risk in the non-trading book. If commercial margins and other spread components are excluded, institutions shall (i) use a transparent methodology for identifying the risk-free rate at origination of each instrument; (ii) use a methodology that is applied consistently across business units; (iii) ensure that the exclusion of commercial margins and other spread components from the cash flows is consistent with how the institution manages and hedges IRRBB; and, (iv) notify their exclusion to the competent authority.

3. The impact on notional repricing cash flow deriving from an embedded optionality of an automatic interest rate option shall not be taken into account for the purposes of slotting referred to in paragraph 1. The notional repricing cash flows shall be slotted as if the embedded optionality does not exist.
4. The notional repricing cash flow deriving from an embedded optionality of a behavioural interest rate option shall be taken into account for the purposes of slotting referred to in paragraph 1.

#### **Explanatory box**

The slotting of repricing cash flows, referred to in paragraph 1 of Article 4 in accordance with the repricing time buckets of point 1 Annex I, lays the foundation for the calculation of EVE and NII. For illustration, the following instruments on the asset side of an institution's balance sheet would be slotted as follows:

- A EUR 10,000,000 fixed rate loan with a residual maturity of 1.5 months, with an annual payment of interest at a rate of 1.5%. Both the principal as well as the last interest payment are slotted in the 1M to 3M time bucket.
- A EUR 5,000,000 floating rate loan with a residual maturity of 12 years, but with the next interest payment / reset date to take place in 8 months time (the first upcoming interest payment is already determined at 1% but the ones after would depend on a benchmark). Both the principal as well as the fixed interest payment (EUR 50,000) are slotted in the 6M to 9M bucket.
- A EUR 2,500,000 fixed rate debt security with a residual maturity of 1 year and 11 months, with an annual interest payment of 1%. The principal is slotted in the 1.5Y<T≤2Y time bucket, the two interest payments are slotted in the 9M<T≤1Y time bucket and in the 1.5Y<T≤2Y one, respectively.

<b>ON</b>	<b>ON&lt;T≤1M</b>	<b>1M&lt;T≤3M</b>	<b>3M&lt;T≤ 6M</b>	<b>6M&lt;T≤9M</b>	<b>9M&lt;T≤1Y</b>	<b>1Y&lt;T≤1.5Y</b>	<b>1.5Y&lt;T≤2Y</b>
		10,150,000		5,050,000	25,000		2,525,000

#### *Article 5*

#### *Fixed rate instruments*

1. Cash flows deriving from interest payments of positions in fixed rate instruments shall be allocated by repricing date, following any deduction applied in accordance with Article 4(2), to the relevant time bucket referred to Annex I, point 1. Cash flows deriving from intermediate and final repayment of the principal of positions in fixed rate instruments shall be allocated by repricing date to the relevant time bucket referred to in Annex I, point 1.

#### *Article 6*

#### *Floating rate instruments*

1. Cash flows deriving from positions in floating rate instruments shall be allocated by repricing date into the relevant repricing time buckets referred to in Annex I, point 1, as follows:
  - (a) Cash flows deriving from interest payments other than payments of the spread component up to the next repricing date, as per the contractual agreement.
  - (b) The remaining principal amount, as per the contractual agreement.
  - (c) Spread components up to the final contractual maturity irrespective of any repricing of the non-amortised principal, except where they are excluded according to Article 4(2).

#### **Explanatory box**

The objective of Article 6 is to clarify the slotting of floating rate instruments. A key difference with fixed rate instruments is that the cash flow slotting tends to be earlier, typically at the time of the reset of the benchmark. An exception is the spread component, which tends to remain fixed till maturity of a floating rate instrument and is unaffected by the reset of the benchmark.

Regarding the maturity of the instrument, Article 6 sticks to the contractual maturity (mostly relevant for the spread component of paragraph 1(c)) abstracting from the effect of potential prepayments, which is considered less material for floating rate instruments. In particular, the understanding is that in the case of floating rate instruments, the level of the interest rate is expected to have no material impact on prepayments. Instead, it appears that prepayments for these instruments are mostly driven by factors not directly related to interest rates, such as unemployment, divorce, death, etc. This means that the level of expected prepayments for these instruments would not differ significantly between the baseline and a shock scenario, which implies that it would not significantly affect delta EVE and delta NII even though it could affect the level of EVE and the level of NII.

Respondents' views on the materiality of prepayments for floating rate instruments, and their underlying factors (interest rate related or mostly unrelated to interest rates such as unemployment, divorce, death, etc) would be welcome. In addition, to the extent the level of prepayment is unrelated to interest rates, views would be welcome on whether Article 6 should be changed to add a requirement that institutions estimate shorter maturities than the contractual ones, based on their estimates of prepayments. This would mostly affect the spread component, referred to in paragraph 1(c) for which the maturity is currently set at the final contractual maturity.

**Question 1:** What is the materiality of prepayments for floating rate instruments and what are the underlying factors? Would you prefer the inclusion of a requirement in Article 6 for institutions to estimate prepayments for these instruments?

## *Article 7*

### *Non-Maturity Deposits*

1. Institutions shall classify non-maturity deposits according to the counterparty as follows:
  - (a) Retail non-maturity deposits, further classified into:
    - (i) Retail transactional deposits; and
    - (ii) Retail non-transactional deposits;
  - (b) Wholesale non-maturity deposits, further classified into:
    - (i) Wholesale deposits of financial customers; and
    - (ii) Wholesale non-financial deposits.
2. Institutions shall distinguish the stable from the non-stable part of the retail transactional and non-transactional and the wholesale financial deposits referred to in paragraph 1 using observed changes of the volume of the deposits due to upward and downward movements of the risk-free interest rate for a period of at least the preceding ten years.
3. Institutions shall further distinguish the stable part of the non-maturity deposits referred to in paragraph 1 into a core and a non-core component.
4. To determine the amount of the non-core component of the stable deposits, institutions shall multiply the amount of all stable deposits by the pass through rate.
5. When assessing the pass-through rate, institution shall consider the following elements also having regard to positions having similar characteristics:
  - (a) The current level of interest rates, the spread between an institution's offer rate and market rate, competition from other firms, the institution's geographical location and demographic and other relevant characteristics of its customer base.
  - (b) The unlikely repricing of the core component even under significant changes in the interest rate environment.
6. In scenarios prescribing an increase of short-term interest rates as referred to in Article 3(4), the core component calculated in accordance with paragraph 4 and 5 shall be multiplied by 0.8 and the non-core component shall increase accordingly.
7. In scenarios prescribing a downward movement of short-term interest rates as referred to in Article 3(4), the core component calculated in accordance with paragraphs 3 to 5 shall be multiplied by 1.2 and the non-core component shall decrease accordingly.
8. Institutions shall apply the following caps on the proportion of the core component of the non-maturity deposits when implementing paragraphs 3 to 7:
  - (a) 90%, for retail transactional non-maturity deposits referred in paragraph 1(a)(i);
  - (b) 70%, for retail non-transactional non-maturity deposits referred in paragraph 1(a)(ii);

- (c) 50%, for non-financial wholesale non-maturity deposits referred in paragraph 1(b)(ii).
9. Institutions shall treat all non-maturity wholesale deposits of financial customers, as referred to in paragraph 1(b)(i) of this Article, as non-core non-maturity deposits.
10. The non-core component of the non-maturity deposits shall be allocated into the repricing time bucket (a) of Annex I, point 1.
11. The core components of the non-maturity deposits shall be allocated consistently over time into the repricing time buckets referred to in Annex I, point 1, based on observed internal data and subject to the following maturity restrictions calculated on a weighted average basis:
- (a) 5 years, for non-maturity deposits referred in paragraph 1(a)(i);
  - (b) 4.5 years, for non-maturity deposits referred in paragraph 1(a)(ii);
  - (c) 4 years, for non-maturity deposits referred in paragraph 1(b)(ii).
12. Institutions shall identify non-maturity deposits as non-core deposits if the total of non-maturity deposits is smaller than 2% of the positions referred to in Article 2(2) that are accounted for as a liability in accordance with the applicable accounting framework.

#### **Explanatory box**

The objective of Article 7 is to make sure that institutions perform a slotting of non-maturing deposits, based on their own estimation, under several standardisation rules, with as a result a reasonably conservative outcome. A key provision is specified in paragraph 2, under which institutions should separate stable from non-stable deposits based on periods of upward and downward movements in the risk-free interest rate covering at least the past 10 years. For example if the institution has non maturing deposits of 100,000,000 it may find that 70,000,000 are stable.

Subsequently, in accordance with paragraph 3, the institution has to consider how much of the EUR 70,000,000 of stable deposits are core deposits, taking into account the pass-through rate. If it for example institution estimates it would raise the product rate for the EUR 70,000,000 in stable deposits by +40bp in case a +100bp increase in the market interest rate, then 40/100 (or EUR 28,000,000) of the EUR 70,000,000 would be added to the non-core, resulting into a core amount of EUR 42,000,000 for the baseline scenario.

In accordance with paragraph 6 and 7, the institution should multiply this core amount by 0.8, leading to  $0.8 \times 42,000,000 = \text{EUR } 33,600,000$  in case of a shock scenario with a significant increase of short-term interest rates. Conversely, the institution should multiply this core amount by 1.2, leading to  $1.2 \times 42,000,000 = \text{EUR } 50,400,000$  in case of a shock scenario with a significant decrease of short-term interest rates. The outcome of the core amount is capped at the amount of stable deposits.

**Question 2:** Do respondents find that the required determination of stable/non-stable deposits, and core/non-core deposits as described in Article 7 is reflective of the risks and operationally implementable? In case of any unintended consequence or undesirable effect on certain business models or specific activities, please kindly provide concrete examples.



## Article 8

### *Fixed rate loans subject to the risk of early repayment*

1. Fixed rate loans to retail customers shall be considered as subject to the risk of early repayment, where the borrower has the ability to prepay part or all of the outstanding principal before the contractually agreed repayment date or the contractual maturity date of the principal without bearing the economic costs for such repayment. Where a borrower is bearing the economic cost only above a certain prepayment threshold, the loan shall be considered as a fixed rate loan subject to the risk of early repayment.
2. Institutions shall determine and apply in a way consistent over time and appropriate for the estimation of an average prepayment rate, a baseline annual conditional prepayment rate per currency for the positions referred to in paragraphs 1 and 7. That rate shall be distinct for each portfolio of homogeneous positions and shall be determined under the prevailing term structure of interest rates based on all available internal observations. The prepayment rate may be set at 0, where the total of the fixed rate loans referred to in paragraph 1 and 7 is less than 2% of the positions referred to in Article 2(2) that are accounted for as an asset in accordance with the applicable accounting framework.
3. Institutions shall adjust the conditional prepayment rate calculated in accordance with paragraph 2 to the shock scenarios. In scenarios prescribing an increase in interest rates as referred to in Article 3(4), the conditional prepayment rate shall be multiplied by 0.8. while in scenarios prescribing a decrease in interest rates as referred to in Article 3(4), the conditional prepayment rate shall be multiplied by 1.2.
4. For each repricing time bucket of Annex I, point 1 the expected amount of prepaid loans per time bucket shall be estimated by multiplying:
  - (a) the outstanding amount of the fixed rate loans referred to in paragraph 1 of a certain homogeneous product type denominated in a certain currency. Amounts matured or prepaid at a time earlier than the lower limit of the time bucket shall not be regarded as outstanding amounts; by
  - (b) the appropriate time-weighted conditional prepayment rate, defined as the conditional prepayment rate in accordance with paragraph 2, multiplied by the length of the applicable time bucket specified in Annex I, point 2 and adjusted in accordance with paragraph 3.
5. The prepaid amount of the fixed rate loans referred to in paragraph 1 shall be allocated into the appropriate time buckets of Annex I, point 1, any part of their repricing cash flows that is not expected to be prepaid shall be allocated into the repricing time buckets referred to Annex I, point 1 on the basis of the contractual repayment schedule for the duration of their contractual maturity.
6. Fixed loans to wholesale customers, where the borrower has the ability to prepay part or all of the outstanding principal before the contractually agreed repayment date or the contractual maturity date of the principal shall not fall under this Article but shall be treated in accordance with Articles 5 and 12.
7. Where the institution is exposed to assets in the form of securities with underlying instruments in the form of loans referred to in paragraph 1 and the issuer of those assets has no obligation to replace the loans in the case of their early repayment, a look-through approach shall be applied and the positions in those assets shall be evaluated in accordance

with paragraph 1 irrespective of whether the counterparty of the institutions is a wholesale or retail customer.

**Explanatory box**

The objective of Article 8(5) is to obtain – in accordance with the standardised approach published by Basel – a linear application of the conditional prepayment rate (CPR) in accordance with the length of each time bucket, with each prepayment to be slotted in the time bucket when it occurs. As an example, in case of fixed rate loans subject to prepayment risk (assumption: institution has only 1 homogeneous portfolio of EUR 1m in mortgages with a 5 year residual maturity with 3% annual CPR based on historic evidence) then in the O/N to 1 month time bucket roughly 1/12<sup>th</sup> of the 3% (i.e. about 0.25%) CPR needs to be applied to the outstanding amount (i.e. EUR 1 million). This leads to a prepayment to be slotted in the O/N to 1 month time bucket of EUR 2,500 (0.25 x 1,000,000). For the 1 month to 3 month time bucket (which equates to roughly 2/12<sup>th</sup> of the 3% CPR, namely 0.50%) the prepayment is 0.50% of EUR 997,500 namely EUR 4,988 (which leads to a remaining outstanding of 992,512 at the start of the next bucket) and so on.

Regarding paragraph 7, particularly for exposures to securitisation, it could be considered if appropriate, subject to respondents' input, to introduce a treatment similar to that of the EBA GL on the methodology to determine weighted average maturity which refers to the historical prepayment rate of the asset class observed over the last 5 year in the country in which the assets were originated.

*Article 9*

*Term deposits subject to the risk of early redemption*

1. Fixed rate term deposits shall be considered as term deposits with the risk of early redemption, where they are retail deposits and the depositor holds the option to redeem any outstanding amount before the contractual maturity date of the deposit.
2. Term deposits referred to in paragraph 1, whose early withdrawal would result in a penalty to the customer compensating both for the loss of interest between the date of the deposit's redemption and the date of its contractual maturity and for the economic cost of redeeming the deposit, may be treated in accordance with Article 5 and not in accordance with paragraph 1.
3. Wholesale fixed rate term deposits shall not fall under this Article and shall be treated under Article 5. Where the wholesale depositor holds the option to redeem any outstanding amount before the contractual maturity date of the deposit and the conditions referred to in paragraph 2 are not met, the option shall be treated as an embedded automatic option in accordance with Article 12.
4. Institutions shall determine, in a way that is consistently applied over time and which is suitable for the estimation of an average early redemption rate, a baseline cumulative term deposit redemption rate for term deposits referred to in paragraph 1. The rate shall be determined distinctively for each portfolio of homogeneous products denominated in a currency, under the prevailing term structure of interest rates, based on all available internal observations. The rate may be set at 0, where the total of term deposits referred to paragraph 1 is smaller than 2% of the positions referred to in Article 2(2) that are accounted for as a liability in accordance with the applicable accounting framework.

5. Institutions shall adjust the term deposit redemption rates determined in paragraph 4 to the shock scenarios. In scenarios prescribing a decrease of the short-term interest rates as referred to in Article 3(4), the redemption rate shall be multiplied by 0.8. In scenarios prescribing an increase of the short-term interest rates as referred to in Article 3(4), the redemption rate shall be multiplied by 1.2.
6. Institutions shall obtain the expected amount of early redeemed term deposits, per time bucket in Annex I, point 1, by the multiplication of:
  - (a) the term deposits referred to in paragraph 1 of a certain homogeneous product type denominated in a certain currency with
  - (b) the appropriate cumulative term deposit redemption rate adjusted in accordance with paragraph 5.
7. The total amount of the early redeemed term deposits shall be obtained by the aggregation of the early redemption amounts by time bucket in accordance with paragraph 6, for all time buckets and sets of homogeneous product types. The expected early redeemed amounts shall be allocated in the time bucket (a) of Annex I, point 1. The parts of the cash flows of the term deposits referred to in paragraph 1 not expected to be redeemed early shall be allocated in accordance with their contractual maturity into the time buckets of Annex I, point 1.

#### **Explanatory box**

The objective of Article 9(7) is to obtain – in accordance with the standardised approach published by Basel – an application of the term deposit redemption rate on a cumulative basis, with all early redemptions to be slotted in the overnight time bucket. As an example, in case of a term deposits subject to the risk of early redemption (assumption: the institution has EUR 1 million in term deposits that are homogeneous with a 5 year residual maturity with 3% annual TDRR based on historic evidence) then the estimated Term Deposit Redemption Ratio needs to reflect the cumulative amount of early redemptions that would happen over the 5 years. For example if over 5 years the early redemptions accumulate to 10% of the initially outstanding amount, then 10% of the current outstanding amount would need to be slotted in the overnight bucket

**Question 3:** Do respondents find that the required determination and application of a conditional prepayment rate and term deposit redemption rate as described in Article 8 and 9 is reflective of the risks and operationally implementable? In case of any unintended consequence or undesirable effect on certain business models or specific activities, please kindly provide concrete examples.

### *Article 10*

#### *Derivatives not subject to optionality*

1. Derivative instruments not subject to optionality shall be separated into a paying and a receiving leg.
2. The receiving leg of a derivative instrument shall be treated as an incoming cash flow, the paying leg of a derivative instrument shall be treated as an outgoing cash flow.

3. Cross-currency interest rate swaps involving swapping principal or interest in different currencies shall be treated separately for each leg in each currency.
4. Institutions shall treat the interest income and expenses of derivative instruments used for hedging separately the income and expenses deriving from the hedged position.

### *Article 11*

#### *Other instruments*

1. The cash flow of non-performing exposures of an institution whose non-performing exposure ratio equals or exceeds 2%, shall be allocated net of provisions, reflecting their expected cash flows and their timing, into the repricing time buckets of Annex I, point 1 in way that it is consistently applied over time.
2. For the purposes of paragraph 1, non-performing exposures shall be determined by non-performing debt securities, loans and advances. The non-performing exposures ratio shall be calculated as the amount of non-performing exposures divided by the amount of total gross debt securities, loans and advances.
3. In the case of fixed rate loan commitments to retail counterparties, institutions shall estimate, taking into account the value of the contract for the counterparty in the baseline and shock scenarios and based on historical internal observations of drawings on fixed rate loan commitments by the type of the counterparty under similar conditions, amounts to be drawn and undrawn in both scenarios. Estimated drawn amounts shall be allocated, in accordance with the estimated time of the drawing, into the repricing time buckets of Annex I, point 1.

#### **Explanatory box**

Article 11(3) clarifies the treatment for fixed rate loan commitments to retail counterparties, which for the purposes of this regulation are considered to be an option. In line with the Basel framework, given that with retail counterparties it is less straightforward that a fixed rate loan commitment will be drawn in case of specific interest rate scenarios, than with wholesale counterparties, this Regulation treats it as a behavioural option. In this context, institutions need to estimate the likelihood of drawings to be made, particularly using historic observations on previous circumstances (after an increase of interest rates) where the fixed rate committed to the retail client had become particularly attractive.

As defined in Article 1(1)(8) only a subset of instruments with optionality are treated as behavioural optionality. For example, in line with the Basel framework, the optionality for fixed rate loan commitments to wholesale counterparties shall always be stripped out and treated as an automatic option, in which an exercise is automatically assumed to take place in case the interest differential would be positive from the client's perspective.

In this context, respondents are invited to consider whether, in the case of retail counterparties, there would be further (specifically off-balance sheet) instruments/options where it would be more appropriate that the institutions would work with a behavioural estimate, such as in Article 11(3), instead of following the default treatment of optionality in the form automatic options (Article 12, 14, and 15).

**Question 4:** Is the treatment of fixed rate loan commitments to retail counterparties clear and are there other instruments with retail counterparties where a behavioural approach to optionality should be taken?

## SECTION 2

### ADD-ONS FOR THE CALCULATION OF STANDARDISED APPROACH ON ECONOMIC VALUE OF EQUITY

#### Article 12

##### *Economic value of equity add-on for automatic interest rate options*

1. Institutions shall calculate the economic value of equity add-on for the explicit and embedded automatic sold and bought interest rate options of their positions referred to in Article 4(3).
2. In case of bought automatic interest rate options, the institution shall determine the change in value of the option between the applicable interest rate shock scenario and the baseline scenario combined with a relative increase in the implicit interest rate volatility of 25%.
3. In case of sold automatic interest rate options, institutions shall calculate the value change for the applicable interest rate shock scenario compared to the baseline scenario. The value change shall be the difference between:
  - (a) an estimate of the value of the option for the option holder, given:
    - (i) a risk-free yield curve in the applicable currency under the applicable interest rate shock scenario; and
    - (ii) a relative increase in the implicit interest rate volatility of 25%;
  - (b) the value of the sold option for the option holder, on the basis of the non-shock yield curve in the applicable currency at the valuation date.
4. Institutions shall calculate the total measure for automatic interest rate option risk, as a result of an interest rate shock scenario in a currency as the difference between the values calculated in accordance with paragraph 2 and 3.
5. For the valuation required in paragraph 2 and 3, institutions shall apply their relevant internal valuation methods.

#### **Explanatory box**

Article 12 regarding the calculation of the impact on economic value of equity related to automatic optionality is based on the treatment in the Basel standardised approach. The starting point is that the institution performs a full revaluation of the value of its options to calculate the difference in values between the shock and baseline scenario. In this recalculation it is required that institutions can estimate the implicit volatility and are able to increase it by 25% under the shock scenario.

**Question 5:** Do respondents find that the required determination of the impact of a 25% increase in implicit volatility as described in Article 12 is operationally implementable?

*CHAPTER III*  
*COMPONENTS OF THE NET INTEREST INCOME FRAMEWORKS*

*SECTION 1*  
*ALLOCATION OF REPRICING CASHFLOWS*

*Article 13*  
*Specific requirements for allocating repricing cash flows*

1. For the allocation of repricing cash flows for the calculation of the net interest income, Articles 4 to 11 shall apply with the following derogations:
  - (a) In derogation from Article 4(2), institutions shall include in interest payments the commercial margins and other spread components.
  - (b) In addition to the allocation of the notional repricing cash flows referred to in Articles 5, 8, 9 and 11 into the repricing time buckets referred to in those Articles, institutions shall allocate those cash flows into the reference term time buckets of Annex I, point 3. Notional repricing cash flows that are interest payments shall assume the reference term of the instrument that generated them.
  - (c) In addition to the allocation of the notional repricing cash flows referred to in Articles 6 and 7 into repricing time buckets referred to in those articles, institutions shall allocate those cash flows into the reference term time buckets of Annex I, point 3 (a).
  - (d) Fixed legs of derivative instruments referred to in Article 10 shall be treated under point (b). Floating legs of derivative instruments referred to in Article 10 shall be treated under point (c).

**Explanatory box**

The additional slotting of repricing cash flows, for the purposes of the standardised approach on net interest income, as referred to in paragraph 1(b) of Article 13 will in practice lead to a matrix of cash flows, which will allow for an efficient projection of the risk free component as specified in Article 17. The horizontal axis is the same as the one highlighted in the explanatory box for Article 4, however the vertical axis it reflects the additional dimension of the reference term (in accordance with the slotting of point 3 of Annex I).

If we take the same transactions as for the previous explanatory box, the slotting of the cash flows can be as follows taking into account further illustrative information:

- The EUR 10,000,000 fixed rate loan has an original maturity (when it was originated) of 10 years. This means that the institution should slot the full amount (including the interest payment) in the 9 year to 10 year reference term time bucket on the vertical axis. This will make sure that the reinvestment in the NII projection of Article 16 will be based on lending with a 10 year maturity (and also remunerated accordingly).
- The EUR 5,000,000 floating rate loan will be put in the up to 1 year reference term bucket. While the maturity of this instrument was 15 years at origination, and the residual maturity is 12 years, the fact that this is a floating rate instrument leads to the slotting in this reference

term time bucket. In this regard it is to be noted that for floating rate instruments a generic reference term of one year has been assumed, as floating rate instruments with benchmarks referencing longer tenors than one year are deemed to be uncommon.

- The interest payment of EUR 25,000 on the EUR 2,500,000 fixed rate debt security will be slotted in the 4 to 5 years reference term time bucket on the basis that the instrument had a 5 year maturity at origination. It is to be noted that no reference rate bucket need to be assigned to the principal amount payment regarding this instrument, as it takes place beyond the NII horizon (assumed to be 1 year in this example).

ON	ON<T≤1M	1M<T≤3M	3M<T≤ 6M	6M<T≤9M	9M<T≤1Y
T≤1Y				5,050,000	
1Y<T≤1.5Y					
1.5Y<T≤2Y					
2Y<T≤3Y					
3Y<T≤4Y					
4Y<T≤5Y					25,000
5Y<T≤6Y					
6Y<T≤7Y					
7Y<T≤8Y					
8Y<T≤9Y					
9Y<T≤10Y		10,150,000			
10Y<T≤15Y					
15Y<T≤20Y					
20Y<T≤30Y					
30Y<T					

**Question 6:** Do respondents find that the required slotting of repricing cash flows in accordance with the second dimension of original maturity/reference term as described in Article 13 is operationally implementable?

## SECTION 2

### OPTIONALITY ADD-ONS FOR THE CALCULATION OF STANDARDISED APPROACH ON NET INTEREST INCOME

#### Article 14

*Net interest income add-on for automatic interest rate options up to the net interest income horizon*

1. To calculate the net interest income add-on for explicit and embedded automatic interest rate options up to the net interest income horizon, Article 12 shall apply with the following derogations:

EN

- (a) automatic options that can only be exercised beyond the net interest income horizon shall be excluded from the calculation;
- (b) the relative increase in implicit volatility shall be disregarded for the purposes of this calculation;
- (c) the value referred to in Article 12(2) and (3) shall be calculated on the basis of pay-outs expected in the baseline and shock scenarios;
- (d) in derogation from Article 12(2) and (3), the instruments vis-a-vis retail and non-retail counterparties, whose optionality/non-linearity is automatically activated, shall be assumed to be rolled over with comparable characteristics up to the end of the net interest income horizon referred to in (a).

**Explanatory box**

Article 14 specifies the calculation of net interest income regarding automatic options regarding maturities below the horizon (of 1 year as a minimum under this RTS). Since the instruments under Article 14 mature within the NII horizon, which means that the ultimate pay-outs associated with these instruments should all realise (or not if not in the money).

Note that in case where an automatic option is accounted for at fair value and mature beyond the net interest income horizon, they should additionally be subject to the treatment in Article 15.

An example of an option treated under Article 14 is a swaption (fair valued or not fair valued) with an exercise date in 10 months (assuming a 1 year NII horizon). Another example is a floor embedded in a non-maturing deposit that is slotted in the overnight repricing time bucket. For the latter example, as clarified in point (d) of Article 14(1), it should be assumed that the floor applies throughout the year up to the end of the NII horizon (offsetting to some extent projections under Article 17 which by design does not take into account effects of automatic optionality).

*Article 15*

*Net Interest Income add-on for automatic interest rate options held at fair value and maturing beyond the net interest income horizon*

To calculate the net interest income add-on for automatic interest rate options held at fair value and maturing beyond the net interest income horizon, institutions shall apply Article 12.

**Explanatory box**

The objective of this Article is to add the impact of shocks in the interest rate scenarios on fair valued options that may affect the net interest income. Since options that are fair valued tend to return to a fixed amount at maturity (zero if out of the money and a deterministic positive number if in the money), Article 15 only focuses on fair value options that mature beyond the horizon for the calculation of net interest income (1 year in this example).

An example would be a (fair valued) swaption with a exercise date in 1 year and 3 months. In accordance with the steps in Article 12, institutions should take the difference in the discounted value (to t=0) of this instrument between the shock and baseline scenario.



## CHAPTER IV

### CALCULATION OF THE STANDARDISED ECONOMIC VALUE OF EQUITY RISK MEASURE

#### Article 16

##### *Economic value of equity and delta economic value of equity calculation*

1. Institutions shall calculate the economic value of equity for the baseline and the shock scenario in each currency in accordance with paragraphs 2 to 4. The change in the economic value of equity shall be calculated in accordance with paragraphs 5 and 6.
2. Institutions shall allocate the notional repricing cash flows referred to in Articles 5 to 11 into the repricing time buckets referred to in those articles with the following further specifications:
  - (a) all positive and negative notional repricing cash flows within a repricing time bucket shall be netted, forming a net long or net short position for each repricing time bucket;
  - (b) incoming cash flows shall have a positive sign and outgoing cash flows shall have a negative sign.
3. Net notional repricing cash flows shall be discounted towards a present value by using a discount factor. The discount factor  $DF_{i,c}(t_k)$  shall be calculated from the spot zero interest rate  $R_{i,c}(t_k)$  at the bucket mid-point for the respective scenario  $i$  and currency  $c$  multiplied by the bucket mid-point  $t_k$  as
$$DF_{i,c}(t_k) = \exp(-R_{i,c}(t_k) * t_k)$$
4. Institutions shall sum up the discounted net repricing cash flows across all repricing time buckets, to determine the economic value of equity for the baseline and the shock scenario, for each currency.
5. The change in the economic value of equity shall be calculated by subtracting the economic value of equity in the baseline scenario from the economic value of equity in the shock scenario, and by adding the change of the value of the explicit and embedded automatic interest rate option calculated in accordance with Article 12.
6. When calculating the aggregate change for each shock scenario, institutions shall add together any negative and positive changes occurring in each currency. Positive changes shall be weighted by a factor of 50% or by a factor of 80% in the case of Exchange Rate Mechanism - ERM II currencies with a formally agreed fluctuation band narrower than the standard band of +/- 15% to offset losses in EUR. Where the absolute value of 80% of the ERM II currency gains is larger than the absolute value of the EUR loss, a factor of 50% shall apply to positive changes in ERM II currencies.

## CHAPTER V

### CALCULATION OF THE STANDARDISED NET INTEREST INCOME RISK MEASURE

## Article 17

### Projected yield of risk free component

1. For the purposes of calculating the contribution to net interest income of the projected risk free yield on the reinvestment or refinancing of repricing cash flows, institutions shall, for each currency and scenario, determine a table of forward rates representative of the risk free component of interest rates that is expected to be applied to risk free loans starting at the repricing mid points of buckets referred to in Annex I, point 4, and with maturities corresponding to the reference term bucket mid points referred to in Annex I, point 3.
2. Institutions shall determine the forward rates referred to in paragraph 1 in accordance with the following formula:

$$FWD_{i,c}(t_k, t_k + REF_j) = - \frac{\ln [DF_{i,c}(t_k + REF_j) / DF_{i,c}(t_k)]}{REF_j}$$

where:

$t_k$  is the midpoint of repricing bucket  $k$

$REF_j$  is the midpoint of reference term bucket  $j$

$FWD_{i,c}(t_k, t_k + REF_j)$  is the forward rate for the respective scenario  $i$  and for currency  $c$  for a risk-free loan starting at the midpoint of repricing bucket  $k$  and maturing at the midpoint of reference term bucket  $j$

$DF_{i,c}(t_k)$  is the discounting factor for the respective scenario  $i$  and for currency  $c$  and time  $t_k$  as referred to Article 16(3).

3. Institutions shall determine the applicable risk free interest rate, for each combination of a repricing bucket midpoint with a reference term bucket midpoint, by multiplying the forward rates of paragraph 1 with the remaining time up to the end of the time horizon of the net interest income calculation set out in Article 3(3). The remaining time up to the end of a net interest income horizon shall be the net interest income horizon minus the relevant repricing mid points of the buckets referred to in Annex I, point 1.
4. Institutions shall calculate the contribution to the net interest income of the projected risk free interest rate on the reinvestment or refinancing of repricing cash flows by multiplying the notional repricing cash flows referred to in Articles 5 to 11, allocated in accordance with Article 13(1) (b) and (c), with the contribution of the corresponding applicable risk free interest rate calculated in accordance with paragraph 3.

#### Explanatory box

The approach followed in this Article relies on the double slotting of repricing cash flows, first in accordance with the repricing date (in accordance with the slotting of point 1 of Annex I) and secondly in accordance with the reference term (in accordance with the slotting of point 3 of Annex I). In practice this is expected to lead to a matrix of cash flows as explained in the explanatory box of Article 13).

As a first step, as specified in paragraph 1, the institution should calculate forward rates taking into account the midpoints of each time bucket. For example, to allow for an accurate projection of risk free interest income on the reinvestment of the EUR 10,150,000 of the previous scenario that is set to mature in the 1 to 3 month repricing time bucket and the 9 to 10 year reference term time

bucket, it is necessary to estimate what (forward) rate would apply at the midpoint of the 1 to 3 month repricing bucket (i.e. in 2 months time). The rate should represent a term equalling the midpoint of the 9 to 10 year reference term time bucket (i.e. 9 years and 6 months). This means that the institution would need to calculate the risk-free forward rate for a loan that starts in 2 months and matures in 9 years and 8 months. Let's, for illustrative purposes, assume that this risk free forward rate is 1.5% per year.

As a second step, as specified in paragraph 3, the institution needs to take into account the time up to the end of the NII projection horizon (i.e. 1 year if the minimum NII horizon is selected). This is specified in Art 4(3) and for the repricing time bucket of 1 to 3 months this is 10 months (or 10/12 years). For the calculation of the interest rate contribution of the risk free yield of EUR 10,150,000 this means that the institution needs to adjust the 1.5% annual rate downwards to approximately  $10/12 \times 1.5\% = 1.25\%$ .

As a third step, as specified in paragraph 4, the institution should therefore calculate the risk free component of the net interest income projection for the EUR 10,150,000 to be  $10,150,000 \times 1.5\% \times 10/12 = \text{EUR } 126,875$  approximately.

It is to noted that since this RTS aims to calculate the impact of shocks to the risk-free rate, the calculation of Article 16 regarding the risk-free component needs to be performed not just under the baseline scenario but also shock scenarios.

ON	ON<T≤1M	1M<T≤3M	3M<T≤ 6M	6M<T≤9M	9M<T≤1Y
T≤1Y					
1Y<T≤1.5Y					
1.5Y<T≤2Y					
2Y<T≤3Y					
3Y<T≤4Y					
4Y<T≤5Y					
5Y<T≤6Y					
6Y<T≤7Y					
7Y<T≤8Y					
8Y<T≤9Y					
9Y<T≤10Y			1.50%		
10Y<T≤15Y					
15Y<T≤20Y					
20Y<T≤30Y					
30Y<T					

### Article 18

#### *Projected income from the commercial margin component*

1. Institutions shall calculate the contribution to the net interest income of the projected commercial margin on the reinvestment or refinancing of repricing cash flows of the instruments referred to in Articles 5 to 9 by allocating these cash flows at the reset of commercial margins, and by estimating the applicable commercial margin rate and the remaining time up to the end of the net interest income horizon.

2. The allocation referred to in paragraph 1 shall be performed in the repricing time buckets referred to in Annex I, point 4 in accordance with Articles 5 to 9. By way of derogation from Article 6, in the case of floating rate instruments the part of repricing cash flows constituting a principal amount shall be allocated in accordance with its final contractual maturity date.
3. To calculate the contribution of the projected commercial margin on the reinvestment of repricing cash flows to the net interest income, institutions shall allocate the evaluated positions into the following product types further divided by geographical location), and currency denomination:
  - (a) The product types of financial assets shall be:
    - (i) Debt Securities
    - (ii) Loans and advances – Non Financial Corporates
    - (iii) Loans and advances - Households - Mortgages
    - (iv) Loans and advances - Households – Credit (non-mortgage)
    - (v) Loans and advances – other counterparties
    - (vi) Other products in the non-trading book
  - (b) The product types of financial liabilities shall be:
    - (i) Deposits – Non Financial Corporates
    - (ii) Deposits – Households
    - (iii) Deposits – other counterparties
    - (iv) Debt securities
    - (v) Other liabilities in the non-trading book
4. To determine the commercial margin rate referred to in paragraph 1, institutions shall apply the following:
  - (a) In case of instruments traded in deep and active liquid markets where the value of the instrument is capable of being determined on the basis of widely disseminated and easily available market prices, the commercial margin rate shall be determined on the basis of the market price and the interest payments of the instrument with a deduction of the risk-free rate.
  - (b) In case of other instruments, the commercial margin rate shall be determined by the weighted average of commercial margins received or paid in transactions during the last 360 days, having regard to the product type, geographical location and currency denomination referred to in paragraph 3. In the absence of such transactions, the commercial margin rate shall be determined on the basis of assumptions relying on margins received or paid in comparable portfolios.
5. The commercial margin rate determined in accordance with paragraph 4 in the baseline scenario shall also apply in a shock scenario.
6. To take into account the remaining time in the net interest income horizon, institutions shall determine the percentage of commercial margin yield by multiplying the commercial margin calculated in accordance with paragraph 4 by the remaining time up to the end of the net interest income horizon. The remaining time up to the end of a net interest income

horizon shall be the net interest income horizon minus the relevant repricing mid points of the buckets referred to in Annex I, point 1.

7. Institutions shall determine the contribution to the net interest income of the projected commercial margin on the reinvestment or refinancing of repricing cash flows by multiplying the cash flows calculated in accordance with paragraph 2 by the applicable commercial margin yield referred to in paragraph 6.

#### **Explanatory box**

The objective of Article 18 is to calculate the contribution to net interest income of projected commercial margin on the reinvestment or refinancing of notional repricing cash flows occurring within the net interest income horizon (assumed to be 1 year in this example).

Regarding the notional repricing cash flows it needs to be taken into account, in accordance with paragraph 2 of Article 18, that commercial margins reprice at a different time than the risk free part of the interest payment for floating rate instruments. In particular, it appears common that the commercial margin remains fixed till the maturity of the floating rate instrument, whereas the risk-free component is reset at regular intervals.

As an example, regarding the transactions from the explanatory box in Article 1, for the purposes of Article 18, the principal amount of the floating rate instrument of EUR 5,000,000 would have to be re-allocated to the 10 to 15 year repricing time bucket (i.e. outside of the 1 year net interest income horizon in this example). In contrast, the EUR 50,000 interest payment associated with the instrument should remain as it would in reality be reinvested with a new commercial margin. This leads to the following:

<b>ON</b>	<b>ON&lt;T≤1M</b>	<b>1M&lt;T≤3M</b>	<b>3M&lt;T≤ 6M</b>	<b>6M&lt;T≤9M</b>	<b>9M&lt;T≤1Y</b>
		10,150,000		<del>5,050,000</del>	25,000
				50,000	

For the purposes of paragraph 3 of Article 18, institutions should separate the amounts by the applicable category of product, geographic breakdown, and currency breakdown. This will then allow them to apply the commercial margins appropriate for the relevant categories.

The remaining steps for the institution, as specified in paragraph 6, are to take into account the time up to the end of the NII projection horizon (i.e. 1 year in this example), and, as specified in paragraph 7, to calculate the commercial margin component of the net interest income.

This calculation makes the simplifying assumption that changes of commercial margins are not significantly correlated with interest rate changes. Hence, apart from slotting regarding items subject to behavioural optionality (Article 7, 8 and 9) the outcome of the calculation for shock scenarios should be the same as for non-shock scenarios.

#### *Article 19*

##### *Interest payments or part of interest payments that occur up to and including their reset date*

1. To determine the contribution to the net interest income of interest payments occurring up to the repricing date including that date, institutions shall additionally allocate exclusively these interest payments of the instruments referred to in Articles 5 to 11 into the repricing

time buckets referred to in Annex I, point 4, provided these interest payments meet the following conditions:

- (a) The size of the interest payment is known and fixed, with no possibility for the payment to change due to a movement in interest rates.
  - (b) The interest payment is expected to be paid within the net interest income horizon referred to in Article 3(2).
2. For instruments referred to in Article 6, where the interest payment occurs after the interest repricing date, institutions shall apply paragraph 1 only to the part of the interest payment that represents the commercial margin.

#### **Explanatory box**

The objective of Article 19 is to add the contribution of interest payments already known and fixed within the NII horizon (assumed to be 1 year in this example), with no possibility that the payment change due to movement in the interest rates, to the net interest income calculation. As an example, taking the transactions from the explanatory box in Article 4, the interest payments to be taken into account would be the sum of EUR 150,000, EUR 50,000, and EUR 25,000, which equals EUR 225,000. This calculation should generally not change under different interest rate scenarios as it concerns interest payments that are already determined (apart from slotting regarding items subject to behavioural optionality as in Article 7, 8 and 9). Hence the outcome of the calculation for shock scenarios should be the same as for non-shock scenarios, except for the effect of behavioural optionality.

<b>ON</b>	<b>ON&lt;T≤1M</b>	<b>1M&lt;T≤3M</b>	<b>3M&lt;T≤ 6M</b>	<b>6M&lt;T≤9M</b>	<b>9M&lt;T≤1Y</b>
		10,150,000		5,050,000	25,000
Of which coupons		150,000		50,000	25,000

Equally, under this Article institutions also take into account the payment of interest payments already determined (e.g. regarding the liability side), which has a negative impact on net interest income.

#### *Article 20*

##### *Net Interest Income add-on for instruments held at fair value maturing beyond the net interest income horizon*

1. To calculate the net interest income add-on beyond the net interest income horizon for instruments held at fair value, institutions shall perform the allocation in accordance with Article 16(2) taking into account Article 13(1)(a) and with the following derogations:
  - (a) cash flows related to instruments not held at fair value shall be excluded.
  - (b) The cash flows repricing in the net interest income time horizon shall be excluded by being set to zero in the repricing time buckets referred to in Annex I, point 4.
2. To calculate the net interest income add-on for instruments held at fair value that are maturing beyond the net interest income horizon, institutions shall apply Article 16(3) to (5) to the allocation performed in accordance with paragraph 1.

### Explanatory box

The objective of this Article is to add the impact of shocks in the interest rate scenarios on fair valued instruments that may affect the fair value component of net interest income (without taking into account automatic optionality of which the fair value effects are treated in Article 15). Since the fair value of instruments tends to return to their face value at maturity, Article 20 only focuses on fair value instruments that mature beyond the horizon for the calculation of net interest income (1 year in this example).

As an example, taking the transactions from the explanatory box in Article 1, if we assume that both the EUR 10,000,000 and the EUR 2,500,000 instruments are accounted for at fair value, then the institutions should only apply the calculation of Article 20 on the EUR 2,500,000 slotted in the 1.5 to 2 year repricing time bucket. In accordance with the steps in Article 15, the institution will have to calculate the difference in the discounted value (to t=0) of the EUR 2,500,000 instrument, including the EUR 25,000 interest payment in 1 year and 9 months) between the shock and baseline scenario.

ON	ON<T≤1M	1M<T≤3M	3M<T≤ 6M	6M<T≤9M	9M<T≤1Y	1Y<T≤1.5Y	1.5Y<T≤2Y
		-10,150,000		-5,050,000	-25,000		2,525,000

**Question 7:** Do respondents find it practical how the determination of several components of the NII calculation, with in particular the fair value component of Article 20 and the fair value component of automatic options of Article 15, is generally based on the processes used for the EVE calculation (in particular Article 16 and Article 12)?

### Article 21

#### *Net Interest Income add-on for Basis Risk*

1. In the case of floating rate instruments, notional repricing cash flows shall be allocated, in addition to their allocation in accordance with Article 6, for each currency by their repricing date, to the repricing time buckets referred to in Annex I, point 4.
2. The notional repricing cash flows referred to in paragraph 1 shall, for the purpose of their allocation, be broken down into the following reference terms, which the floating rate instrument refers to:
  - (a) Overnight
  - (b) 1 month
  - (c) 3 months
  - (d) 6 months
  - (e) 12 months
3. In the absence of a reference term, the notional repricing cash flows shall be assigned to the following categories:
  - (a) 'Policy rate' in case the floating rate instrument refers to a central bank policy rate,
  - (b) 'Other' in case of a floating rate instrument link to any other benchmark.

Incoming notional repricing cash flows shall be allocated with a positive sign and outgoing notional repricing cash flows shall be allocated with a negative sign.

4. For the purposes of paragraph 1, Institutions shall exclude embedded interest rate options and shall treat those options in accordance with paragraph 9.
5. Institutions shall estimate tightening shocks and widening shocks, in a way that is consistently applied over time, for each reference term category referred to in paragraph 2 and 3 for a given currency on the basis of historic observations of movements in the interest rates of the instruments in each category.
6. The tightening shocks and widening shocks shall be determined by comparing interest rates with the overnight reference term of paragraph 2(a), to the other reference terms as set out in paragraph 2 (b) to (e) and paragraph 3
7. Institutions shall apply to the notional repricing cash flows for each currency the shocks referred to in paragraph 5 multiplied by the remaining time up to the end of a net interest income horizon. The remaining time up to the end of a net interest income horizon shall be the net interest income horizon minus the relevant repricing mid points of the buckets referred to in Annex I, point 1.
8. Institutions shall aggregate in one amount separately for the tightening and for the widening scenario the results from the calculations referred to in paragraph 7.
9. Institutions shall calculate both in the tightening and in the widening scenario the pay-outs from automatic interest rate options that are explicit or embedded in floating rate instruments, and shall compare these pay-outs to the pay-outs calculated under the baseline scenario. The resulting difference in the pay-outs shall be added to the result calculated in accordance with paragraph 8 for the tightening scenario and the widening scenario separately, with a positive sign for incoming pay-outs and a negative sign for outgoing pay-outs. In this calculation pay-outs shall not be discounted and no assumptions shall be made regarding changes in volatility.
10. The net interest income add-on for basis risk shall be the lower result calculated in accordance with this Article in the tightening and the widening scenario.

#### **Explanatory box**

The objective of this Article is to add the impact of basis risk shocks in the interest rate scenarios on floating rate instruments regarding net interest income. The risk to be captured is that of benchmarks of different reference terms (O/N, 1 month, 3 months, 6 months and 12 months), the central bank policy rate or other benchmark rates, to move against or away from each other (tightening or widening shocks compared to the baseline scenario). The approach makes use of the slotting of floating rate instruments already available from the main NII approach.

To arrive at an NII impact, these notional repricing cash flows per bucket shall then be multiplied by the remaining time until the end of the NII horizon (counting from the time bucket mid points) and by the shocks. To take into account the impact of optionality, institutions will be required to calculate the pay-outs under shocks from automatic options. This approach is based on the one included in the QIS exercise.

In line with the objective of the standardised approach, the approach is relatively simple, building on the assumption that the tightening shocks (compared to the O/N reference benchmark) typically occur simultaneously to all the benchmarks (i.e. all reference terms, the central bank policy rate move closer towards the O/N reference rate) and vice versa for the widening scenario. Given that the shocks for basis risk are generally dependent on the interest rate environment, they



are not prescribed in this Regulation, but left for institutions to calibrate on relevant historic observations of interest rate movements.

The add-on is the highest negative NII impact calculated in Article 21 between the tightening and widening scenario and is to be added to any (non-basis risk) shock scenario calculated in the remainder of this Regulation. To keep the standardised approach manageable no basis risk add-on has been added to the calculation of EVE.

Further it is to be noted that due to the simplified nature of the approach, with 1 widening and 1 tightening scenario compared to the O/N reference benchmark the approach may not provide a method to stress all conceivable basis risk development. For example that of the 3m reference rate tightening (compared to O/N) and that of the 6m reference rate widening (compared to O/N).

**Question 8:** Do respondents find that the calculation of the net interest income add-on for basis risk is reflective of the risk and operationally implementable?

## *Article 22*

### *Net Interest Income and delta Net Interest Income calculation*

1. To calculate the net interest income, thereby excluding explicit and embedded automatic interest rate options up to the net interest income horizon, institutions shall take the sum of:
  - (a) the projected risk-free yields calculated in accordance with Article 17.
  - (b) the projected yield from commercial margins calculated in accordance with Article 18.
  - (c) the sum of interest payments up to their reset date including that date, calculated in accordance with Article 19.
2. In the calculation of the previous paragraph, institutions shall treat incoming cash flows with a positive sign and outgoing cash flows with a negative sign.
3. To obtain the impact of a shock scenario on net interest income, institutions shall take the sum of:
  - (a) The difference between:
    - i. the calculation referred to in paragraph 1 relating to a shock scenario.
    - ii. the calculation referred to in paragraph 1 relating to the baseline scenario.
  - (b) The net interest income add-on for automatic options within the net interest income horizon calculated in accordance with Article 14 of this Regulation.
  - (c) The net interest income add-on for instruments held at fair value maturing beyond the net interest income horizon calculated in accordance with Article 20.
  - (d) The net interest income add-on for automatic options held at fair value maturing beyond the net interest income horizon calculated in accordance with Article 15.
  - (e) The net interest income add-on for basis risk calculated in accordance with Article 21.

Point (a) to (d) shall be calculated using the same shock scenario. Point (e) shall be calculated on the tightening or widening scenario referred to in Article 21 (10) that has the largest negative impact on the net interest income.

4. When calculating the aggregate change for each shock scenario, institutions shall add together any negative and positive changes occurring in each currency. Positive changes shall be weighted by a factor of 50% or by a factor of 80% in the case of Exchange Rate Mechanism - ERM II currencies with a formally agreed fluctuation band narrower than the standard band of +/- 15% to offset losses in EUR. Where the absolute value of 80% of the ERM II currency gains is larger than the absolute value of the EUR loss, a factor of 50% shall apply to positive changes in ERM II currencies.

## *CHAPTER VI*

### *SIMPLIFIED STANDARDISED ECONOMIC VALUE OF EQUITY RISK MEASURE*

#### *Article 23*

##### *Economic value of equity and delta economic value of equity calculation simplified calculation*

1. For the calculation of the economic value of equity and delta economic value of equity under the simplified standardised approach, institutions shall derogate from the standardised approach on EVE as follows:
  - (a) In the baseline scenario:
    - (i) By way of derogation from Article 7(2) to (8), institutions shall set the amount of core component of non-maturity deposits taking the following proportions:
      - (1) 69.2%, for non-maturity deposits referred to in Article 7(1)(a)(i);
      - (2) 53.8%, for non-maturity deposits referred to in Article 7(1)(a)(ii);
      - (3) 38.5%, for non-maturity deposits referred to in Article 7(1)(b)(ii).
    - (ii) By way of derogation from Article 7(11), institutions shall allocate the core component of non-maturity deposits evenly over time as set out in Annex I point 5.a.
  - (b) In scenarios prescribing a decrease of short-term interest rate:
    - (i) By way of derogation from Article 7(2) to (8), institutions shall set the amount of core component of non-maturity deposits taking the following proportions:
      - (1) 90%, for non-maturity deposits referred to in Article 7(1)(a)(i);
      - (2) 70%, for non-maturity deposits referred to in Article 7(1)(a)(ii);
      - (3) 50%, for non-maturity deposits referred to in Article 7(1)(b)(ii).
    - (ii) By way of derogation from Article 7(11), institutions shall allocate the core component of non-maturity deposits evenly over time as set out in Annex I, point 5.b:
  - (c) In scenarios prescribing an increase of short-term interest rate

- (i) By way of derogation from Article 7(2) to (8), institutions shall set the amount of core component of non-maturity deposits taking the following proportions:
    - (1) 48.5%, for non-maturity deposits referred to in Article 7(1)(a)(i); to
    - (2) 37.7%, for non-maturity deposits referred in Article 7(1)(a)(ii);
    - (3) 14.5%, for non-maturity deposits referred to in Article 7(1)(b)(ii).
  - (ii) By way of derogation from Article 7(11), institutions shall allocate the core component of non-maturity deposits evenly over time as set out in Annex I, point 5.c.
2. Institutions shall perform the calculations of the change in value referred to in Article 12 (2) and (3) using the sum of the pay-outs in the baseline and shock scenarios and discounted by the applicable risk free interest rates. Institutions shall disregard any effect of increased volatility multiply the pay-outs of automatic options under the shock scenario by 1.10.

#### **Explanatory box**

The objective of Article 23 is to take into account, in the simplified standardised approach, the generally lower risk assessment capacities of the small and non-complex institutions, and to meet the need for a methodology that is at least as conservative as the standardised methodology in accordance with paragraph 5 of Article 84 of Directive 2013/36/EU. Regarding both EVE and NII various simplifications and conservative measures are foreseen regarding the slotting of non maturing deposits and automatic optionality.

Regarding NMDs paragraph 1 of Article 23 fully prescribes the size of the core component of NMDs (the component not expected to reprice even under significant changes in the interest rate environment) as well as the slotting of the core deposits in a linear fashion up to 4, 4.5 or 5 years. In line with the standardised approach, the core component is made subject to a scalar to take into account the effect of interest rate scenarios on depositor behaviour. Accordingly, in scenarios prescribing a decrease of short-term interest rates the core component is the largest. To not exceed the caps on the core component as set out in the 2016 Basel framework under this shock type, the core component is prescribed to be 90%, 70% and 50% for the different categories of NMD counterparty.

Another key driver behind the calibration of the core component is the need for the S-SA to be at least as conservative as the SA in accordance with paragraph 5 of Article 84 of the CRD. Against this backdrop, in the estimation of impact of NII based on QIS cash flows, the EBA has re-assigned NMDs reported by institutions, in accordance with different calibrations for the S-SA. On this basis it is estimated that the scalars, should be set at around 0.7 and 1.3 (instead of 0.8 and 1.2 as in the SA) to lead to outcomes in the S-SA that are usually as conservative as the SA in all scenarios.

Accordingly, core components under the baseline scenario equal those of the scenario prescribing a decrease of short-term interest rates divided by 1.3 (e.g.  $90\% / 1.3 = 69.2\%$ ). The core components under the scenarios prescribing an increase in short-term interest rates equal those under the baseline scenario multiplied by 0.7 (e.g.  $69.2 \times 0.7 = 48.5\%$ ).

Regarding automatic optionality paragraph 2 of Article 23 prescribes an assessment of automatic optionality fully on the basis of pay-outs by scenario without having to perform a more complicated analysis that includes effects of a 25% increase in volatility. Instead the impact of automatic optionality, will be multiplied by 110% in accordance with the median impact reported by institutions of increases in volatility on EVE.

For simplicity, this factor is uniform and no differentiation is made between option portfolios with short maturities (e.g. below 1 year) and longer maturities (also note that the following Article regarding NII does not adjust the factor based on the selection of a different NII horizon). A possible drawback of applying the simplification of the 1.10 factor instead of requiring the full calculation of the impact of volatility (as in the non-simplified SA) is that it may not capture enough the impact of volatility changes such as in the case where in a scenario there would be zero pay-outs expected but high volatility would still imply a significant value. In this context it has to be noted that the simplification may be most appropriate where institutions, as may be expected from small and non-complex institutions, do not have highly material automatic options.

## CHAPTER VII

### CALCULATION OF THE SIMPLIFIED STANDARDISED NET INTEREST INCOME RISK MEASURE

#### Article 24

##### *Net interest income and delta net interest income simplified calculation*

1. For the calculation of the net interest income and delta net interest income under the simplified standardised approach, institutions shall derogate from the standardised approach on net interest income as follows:
  - (a) Institutions shall implement the simplification referred to in Article 23 (1).
  - (b) There shall be no allocation in accordance with Article 13(1)(b) of this Regulation. An average reference term for all fixed rate interest rate sensitive banking book assets and an average reference term for all fixed rate interest rate sensitive banking book liabilities shall be calculated for each product type category set out in Article 18(3).
  - (c) For the purpose of Article 17, the calculated average reference terms shall be applied instead of the reference term mid-points of the buckets referred to in Annex I, point 1.
  - (d) By way of derogation from Article 18(2), institutions shall, when applying Article 18(3) (b) only separate the amounts referred to in Article 18(2) by product types and shall not take into account the geographical location breakdown.
  - (e) By way of derogation from Article 19, institutions shall calculate interest payments or part of interest payments that occurring up to their repricing date including that date, by the multiplication of:
    - (i) the amount of principal of all instruments outstanding; with
    - (ii) the institution's estimate of average interest rate on instruments on the asset or liability side as applicable; with
    - (iii) the net interest income horizon, or, in case an instrument is repricing before the net interest income horizon, the mid-point of the applicable repricing time bucket referred to in Annex I, point 1 applicable to the outstanding instrument.

2. By way of derogation from Article 12 (2) and (3), institutions shall calculate the net interest income of automatic options held at fair value maturing beyond the net interest income horizon referred to in Article 15 by using the sum of the pay-outs in the baseline and shock scenarios discounted by the applicable risk free interest rates. Institutions shall disregard any effect of increased volatility and multiply the pay-outs under the shock scenario by 1.10.

#### **Explanatory box**

The simplifications from Article 23 generally apply to the NII as well. In addition, there are NII specific simplifications. First, as highlighted in paragraph 1(b) and (c) there is no need to perform an addition slotting of cash flows according to their reference term. Instead the average reference term can be calculated by product type. These averages will then be used for the forward rate calculation of Art 17. A second simplification, as highlighted in paragraph 1(d), is to waive the breakdown by geography.

A third simplification (by way of paragraph 1(e)) is to, instead of counting the amounts of interest payments that are fully fixed within the NII horizon, take the starting amount of all instruments and apply an estimate of the average interest rate. Where the instrument matures within the NII horizon, the applicable interest rate shall only be applied up to the mid point of the bucket where the instrument matures.

Taking the example in the explanatory box of Article 4. The basis for the calculation would be to take all the outstanding amounts regarding instruments (10,000,000 + 5,000,000 + 2,500,000 = 17,500,000) and apply an estimated average yield to it (e.g. 2%). To take into account that the 10,000,000 already reprices in the 1M to 3 M time bucket, the 2% can only be applied for 2 months (i.e. approximately  $2\% \times 2/12$ ). Likewise for the 5,000,000, which reprices in the 6M to 9 M time bucket, with the result that the 2% can only be applied for 7.5 months (i.e. approximately  $2\% \times 7.5/12$ ).

It is to be noted that paragraph 1(e) is only a derogation on Art 19. It is not a derogation to just use principal amounts in the slotting elsewhere in the Regulation. For example, the full amounts (including interest payments) will still be used for the purposes of Art 17 and Art 18 (the risk free yield and commercial margin yield will be projected using the renewal of full repricing amounts which includes interest payments).

Regarding automatic options (as specified in paragraph 2) a simplification is proposed to only focus on pay-outs when calculating the FV impact (instead of full revaluation) in line with what is proposed for the simplified standardised approach for EVE (see Article 23). As the institutions would not have to calculate the impact of increased volatility, a scalar of 1.1 is applied. On the basis of the expectation that simplified standardised approach institutions do not have a lot of options, this should be an appropriate approximation.

**Question 9:** Do respondents find that the adjustments in the Simplified Standardised Approach as set out in Article 23 and 24 are operationally implementable and do they find that any other simplification would be appropriate?

*Article 25*

*Entry into force*

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]*

**Question 10:** Do respondents find that all the necessary aspects are covered and the steps and assumptions for the evaluation of EVE and NII as laid out in the standardised approach and simplified standardised approach clear enough and operationally implementable?

## ANNEX I

### 1. Repricing time buckets:

- (a) An overnight time bucket, with the mid-point of 1 day, or approximately 0.0028 years.
- (b) A time bucket exceeding 1 day and up to and including 1 month, with the mid-point of 15 days.
- (c) A time bucket exceeding 1 month and up to and including 3 months, with the mid-point of 60 days.
- (d) A time bucket exceeding 3 months and up to and including 6 months, with the mid-point of 135 days.
- (e) A time bucket exceeding 6 month and up to and including 9 months, with the mid-point of 225 days.
- (f) A time bucket exceeding 9 month and up to and including 12 months, with the mid-point of 315 months.
- (g) A time bucket exceeding 1 year and up to and including 1.5 year, with the mid-point of 1 year and 90 days.
- (h) A time bucket exceeding 1.5 year and up to and including 2 years, with the mid-point of 1 year and 270 days.
- (i) A time bucket exceeding 2 years and up to and including 3 years, with the mid-point of 2 years and 180 days.
- (j) A time bucket exceeding 3 years and up to and including 4 years, with the mid-point of 3 years and 180 days.
- (k) A time bucket exceeding 4 years and up to and including 5 years, with the mid-point of 4 years and 180 days.
- (l) A time bucket exceeding 5 years and up to and including 6 years, with the mid-point of 5 years and 180 days.
- (m) A time bucket exceeding 6 years and up to and including 7 years, with the mid-point of 6 years and 180 days.
- (n) A time bucket exceeding 7 years and up to and including 8 years, with the mid-point of 7 years and 180 days.
- (o) A time bucket exceeding 8 years and up to and including 9 years, with the mid-point of 8 years and 180 days.
- (p) A time bucket exceeding 9 years and up to and including 10 years, with the mid-point of 9 years and 180 days.
- (q) A time bucket exceeding 10 years and up to and including 15 years, with the mid-point of 12 years and 180 days.
- (r) A time bucket exceeding 15 years and up to and including 20 years, with the mid-point of 17 years and 180 days.
- (s) A time bucket exceeding 20 years, with the mid-point of 25 years.

2. Length of time buckets of Article 8(4(b) of this Regulation are as follows:

- (a) 0 year.
- (b) 1/12 year.
- (c) 2/12 year.
- (d) 3/12 year.
- (e) 3/12 year.
- (f) 3/12 year.
- (g) 6/12 year.
- (h) 6/12 year.
- (i) 1 year.
- (j) 1 year.
- (k) 1 year.
- (l) 1 year.
- (m) 1 year.
- (n) 1 year.
- (o) 1 year.
- (p) 1 year.
- (q) 5 years.
- (r) 5 years.
- (s) 10 years.

3. Reference term time buckets:

- (a) A time bucket exceeding overnight up to and including 12 months, with the mid-point of 12 months.
- (b) A time bucket exceeding 1 year and up to and including 1.5 year, with the mid-point of 1 year and 90 days.
- (c) A time bucket exceeding 1.5 year and up to and including 2 years, with the mid-point of 1 year and 270 days.
- (d) A time bucket exceeding 2 years and up to and including 3 years, with the mid-point of 2 years and 180 days.
- (e) A time bucket exceeding 3 years and up to and including 4 years, with the mid-point of 3 years and 180 day.
- (f) A time bucket exceeding 4 years and up to and including 5 years, with the mid-point of 4 years and 180 days.
- (g) A time bucket exceeding 5 years and up to and including 6 years, with the mid-point of 5 years and 180 days.



- (h) A time bucket exceeding 6 years and up to and including 7 years, with the mid-point of 6 years and 180 days.
  - (i) A time bucket exceeding 7 years and up to and including 8 years, with the mid-point of 7 years and 180 days.
  - (j) A time bucket exceeding 8 years and up to and including 9 years, with the mid-point of 8 years and 180 days.
  - (k) A time bucket exceeding 9 years and up to and including 10 years, with the mid-point of 9 years and 180 days.
  - (l) A time bucket exceeding 10 years and up to and including 15 years, with the mid-point of 12 years and 180 days.
  - (m) A time bucket exceeding 15 years and up to and including 20 years, with the mid-point of 17 years and 180 days.
  - (n) A time bucket exceeding 20 years, with the mid-point of 25 years.
4. For the purposes of Articles 16(1), 17(2), 18(1), 19(1)(b) and 21(1), the following repricing time buckets of Annex I, point 1 shall be used in case of different net interest rate horizons: f.
- (a) Bucket (a) to (f) in case of a net interest horizon of 1 year.
  - (b) Bucket (a) to (g) in case of a net interest horizon of 1.5 year.
  - (c) Bucket (a) to (h) in case of a net interest horizon of 2 years.
  - (d) Bucket (a) to (i) in case of a net interest horizon of 3 years.
  - (e) Bucket (a) to (j) in case of a net interest horizon of 4 years.
  - (f) Bucket (a) to (k) in case of a net interest horizon of 5 years.
  - (g) Bucket (a) to (l) in case of a net interest horizon of 6 years.
  - (h) Bucket (a) to (m) in case of a net interest horizon of 7 years.
  - (i) Bucket (a) to (n) in case of a net interest horizon of 8 years.
  - (j) Bucket (a) to (o) in case of a net interest horizon of 9 years.
  - (k) Bucket (a) to (p) in case of a net interest horizon of 10 years.
  - (l) Bucket (a) to (q) in case of a net interest horizon of 15 years.
  - (m) Bucket (a) to (r) in case of a net interest horizon of 20 years.
  - (n) Bucket (a) to (s) in case of a net interest horizon of 25 years.
5. Prescribed slotting Simplified Standardised Approach.
- (a) Baseline scenario:
    - (i) Up to 5 years, for the category of non-maturity deposits referred in paragraph 2(a)(i), resulting in 31%, 1.15%, 2.31%, 3.46%, 3.46%, 3.46%, 6.92%, 6.92%, 13.85%, 13.85% and 13.85% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;

- (ii) Up to 4.5 years, for the category of non-maturity deposits referred in paragraph 2(a)(ii) resulting in 46.2%, 1%, 1.99%, 2.99%, 2.99%, 2.99%, 5.98%, 5.98%, 11.97%, 11.97% and 5.98% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;
- (iii) Up to 4 years, for the category of non-maturity deposits referred in paragraph 2(b)(ii) resulting in 61.5%, 0.8%, 1.6%, 2.4%, 2.4%, 2.4%, 4.81%, 4.81%, 9.62%, and 9.62% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, and j of point 1 of Annex I respectively.

(b) Decrease of short-term interest rates:

- (i) Up to 5 years, for the category of non-maturity deposits referred in paragraph 2(a)(i), resulting in 10%, 1.5%, 3%, 4.5%, 4.5%, 4.5%, 9%, 9%, 18%, 18% and 18% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;
- (ii) Up to 4.5 years, for the category of non-maturity deposits referred in paragraph 2(a)(ii) resulting in 30.0%, 1.30%, 2.59%, 3.89%, 3.89%, 3.89%, 7.78%, 7.78%, 15.56%, 15.56% and 7.78% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;
- (iii) Up to 4 years, for the category of non-maturity deposits referred in paragraph 2(b)(ii) resulting in 50.0%, 1.04%, 2.08%, 3.13%, 3.13%, 3.13%, 6.25%, 6.25%, 12.50%, and 12.50% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, and j of point 1 of Annex I respectively.

(c) Increase of short-term interest rates:

- (i) Up to 5 years, for the category of non-maturity deposits referred in paragraph 2(a)(i), resulting in 52%, 0.81%, 1.62%, 2.42%, 2.42%, 2.42%, 4.85%, 4.85%, 9.69%, 9.69% and 9.69% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;
- (ii) Up to 4.5 years, for the category of non-maturity deposits referred in paragraph 2(a)(ii) resulting in 62.3%, 0.7%, 1.4%, 2.09%, 2.09%, 2.09%, 4.191%, 4.19%, 8.38%, 8.38% and 4.19% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, j, and k of point 1 of Annex I respectively;
- (iii) Up to 4 years, for the category of non-maturity deposits referred in paragraph 2(b)(ii) resulting in 85.5%, 0.3%, 0.6%, 0.91%, 0.91%, 0.91%, 1.81%, 1.81%, 3.62% and 3.62% of non-maturity deposits of this category being slotted into time buckets a, b, c, d, e, f, g, h, i, and j of point 1 of Annex I respectively.

## 5. Accompanying documents

---

### 5.1 Draft cost-benefit analysis / impact assessment

1. Following Article 10 of Regulation (EU) No 1093/2010 (EBA Regulation), the EBA shall analyse the potential costs and benefits of draft Regulatory technical standards. RTS developed by the EBA shall therefore be accompanied by an Impact Assessment (IA) that analyses ‘the potential related costs and benefits’.
2. This analysis presents the IA of the main policy options included in this Consultation Paper on the draft RTS on standardised and simplified standardised methodologies for the purposes of the evaluation of the risks arising from potential changes in interest rates that affect both the economic value of equity and the net interest income of an institution’s non-trading book activities under 84(5) of directive 2013/36/EU.
3. The IA has built on the QIS on IRRBB conducted by the EBA during the first half of 2021 and has taken into account the EBA Guidelines “on the management of interest rate risk arising from non-trading book activities” published on 18 July 2018, as well as the standards published by the Basel Committee on Banking Supervision in April 2016 on “Interest rate risk in the banking book”.

#### 5.1.1 General structure of the standardised approaches

4. The EBA has developed the draft RTS specifying a collection of procedural aspects and applicable assumptions both for the SA on Economic Value of Equity (EVE) and SA on Net Interest Income (NII), as well as for the respective simplified standardised approaches.
5. In a nutshell, EVE is the discounted sum of all future cash flows, assuming a run-off balance sheet (which avoids the complexity of determining the applicable interest rates for the renewal of exposures). In contrast, NII is the forward-looking projection of interest income (and expenses) over a pre-defined time horizon (e.g., of up to one, two or three years). While both are based on notional repricing cash flows (interest payments or principal amounts of fixed rate instruments that mature or principal amounts of floating rate instruments that reprice) under EVE they are discounted to the present and under NII they are projected to the end of the NII horizon.
6. The EBA has developed the part of the methodology where the NII computational logic differs from that of EVE. This resulted in the development of 3 sub-components, which would need to be summed up to arrive at NII (apart from add-ons):
  - a. The aggregation of interest payments up to and including the repricing date (i.e., NII flows not sensitive to interest rate changes).



- b. The projection of risk free yield for each repricing cash flow between the moment of repricing up to the end of the projection horizon.
  - c. The projection of the commercial margin for each notional repricing cash flow between the moment of an instrument's maturity up to the end of the projection horizon.
7. In addition, there is an add-on for automatic optionality for both SA on EVE as for the SA on NII. There is a difference between EVE and NII: under EVE, the option values are discounted to the present, whereas, under NII the pay-offs are considered to the extent they materialise within the NII horizon combined with value changes regarding options beyond the NII horizon. Further there are add-ons just regarding NII, in the form of the fair value component, and in the form of a charge for basis risk.
8. Most of these aspects are broadly covered by the QIS templates.

### 5.1.2 QIS results and assumptions in the calculation

9. The calibration and impact assessment of components of the standardised and simplified standardised approaches builds on the EBA QIS from December 2020, where dedicated EU-specific IRRBB worksheets have been included in the Basel III monitoring exercise.
- 10.121 banks have participated in the whole EBA QIS but less than the half of them provided data on IRRBB. The following descriptive tables and charts indicate the number of banks that provided sufficient data for each assessment. For this reason, the assessments have been made on a best effort basis.
11. During the consultation period, the submission window for QIS data will be reopened for banks to still participate or complement their participation. This will contribute to better inform the final decisions as necessary.
12. The EBA has developed the steps and assumptions in the calculation of EVE and NII, taking into account the need for Basel compliance and the avoidance of complexity where possible. These include the following areas:

#### Behavioural cash flows

13. Regarding behavioural cash flows, which refers to instruments for which the timing of the cash flows depends on the behaviour of retail customers, the EBA has further specified the methodology provided in the 2016 Basel SA on EVE. This affects all main categories of behavioural cash flows, comprising i) Non Maturing Deposits (NMDs), ii) loans subject to prepayment risk, and iii) term deposits subject to the risk of early redemption risk.
14. As tested under the QIS, institutions will determine themselves the behavioural cash flows in the baseline scenario based on relevant historical data, combined with standardised constraints and assumptions.

15. For Non Maturing Deposits (NMDs), the Basel caps (of 50% to 90%) should apply on the proportion of core deposits (i.e., deposits that are not assumed to reprice even under significant changes in the interest rate environment) in total deposits, as well as the current EBA maturity cap (4 to 5 years) on the weighted average maturity of core deposits. In the QIS results, the EBA found that participating banks were generally compliant with the caps for the category of retail transactional, whereas they were less compliant with the respective caps for retail non-transactional and wholesale NMDs (see below in tables 1 to 3 the figures for institutions that reported the relevant numbers on this item).

Table 1: Distribution of institutions regarding NMD statistics by percentiles for Retail Transactional NMDs.

Retail Transactional NMDs				
Percentile	Proportion of core deposits	Proportion of stable deposits	Pass-through rate of stable deposits	Average applied maturity of core deposits (years)
<b>Mean</b>	<b>70.47%</b>	<b>81.54%</b>	<b>13.34%</b>	<b>4.05</b>
<b>S.D</b>	<b>19.96%</b>	<b>16.15%</b>	<b>17.10%</b>	<b>1.75</b>
5 <sup>th</sup>	33.00%	60.37%	0.00%	1.80
10 <sup>th</sup>	44.03%	67.65%	0.00%	2.21
25 <sup>th</sup>	61.00%	80.00%	0.00%	3.06
50 <sup>th</sup>	76.75%	86.76%	8.56%	4.16
75 <sup>th</sup>	85.06%	90.00%	21.98%	5.00
90 <sup>th</sup>	90.00%	93.13%	30.61%	5.00
95 <sup>th</sup>	90.46%	94.05%	45.14%	5.00
<b># of banks</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>38</b>

Table 2: Distribution of institutions regarding NMD statistics by percentiles for Retail non-Transactional NMDs.

Retail Non-Transactional NMDs				
Percentile	Proportion of core deposits	Proportion of stable deposits	Pass-through rate of stable deposits	Average applied maturity of core deposits (years)
<b>Mean</b>	<b>63.09%</b>	<b>76.69%</b>	<b>16.87%</b>	<b>3.05</b>
<b>S.D</b>	<b>21.16%</b>	<b>20.04%</b>	<b>17.68%</b>	<b>1.29</b>
5 <sup>th</sup>	28.21%	42.13%	0.00%	0.79
10 <sup>th</sup>	41.71%	63.20%	0.00%	1.20
25 <sup>th</sup>	50.05%	70.00%	0.00%	2.32
50 <sup>th</sup>	65.74%	80.00%	10.59%	3.29
75 <sup>th</sup>	70.00%	90.50%	29.80%	4.13
90 <sup>th</sup>	89.08%	93.07%	44.00%	4.50
95 <sup>th</sup>	92.95%	95.09%	48.33%	4.50
<b># of banks</b>	<b>31</b>	<b>31</b>	<b>31</b>	<b>31</b>

Table 3: Distribution of institutions regarding NMD statistics by percentiles for Wholesale NMDs.

Wholesale NMDs				
Percentile	Proportion of core deposits	Proportion of stable deposits	Pass-through rate of stable deposits	Average applied maturity of core deposits (years)
Mean	44.33%	59.38%	22.74%	3.01
S.D	22.06%	23.70%	24.21%	1.96
5 <sup>th</sup>	15.17%	18.89%	0.00%	0.31
10 <sup>th</sup>	18.71%	25.97%	0.00%	0.74
25 <sup>th</sup>	26.14%	49.73%	0.00%	1.99
50 <sup>th</sup>	46.08%	55.81%	12.40%	3.11
75 <sup>th</sup>	51.87%	76.41%	43.44%	4.00
90 <sup>th</sup>	79.01%	89.55%	53.39%	4.00
95 <sup>th</sup>	81.52%	94.06%	57.22%	4.25
# of banks	34	34	34	34

16.Regarding the estimation of the conditional prepayment rate associated with loans subject to prepayment risk, as well as for the term deposit redemption rate associated with term deposits subject to early redemption, the EBA proposes that institutions should have a consistent well-documented methodology suitable for the estimation of an average based on historical observations.

17.To add proportionality/simplicity, the EBA has developed materiality thresholds for each category of behavioural outflows at the level of 2% of interest rate sensitive liabilities respectively assets in the banking book. Below these thresholds, institutions may opt to disregard these aspects (and instead set the conditional prepayment rate and term deposit redemption rate at 0 and slot all NMDs in the overnight bucket). In this context, the EBA took into account the QIS results which indicated that many institutions do not have these exposures, or may only have immaterial amounts such exposes (Tables 4 and 5 indicate the general distribution of institutions in terms exposures as a % of total banking book liabilities / assets).

Table 4: Distribution of institutions regarding materiality of categories of NMD by percentiles.

Percentile	Sum Retail Transactional NMDs (as % of Total BB Liab.)	Sum Retail Non-Transactional NMDs (as % of Total BB Liab.)	Sum Wholesale NMDs (as % of Total BB Liab.)	Sum NMDs (as % of Total BB Liab.)
Mean	10.32%	12.97%	9.95%	33.23%
S.D	13.45%	15.72%	13.49%	29.31%
5 <sup>th</sup>	0.00%	0.00%	0.00%	0.00%
10 <sup>th</sup>	0.00%	0.00%	0.00%	0.00%
25 <sup>th</sup>	0.00%	0.00%	0.00%	0.00%
50 <sup>th</sup>	1.00%	5.64%	6.05%	35.29%
75 <sup>th</sup>	18.83%	22.61%	15.24%	60.04%
90 <sup>th</sup>	32.30%	33.87%	22.26%	70.52%
95 <sup>th</sup>	37.70%	44.23%	30.38%	76.94%
# of banks	69	69	69	69

Table 5: Distribution of institutions regarding materiality of Terms Deposits subject to early repayment and of Loans subject to Prepayment risk by percentiles.

Percentile	Term Deposits subject to early redemption risk (as % of Total BB Liab.)	Loans subject to prepayment risk (as % of Total BB Liab.)
Mean	2.01%	12.23%
S.D	5.94%	21.33%
5 <sup>th</sup>	0.00%	0.00%
10 <sup>th</sup>	0.00%	0.00%
25 <sup>th</sup>	0.00%	0.00%
50 <sup>th</sup>	0.00%	0.00%
75 <sup>th</sup>	0.00%	15.14%
90 <sup>th</sup>	6.83%	48.75%
95 <sup>th</sup>	13.48%	55.95%
# of banks	71	71

### Calculation risk free rate and commercial margins

18. For the calculation of the risk-free rate and commercial margin calculation it is necessary to make assumptions regarding the following:

- a. For the risk-free curve, since there is no universal risk-free spot rate curve per currency, it is left to institutions to select it, in line with paragraph 17(n) of the 2018 EBA GL.
- b. Original maturity of repricing cash flows: to project NII, in line with the constant balance sheet assumption, it is necessary to replace maturing cash flows with similar characteristics (product type, fixed/floating etc). Importantly, the original maturity of the loan underlying a repricing cash flow is a significant determinant of the risk-free interest rate to be expected on new business. To capture this aspect, the EBA proposes a double slotting of cash flows, where in addition to the repricing time buckets (which were already necessary for the EVE) institutions will have to slot the same amounts in their original maturity time buckets, leading to a matrix/table of cash flows slotted along an axis of repricing time buckets and an axis of original maturity time buckets.

As illustrated in Figure 1, the average original maturities of repricing cash flows for the 29 institutions in the sample that provided sufficient data on it, tend to range between 2 and 10 years. However as illustrated in Figure 2, which highlights the results of the 4 institutions with the highest range of original maturities, there can be a lot of difference within the same institution. In the figure, assets repricing in one time bucket can have a very different maturity, on average, than the next bucket. This suggests that the underlying asset mix matters a lot regarding original maturity, which substantiates the proposed double slotting of cash flow by instrument.

Figure 1: Average original maturities in years (y-axis) by repricing bucket (x-axis) for 29 institutions.

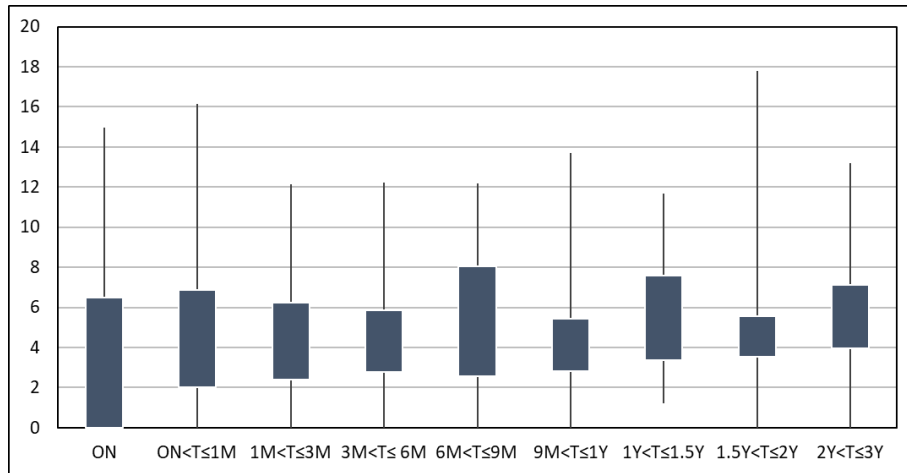
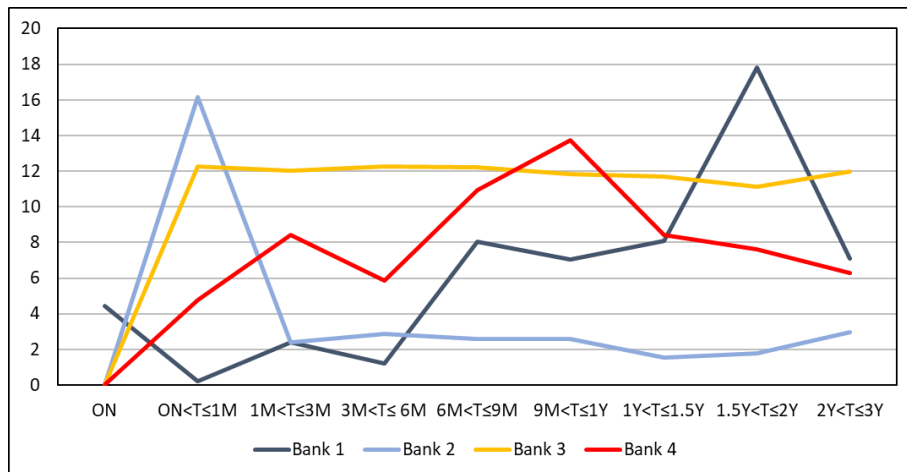


Figure 2: Average original maturities in years (y-axis) by repricing bucket (x-axis) for 4 institutions with the highest range of original maturities.



- c. The yield used in the commercial margin component of NII (which projects commercial margin of new production) will be based on the commercial margin business originated in the last year. The historical observation should be stratified by product, counterparty and geographic category. The product categories have been based on general experience with materiality of FINREP categories (Table 6 and Table 7 below shows data from FinRep 16.1 on interest income and expenses). To be proportionate, in case there's no transaction in the last year in the applicable category, then institutions are allowed to draw from observations of comparable portfolios in different categories. In case of products with observable quotes, the implied commercial margin can be used based on the fair value and deduction of the risk-free rate.



Table 6: Materiality of interest income by category of FINREP 16.1 by broad business model category

	INCOME	All banks (157)			Average: Universal banking (retail/comme rcial and investment banking) (95 banks)	Average: Retail/co mmercial banking (50 banks)	Average: Speciali sed lender (8 banks)	Average: Other business model (1 bank)
		Average	10%p ercen tile	90% perce ntile				
010	<b>Derivatives -Trading</b>	<b>6%</b>	<b>0%</b>	<b>17%</b>	<b>7%</b>	<b>3%</b>	<b>14%</b>	<b>0%</b>
015	of which: interest income from derivatives in economic hedges	3%	0%	6%	3%	1%	14%	0%
020	<b>Debt securities</b>	<b>9%</b>	<b>1%</b>	<b>18%</b>	<b>9%</b>	<b>8%</b>	<b>8%</b>	<b>24%</b>
030	Central banks	0%	0%	0%	0%	0%	0%	0%
040	General governments	6%	0%	13%	6%	6%	4%	19%
050	Credit institutions	1%	0%	3%	1%	1%	3%	0%
060	Other financial corporations	1%	0%	2%	1%	0%	0%	3%
070	Non-financial corporations	1%	0%	2%	1%	1%	0%	1%
080	<b>Loans and advances</b>	<b>77%</b>	<b>49%</b>	<b>96%</b>	<b>76%</b>	<b>84%</b>	<b>55%</b>	<b>36%</b>
090	Central banks	1%	0%	2%	1%	0%	0%	0%
100	General governments	2%	0%	6%	2%	2%	13%	0%
110	Credit institutions	2%	0%	4%	2%	1%	1%	17%
120	Other financial corporations	3%	0%	6%	3%	3%	2%	3%
130	Non-financial corporations	30%	12%	47%	32%	28%	33%	16%
140	Households	38%	3%	64%	36%	50%	7%	0%
141	of which: lending for house purchase	18%	0%	37%	16%	26%	0%	0%
142	of which: credit for consumption	10%	0%	27%	11%	10%	0%	0%
150	<b>Other assets</b>	<b>1%</b>	<b>0%</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>
160	<b>Deposits</b>	<b>3%</b>	<b>0%</b>	<b>6%</b>	<b>3%</b>	<b>2%</b>	<b>3%</b>	<b>40%</b>
170	Central banks	1%	0%	3%	1%	1%	1%	0%
180	General governments	0%	0%	0%	0%	0%	0%	0%
190	Credit institutions	1%	0%	2%	1%	0%	1%	9%
200	Other financial corporations	1%	0%	1%	1%	1%	1%	32%
210	Non-financial corporations	0%	0%	1%	0%	0%	0%	0%
220	Households	0%	0%	0%	0%	0%	0%	0%
230	<b>Debt securities issued</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
240	<b>Other financial liabilities</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>8%</b>	<b>0%</b>
250	<b>Derivatives - Hedge accounting, interest rate risk</b>	<b>3%</b>	<b>-3%</b>	<b>13%</b>	<b>4%</b>	<b>2%</b>	<b>12%</b>	<b>0%</b>
260	<b>Other Liabilities</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
270	<b>INTEREST</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
280	of which: interest-income on credit impaired financial assets	2%	0%	6%	2%	4%	1%	0%
290	of which: interest from leases	2%	0%	6%	3%	2%	0%	0%

Table 7: Materiality of interest expense by category of FINREP 16.1 by broad business model category

	EXPENSES	All banks (157)						
		Average	10% percentile	90% percentile	Average: Universal banking (retail/commercial and investment banking) (95 banks)	Average: Retail/commercial banking (50 banks)	Average: Specialised lender (8 banks)	Average: Other business model (1 bank)
010	<b>Derivatives -Trading</b>	<b>12%</b>	<b>0%</b>	<b>50%</b>	<b>14%</b>	<b>8%</b>	<b>24%</b>	<b>0%</b>
015	of which: interest income from derivatives in economic hedges	5%	0%	16%	5%	2%	22%	0%
020	<b>Debt securities</b>	<b>1%</b>	<b>0%</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>
030	Central banks	0%	0%	0%	0%	0%	0%	0%
040	General governments	1%	0%	1%	0%	1%	0%	0%
050	Credit institutions	0%	0%	0%	0%	1%	0%	0%
060	Other financial corporations	0%	0%	0%	0%	0%	0%	0%
070	Non-financial corporations	0%	0%	0%	0%	0%	0%	0%
080	<b>Loans and advances</b>	<b>8%</b>	<b>0%</b>	<b>23%</b>	<b>7%</b>	<b>8%</b>	<b>3%</b>	<b>80%</b>
090	Central banks	4%	0%	8%	3%	5%	1%	70%
100	General governments	0%	0%	0%	0%	0%	0%	0%
110	Credit institutions	3%	0%	6%	3%	2%	1%	6%
120	Other financial corporations	1%	0%	2%	1%	0%	0%	0%
130	Non-financial corporations	0%	0%	0%	0%	0%	0%	4%
140	Households	0%	0%	0%	0%	0%	0%	0%
141	of which: lending for house purchase	0%	0%	0%	0%	0%	0%	0%
142	of which: credit for consumption	0%	0%	0%	0%	0%	0%	0%
150	<b>Other assets</b>	<b>3%</b>	<b>0%</b>	<b>7%</b>	<b>2%</b>	<b>6%</b>	<b>2%</b>	<b>0%</b>
160	<b>Deposits</b>	<b>41%</b>	<b>9%</b>	<b>75%</b>	<b>40%</b>	<b>47%</b>	<b>27%</b>	<b>20%</b>
170	Central banks	1%	0%	3%	1%	1%	0%	0%
180	General governments	2%	0%	5%	2%	1%	2%	0%
190	Credit institutions	8%	0%	20%	8%	6%	2%	7%
200	Other financial corporations	9%	0%	19%	7%	11%	20%	13%
210	Non-financial corporations	6%	0%	13%	7%	5%	1%	0%
220	Households	17%	0%	45%	15%	23%	2%	0%
230	<b>Debt securities issued</b>	<b>32%</b>	<b>0%</b>	<b>70%</b>	<b>34%</b>	<b>28%</b>	<b>52%</b>	<b>0%</b>
240	<b>Other financial liabilities</b>	<b>2%</b>	<b>0%</b>	<b>4%</b>	<b>2%</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>
250	<b>Derivatives - Hedge accounting, interest rate risk</b>	<b>-2%</b>	<b>-28%</b>	<b>32%</b>	<b>-2%</b>	<b>0%</b>	<b>-10%</b>	<b>0%</b>
260	<b>Other Liabilities</b>	<b>2%</b>	<b>0%</b>	<b>6%</b>	<b>3%</b>	<b>2%</b>	<b>0%</b>	<b>0%</b>
270	<b>INTEREST</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
280	of which: interest-income on credit impaired financial assets	0%	0%	0%	0%	0%	0%	0%
290	of which: interest from leases	1%	0%	3%	1%	1%	0%	0%

### Simplified Standardised Approaches

19. In the interest of proportionality, and in accordance with the mandate of Article 84 of the CRD, the EBA has developed simplified standardised approaches for EVE and NII. The simplifications are the following:

- a. For the simplified SA on EVE and NII the proportion of the core component of NMDs (the component not expected to reprice during a shock) is fully prescribed. Moreover, instead of requesting institutions to slot the core NMDs themselves (under the constraint of 4 to 5 years of average maturity) the simplified approach prescribes a linear slotting up to 4, 4.5 or 5 years.

- b. For the simplified SA on EVE and NII institutions will calculate the impact of automatic optionality on the basis of pay-outs by scenario without having to perform a more complicated analysis that includes effects of a 25% increase in volatility. Instead, the impact of automatic optionality will be multiplied by 110% in accordance with the approximate median impact reported by institutions of increases in volatility across scenarios as is indicated in Table 8.

Table 8: Average effects observed on option value of 25% increase in volatility for 12 QIS participating institutions

<b>on bought options (% under same scenario without vol. increase)</b>	<b>on sold options (% under same scenario without vol. increase)</b>
2.12%	-1.43%
2.22%	-2.57%
3.05%	-3.09%
3.14%	-3.93%
5.52%	-8.64%
9.07%	-11.77%
12.59%	-12.74%
12.76%	-14.17%
14.17%	-16.77%
20.14%	-19.52%
26.42%	-70.07%
41.70%	-210.88%

- c. In addition, just for the simplified SA on NII, there are further simplifications:
- i. Regarding the original maturity of repricing cash flows institutions will not be required to slot cash flows according to their original maturity, but instead can take the average original maturity for the entire product category.
  - ii. Regarding the empirical determination of commercial margins, it will only be required a breakdown into product categories, without any counterparty or geographic breakdown.
  - iii. Regarding the interest payments up to and including the repricing date (i.e. NII flows not sensitive to interest rate changes), instead of counting/aggregating interest payments, an approximation can be made via an estimate of the average effective yields and the outstanding notional.

20. To that the objective that, in line with Article 84 of the CRD, the Simplified Standardised Approach is at least equally conservative as the regular Standardised Approach, the EBA has tested the impact of the simplification regarding the slotting of NMDs as mentioned under point a) of the previous paragraph. The estimated impact on NII (as compared to Tier 1) by percentile

– Table 9 below – indicate that the version of prescribed slotting with a 0.7 and 1.3 scalar would generally result in the level of conservatism in the NII in line with the slotting performed by the institutions themselves.

Table 9: Distribution of NII/Tier 1 under various versions of the QIS approach

Scenario	QIS Approach Replica		QIS Approach Replica S-SA Without Scalar		QIS Approach Replica S-SA With 0.8/1.2 Scalar		QIS Approach Replica S-SA With 0.7/1.3 Scalar		QIS Approach Replica S-SA With 0.6/1.4 Scalar	
	1	2	1	2	1	2	1	2	1	2
5th	-9.05%	-2.90%	-4.01%	-4.71%	-7.52%	-5.22%	-8.49%	-5.29%	-8.97%	-5.19%
10th	-5.29%	-1.59%	-3.16%	-2.96%	-4.69%	-3.15%	-5.62%	-3.24%	-5.73%	-3.36%
25th	-2.81%	-0.54%	-1.27%	-1.31%	-1.77%	-1.45%	-2.96%	-1.48%	-3.51%	-1.24%
50th	-0.07%	0.09%	0.43%	-0.15%	0.00%	-0.54%	-0.42%	-0.67%	-0.87%	-0.33%
75th	1.07%	0.46%	1.95%	0.32%	1.31%	0.11%	0.91%	0.06%	0.47%	0.21%
90th	2.12%	1.44%	4.19%	0.87%	2.33%	0.87%	1.65%	0.87%	1.43%	0.87%
95th	3.03%	2.34%	5.38%	1.33%	4.01%	1.25%	2.34%	1.21%	1.76%	1.31%
# of banks	49	49	49	49	49	49	49	49	49	49

### Overall conservatism of the SA compared to IMS

21. The EBA has developed the standardised approach with the objective of creating an accurate portrayal of risk under standardised assumptions which is sufficiently conservative. Regarding NII Table 10 provides an overview of outliers on the basis of a total sample of 35 banks with results on 1 year delta NII/T1. It broadly indicates that the QIS (cash flow based) approach leads to somewhat more conservative results.

Table 10: Number of institutions for which the IMS or QIS approach replica result in an outlier under various NII/T1 thresholds

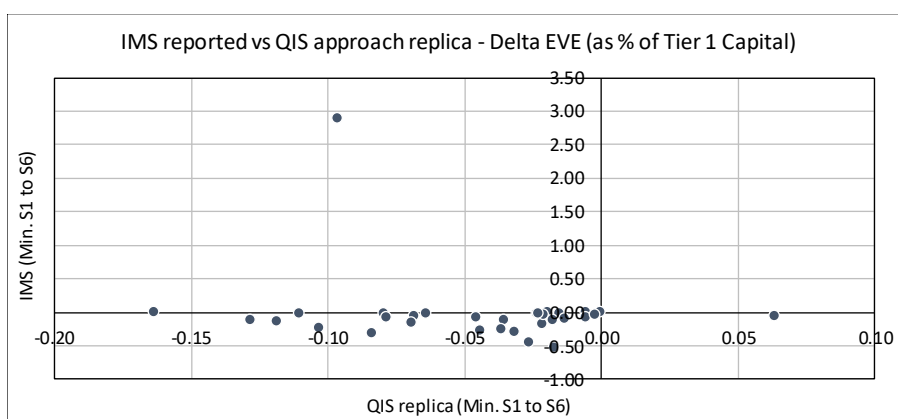
Threshold	IMS (Reported) - Panel K	QIS Approach Replica
≥ 0%	3	4
[-1%, 0%)	19	12
[-2%, -1%)	8	5
[-3%, -2%)	4	5
[-4%, -3%)	0	3
[-5%, -4%)	1	3
< -5%	1	4
<b>Total</b>	<b>36</b>	<b>36</b>

22. To estimate the comparative incentives for institutions to develop internal modelling capabilities, the EBA has also estimated whether the calculation under the standardised approach would generally be more conservative than estimations of institutions themselves regarding EVE. This appears to be the case as indicated in Table 11 below, with outliers that occur significantly more frequently above certain thresholds. Preliminary review by the EBA indicates that many outliers in the QIS approach replica results for EVE may be driven by incomplete reporting of the cash flows regarding hedges, and hence should be a reason for some institutions to re-examine their data submission.

Table 11: Number of institutions for which the IMS or QIS approach replica result in an outlier under various EVE/T1 thresholds

Threshold	IMS (Reported) - Panel K	QIS Approach Replica
≥ 0%	1	1
[-5%, -0%)	19	11
[-10%, -5%)	7	6
[-15%, -10%)	4	5
[-20%, -15%)	1	2
[-25%, -20%)	0	1
[-40%, -25%)	0	4
[-55%, -40%)	0	2
< -55%	0	0
<b>Total</b>	<b>32</b>	<b>32</b>

Figure 3: Results of EVE/T1 for which the IMS approach or QIS approach



### Inclusion of fair value effects in the NII

23. The EBA has included a component in the SA on NII measuring the fair value effect. The impact has been tested in the QIS. However, since it concerns a smaller sample of institutions, and since it suffers from the same issues in the data quality as for EVE (see above), the results are not shown.

### Inclusion of basis risk value effects in the NII

24. The EBA has included a component in the SA on NII measuring basis risk. This calculation, which forms an add-on to delta NII, is proposed to be mainly based on the notionals of floating rate instruments, and a shocks regarding tightening and widening spreads.

25. For the purposes of the QIS the EBA calibrated an example of a tightening and widening scenario based on historic data. These scenarios, which the institutions were requested to calculate the impact of, are as follows:

Table 12: The basis risk shocks tested in the QIS

Reference rate	Tightening spread	Widening spread
Interbank ON	0 bps	0 bps
Interbank 1M basis	-30 bps	+54 bps
Interbank 3M basis	-30 bps	+74 bps
Interbank 6M basis	-30 bps	+86 bps
Interbank 12M basis	-30 bps	+98 bps
Policy rate	-30 bps	+45 bps
Other	-30 bps	+80 bps

26. While the proposal in this consultation paper will rely on institutions' own estimations of tightening spread and widening spread scenarios, the QIS results (see Table 13 below) regarding the scenarios in the QIS could provide insight into possible impact of implementing an approach on basis risk.

Table 13 Distribution of results of QIS approach and IMS compared to Tier 1 by percentile based on QIS basis risk shocks

	Basis risk 1Y NII Sensitivity (as % of Tier 1 Capital)			
	QIS Approach Replica		Results IMS banks	
	7	8	7	8
Mean	-0.36%	0.80%	-0.20%	-0.61%
S.D	1.15%	2.51%	5.04%	6.08%
5th	-1.84%	-3.19%	-1.80%	-13.77%
10th	-1.37%	-0.96%	-1.14%	-1.62%
25th	-0.78%	0.05%	-0.76%	0.00%
50th	-0.13%	0.53%	-0.30%	0.64%
75th	0.05%	1.69%	0.27%	1.90%
90th	0.49%	2.30%	2.00%	2.55%
95th	0.82%	3.50%	5.18%	3.19%
# of banks	39	39	29	29

27. Table 13 indicates that the proposal included in the QIS (which in terms of calculation steps is broadly similar to the basis risk add-on calculation in the standardised approach) may lead to results that are equivalent to the results that institutions calculate on the basis of their IMS for the same shock dimensions.

## 5.2 Overview of questions for consultation

Question 1: What is the materiality of prepayments for floating rate instruments and what are the underlying factors? Would you prefer the inclusion of a requirement in Article 6 for institutions to estimate prepayments for these instruments?

Question 2: Do respondents find that the required determination of stable/non-stable deposits, and core/non-core deposits as described in Article 7 is reflective of the risks and operationally implementable? In case of any unintended consequence or undesirable effect on certain business models or specific activities, please kindly provide concrete examples.

Question 3: Do respondents find that the required determination and application of a conditional prepayment rate and term deposit redemption rate as described in Article 8 and 9 is reflective of the risks and operationally implementable? In case of any unintended consequence or undesirable effect on certain business models or specific activities, please kindly provide concrete examples.

Question 4: Is the treatment of fixed rate loan commitments to retail counterparties clear and are there other instruments with retail counterparties where a behavioural approach to optionality should be taken?

Question 5: Do respondents find that the required determination of the impact of a 25% increase in implicit volatility as described in Article 12 is operationally implementable?

Question 6: Do respondents find that the required slotting of repricing cash flows in accordance with the second dimension of original maturity/reference term as described in Article 13 is operationally implementable?

Question 7: Do respondents find it practical how the determination of several components of the NII calculation, with in particular the fair value component of Article 20 and the fair value component of automatic options of Article 15, is generally based on the processes used for the EVE calculation (in particular Article 16 and Article 12)?

Question 8: Do respondents find that the calculation of the net interest income add-on for basis risk is reflective of the risk and operationally implementable?

Question 9: Do respondents find that the adjustments in the Simplified Standardised Approach as set out in Article 23 and 24 are operationally implementable, and do they find that any other simplification would be appropriate?

Question 10: Do respondents find that all the necessary aspects are covered and the steps and assumptions for the evaluation of EVE and NII as laid out in the standardised approach and simplified standardised approach clear enough and operationally implementable?