

Standards on the interest risk in the banking book (IRRBB)

Basel Committee on Banking Supervision (BCBS)

Index

- ➔ Introduction
- Executive summary
- Detail
- Next steps
- Annex

Introduction

The BCBS published in April 2016 the final standards that update the Pillar 2 Principles for the management and supervision of interest rate risk in the banking book (IRRBB)

Introduction

- When interest rates change, the present value and timing of future cash flows also changes, which necessarily implies changes to the underlying value of a bank's assets, liabilities and off-balance sheet items of credit institutions. Changes in interest rates also affect a bank's earnings by altering interest rate-sensitive income and expenses, affecting its net interest income (NII). Thus, **interest rate risk is inherent to the banking activity** and its effective management impacts to institutions' profitability.
 - Interest rate risk in the banking book (IRRBB) was part of the Basel capital framework's **Pillar 2** (Supervisory Review Process) and subject to the BCBS's guidance set out in the 2004 *Principles for the management and supervision of interest rate risk*.
- In this context, in **April 2016** the BCBS published **final standards which update the Pillar 2 Principles** with the aim of adapting them to the changes in supervisory and market practices regarding the IRRBB management.
 - These updated Principles were subject to consultation in 2015, when the BCBS presented two options: a **standardised Pillar 1 approach** and an **enhanced Pillar 2 approach**. The BCBS noted the industry's feedback on the feasibility of a Pillar 1 approach, in particular the complexities involved in formulating a standardised measure. In this regard, the BCBS concluded that the IRRBB would be more appropriately captured in Pillar 2.
 - Nevertheless, the BCBS also sets out a **standardised framework** which **supervisors** could mandate their banks to follow, or a **bank could choose to adopt**.

This document includes an analysis of the requirements introduced by these updated Principles, and also of the standardised method.

Index

Introduction

➡ Executive summary

Detail

Next steps

Annex

Executive summary

As a result of the approval of this new framework, institutions should adapt to the updated Principles. The standardised method should only be implemented where it is required by the supervisor, although institutions could chose to implement it

Executive summary

Scope	Regulatory context	Next steps
<ul style="list-style-type: none"> • Large internationally active banks, on a consolidated basis. • Nevertheless, supervisors have national discretion to apply the IRRBB framework to other institutions. 	<ul style="list-style-type: none"> • Principles for the management and supervision of the interest rate risk (BCBS, Jul. 2004). 	<ul style="list-style-type: none"> • Banks are expected to implement the revised standards by 2018 (i.e. for banks whose financial year ends on 31 December, the relevant disclosures would have to be made in 2018).

Main content

The revised IRRBB Principles

Principles for banks

IRRBB elements, governing body, risk appetite, IRRBB measurement, assumptions, measurement systems, reporting, disclosure and capital adequacy for IRRBB.

Principles for supervisors

Information collection, regular assessment to control IRRBB and criteria for identifying outlier banks and adoption of mitigation actions.

Standardised method (upon request from the supervisor)

Stage 1	Classification of cash flows within one of three categories (according to the standardisation level)
Stage 2	Allocation of cash flows to each bucket or bucket midpoints
Stage 3	Calculation of the change of the Economic Value of Equity (EVE) for each scenario and currency
Stage 4	Calculation of the add-on for automatic interest rate options
Stage 5	Calculation of the minimum capital requirement for IRRBB

Index

Introduction

Executive summary

➔ Detail

Next steps

Annex

Detail

Revised IRRBB Principles

The revised framework for the management of the IRRBB includes principles for institutions and for supervisors. The main improvements from the previous framework are related to IRRBB management expectations, disclosure, identification of outliers banks and supervisory process

Overview

Type of Principles

Principles for banks

1. IRRBB elements
2. Governing body
3. Risk appetite
4. IRRBB measurement
5. Assumptions
6. Measurement systems
7. Reporting
8. Disclosure
9. Capital adequacy for IRRBB

Principles for supervisors

10. Information collection
11. Regular assessments
12. Identification of outliers banks

Main improvements from the previous framework

IRRBB management expectations

- **Greater guidance** has been provided on the expectations for a bank's IRRBB management process: shock and stress scenarios, key behavioural and modelling assumptions, internal validation process for the internal measurement systems (IMS), and models used for IRRBB.

Disclosure

- The **disclosure requirements** have been updated to promote greater consistency, transparency and comparability in the measurement and management of IRRBB, including the quantitative reporting based on a set of common interest rate shock scenarios.

Identification of outliers banks

- Supervisors should publish the **criteria** for identifying outlier banks.
- The threshold for the identification of an outlier banks **has been tightened**: 15% of Tier 1 (instead of the current 20% of total capital)

Supervisory process

- The **elements** that supervisors should consider when assessing the bank's level and management of IRRBB exposures have been specified.
- The supervisor could also mandate the banks to follow the **standardised framework** for IRRBB if the bank's IMS does not adequately capture IRRBB.

Detail

Revised IRRBB Principles

Banks should identify, measure and monitor IRRBB. The governing body will be responsible for the supervision of the IRRBB management framework and for the definition of the risk appetite for IRRBB

Principles for banks (1/3)

1

IRRBB elements

- Banks should **identify, monitor, measure** and **control** IRRBB.
- All banks **must be familiar with all elements of IRRBB**: they must identify the IRRBB inherent in products and activities, and ensure that these are subject to adequate procedures and controls; banks must also ensure that the Credit Spread Risk in the Banking Book (CSRBB) is properly monitored and assessed; etc.

2

Governing body

- The governing body is responsible for **oversight of the IRRBB management framework and the bank's risk appetite for IRRBB**.
- It is responsible for approving broad **business strategies as well as overall policies with respect to IRRBB**; for ensuring that there is clear guidance regarding the acceptable level of IRRBB, given the bank's business strategies (e.g. appropriate limits, systems, etc.); and for reviewing its implementation.
- It should have sufficient **technical knowledge** to understand the bank's IRRBB strategies.
- The governing body may delegate the task for developing IRRBB policies to **other bodies** (e.g. to the ALCO). Banks should have IRRBB identification, measurement, monitoring and control functions with **clearly defined responsibilities** that are sufficiently independent from risk-taking functions of the bank and that report IRRBB exposures directly to the governing body or its delegates.
- Banks should have **adequate internal controls** (appropriate approval processes, limits to exposures, etc.) that will be regularly reviewed and assessed.
- The bank's processes should be reviewed by an **independent auditing function** on a regular basis.

3

Risk appetite

- Banks should have clearly defined risk appetite statements (**RAS¹**) for the IRRBB, that should be articulated in terms of the risk to both **economic value and earnings**. The RAS should be approved by the **governing body**.
- Banks must implement **policy limits** set by the governing body that target maintaining IRRBB exposures consistent with their risk appetite. Aggregate risk limits, should be applied on a consolidated basis and, as appropriate, at the level of individual affiliates. Limits may be associated with specific scenarios of changes in interest rates and/or term structures.

Detail

Revised IRRBB Principles

Measurement of IRRBB should be based on outcomes of both economic value and earnings measures, arising from a wide and appropriate range of interest rate shock and stress scenarios. Further, the assumptions should be fully understood and documented

Principles for banks (2/3)

4

IRRBB measurement

- It should be based on the outcomes of both **economic value** and **earnings-based measures** arising from a wide and appropriate range of **interest rate shock** and **stress scenarios**.
- Banks should be able to calculate the impacts under **multiple scenarios**:
 - i. **Internally selected interest rate shock scenarios** (according to the ICAAP framework).
 - ii. **Historical and hypothetical stress scenarios**, which tend to be more severe than shock scenarios.
 - iii. **The six interest rate shock scenarios** prescribed by the BCBS.
 - iv. **Any additional interest rate shock scenario** required by supervisors.
- Banks should select scenarios that **provide meaningful estimates of risk**, taking into account several aspects: they identify parallel and non-parallel gap risk, special consideration of concentrations, etc.
- Banks should develop and implement an effective **stress testing framework for IRRBB**. Stress testing for IRRBB should be considered in the ICAAP.

5

Assumptions

- In measuring IRRBB, **key behavioural and modelling assumptions** should be fully understood and documented, and can be referred to expectations for the exercise of interest rate options, the implications of accounting practices for IRRBB, etc¹.
- **Modelling assumptions** should be conceptually sound and reasonable, and consistent with historical experience. Banks must carefully consider how the exercise of the behavioural optionality will vary not only under the interest rate shock and stress scenario but also across other dimensions (e.g. for fixed rate loans subject to prepayment risk, dimensions influencing the exercise of the embedded behavioural options, such as loan size, ratio LTV, borrower characteristics, etc. should be considered).
- Banks should be able to **test the appropriateness of key behavioural assumptions**. In this regard, they should periodically perform sensitivity analyses.
- Banks should review **significant measurement assumptions at least annually** and more frequently during rapidly changing market conditions.

(1) Some products that include assumptions are: i) fixed rate loans subject to prepayment risk; ii) fixed rate loan commitments; iii) term deposits subject to early redemption risk; and iv) non-maturity deposits (NMD).

Detail

Revised IRRBB Principles

Measurement outcomes of the IRRBB should be reported to the governing body. Moreover, some requirements on IRRBB disclosure have been specified. Further, the capital adequacy for IRRBB should be considered in the ICAAP

Principles for banks (3/3)

6

Measurement systems

- Measurement systems and models used for IRRBB should be based on **accurate data**, and subject to appropriate **documentation, testing** and **controls**.
- Banks should have an **effective validation framework** that include three elements: methodological evaluation, ongoing model monitoring, and outcomes analysis. It should be included in a formal policy approved by the governing body.

7

Reporting

- Measurement outcomes of IRRBB and hedging strategies should be reported to the **governing body** on regular basis and **relevant levels of aggregation**.
- **Minimum content of the reporting:** summary of the IRRBB exposures; reports demonstrating the bank's compliance with policies and limits; key modelling assumptions; results of stress test; and summaries of the reviews of IRRBB policies, procedures and adequacy of the measurement systems.

8

Disclosure

- The **level of IRRBB exposure** should be measured and disclosed. Specifically, banks must disclose the measured **variation of EVE and of NII¹** under the prescribed interest rate shock scenarios set out by the BCBS². Moreover, banks are encouraged to make voluntary disclosures of information on internal measures of IRRBB that would assist the market in interpreting the mandatory disclosure.
- In order to improve **comparability between banks**, exposures should be calculated based considering certain aspects (e.g. for calculating Δ EVE, cash flows should be discounted using a risk-free rate).

9

Capital adequacy for IRRBB

- **Capital adequacy for IRRBB** must be specifically considered **as part of the ICAAP** approved by the governing body, in line with the bank's risk appetite on IRRBB. Thus, banks are responsible for evaluating the level of capital that they should hold, and for ensuring that is sufficient to cover IRRBB.
- **Capital adequacy assessments** for IRRBB should consider several factor such as the internal limits on IRRBB exposures, the sensitivity of the internal measures of IRRBB to key modelling assumptions, etc. The outcomes of the capital adequacy for IRRBB should be consider in a bank's ICAAP.

(1) Economic Value of Equity / Net Interest Income.

(2) The tables that banks should use to report the required information are specified in [annex 1](#).

Detail

Revised IRRBB Principles

Supervisors should collect sufficient information to monitor banks' IRRBB exposures. If the bank's IRRBB exposure reveals inadequate management, supervisors must require mitigation actions such as reducing the IRRBB exposure and/or additional capital

Principles for supervisors

10

Information collection

- Supervisors should, on a regular basis, **collect sufficient information** to be able to monitor trends in bank's IRRBB exposures, assess the soundness of bank's IRRBB management and identify outlier banks that should be subject to review and/or should be expected to hold additional regulatory capital.
- Supervisors should ensure that the collection of information is **comparable** and **consistent** across all the banks that they supervise.

11

Regular assessments

- Supervisors should **regularly assess** banks' IRRBB and the effectiveness of the approaches that banks use to identify, measure, monitor and control IRRBB.
- Supervisors **should consider in their assessments** the complexity and level of risk posed by the bank's assets, liabilities and off-balance sheet activities; the adequacy and effectiveness of oversight by the governing body; the effectiveness of the bank's IRRBB stress testing programme; the appropriateness of the level of IRRBB in relation to the bank's capital; the effectiveness of risk limits and controls; etc.
- Supervisor should **cooperate** and **share information** with relevant supervisors in other jurisdictions.

12

Identification of outlier banks

- Supervisors must **publish their criteria** for identifying outlier banks. In this regard, supervisors should implement at least one outlier/materiality test that compares the bank's maximum Δ EVE, under the six prescribed interest rate shock scenarios set out by the BCBS, with **15% of its Tier 1 capital¹**. Banks identified as outliers according to these criteria must be **subjected to review**.
- When a supervisor determines that a bank's IMS is deficient in its measurements of IRRBB, the supervisor should require the bank to use the **standardised framework**.
- When a national supervisor concludes that a **bank's management of IRRBB is inadequate** or that it has excessive risk, the supervisor must require the bank to take one or more of the following actions:
 - i. Reduce its **IRRBB exposures** (e.g. by hedging).
 - ii. Raise **additional capital**.
 - iii. Set **constraints on the internal risk parameters** used by a bank.
 - iv. Improve its **risk management framework**.

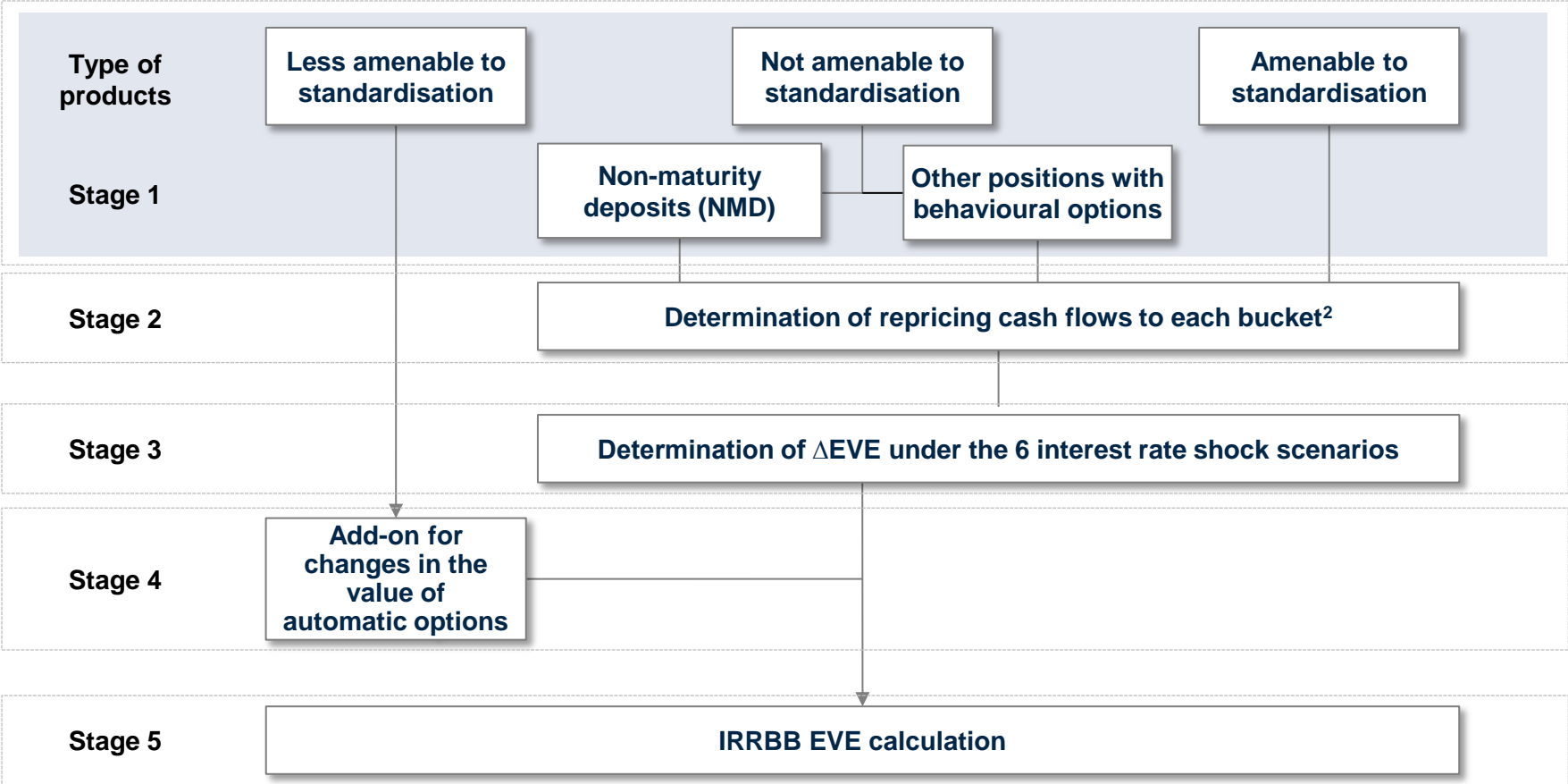
(1) Supervisors may also implement additional outlier/materiality tests. These tests could use a different capital measure (e.g. CET1) although the threshold for defining outlier banks should be at least as stringent as 15% of Tier 1 capital.

Detail

Standardised method

The BCBS specifies a standardised method for calculating capital requirements for IRRBB that supervisors could require banks to follow¹. A bank could choose to adopt it

Overview



(1) According to Principle 12.
(2) Or to the time bucket midpoints.



Detail

Standardised method

Under the standardised method, the first stage consists on projecting all future notional repricing cash flows and allocating them taking into account if they are amenable or not amenable to standardisation

Stage 1: Classification of positions

1°

Projections of notional repricing cash flow CF(K)

- A notional repricing cash flow CF(K) is defined as:
 - i. Any **repayment of principal**
 - ii. Any **repricing of principal** (when either the bank or its counterparty is entitled to unilaterally change the interest rate, or the rate on a floating rate changes automatically)
 - iii. Any **interest payment** on a tranche of principal that has not yet been repriced or amortised.
- Banks must project all CF(K) for **assets** (which are not deducted from CET1 and which exclude fixed assets such as real estate or intangible assets and equity exposures in the banking book), **liabilities** (other than CET1) and **off-balance sheet items**¹.

2°

CF(K) Classification according to their standardisation

1

Amenable to standardisation

- **Fixed rate positions**, whose cash flows are certain till the point of contractual maturity (e.g. fixed rate loans without embedded prepayment options, term deposits without redemption risk, mortgage loans, etc.).
- **Floating rate positions**, whose cash flows are not predictable past the next repricing date other than the present value would be reset to par.

2

Not amenable to standardisation

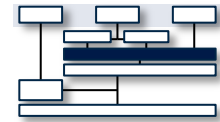
- **Non-maturity deposits (NMD)**.
- **Other positions with behavioural options**: fixed rate deposits subject to prepayments; and term deposits subject to early redemption risk.

3

Less amenable to standardisation

- Under this category are classified those instruments with **automatic interest rate options** (either explicit or implicit).

(1) Banks have the choice of whether to deduct commercial margins and other spread components from the notional repricing cash flows, using a prudent and transparent methodology.



The CF(K) are allocated to time buckets or time bucket midpoints. This is a straightforward translation for positions amenable, whereas for positions not amenable to standardisation the process is more complex. Positions less amenable are excluded from this step

Stage 2: Allocation of CF_K into buckets¹

1

Amenable to standardisation

- **Fixed rate positions:** all coupon cash flows and periodic or final principal repayments should be allocated to the time bucket midpoints closest to the contractual maturity.
- **Floating rate positions:** the entire principal amount should be allocated to the time bucket closest to the next reset date bucket.

2

Not amenable to standardisation

NMD

1. Classification of NMDs

- **Retail/transactional:** deposits by an individual person or by small business customers (amount <1M€) in accounts where regular transactions are carried out.
- **Retail/non-transactional:** deposits by an individual person or by small business customers (amount <1M€) in accounts where regular transactions are not carried out.
- **Wholesale:** legal entities, sole proprietorships, etc.

2. Two parts of the NMD category are distinguished (using observed volume changes over the past 10 years) and then **allocated to the buckets:**

- Non-stable part → overnight time bucket
- Stable part:
 - Non-core → overnight time bucket
 - Core → Banks should aggregate the non-core part of NMD to each appropriate category subject to a cap (see table)

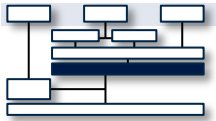
Category	Cap on proportion of core deposits	Cap on average maturity (years)
Retail/transactional	90%	5
Retail/non-transactional	70%	4.5
Wholesale	50%	4

Other positions with behavioural options

This **standardised treatment** applies only to retail customer (wholesale positions are included in automatic interest rate options). The optionality is calculated using a two-step approach:

1. Firstly, **baseline estimates** of loan prepayments and early withdrawal of fixed-term deposits are calculated given the prevailing term structure of interest rates.
2. The baseline estimates are multiplied by **scenario-dependent scalars**.

(1) See the time buckets in [annex 2](#).



Once the CF(K) are allocated to each time bucket or time bucket midpoints, banks should calculate the impact on the EVE under the six scenarios prescribed¹

Stage 3: Calculation of EVE under scenarios

Calculation of Δ EVE under the six prescribed scenarios

- Under each scenario, all CF(K) are slotted into the respective time bucket (or time bucket midpoint). For each bucket (or midpoint) all **positive or negative CF(K) are netted** to form a **single long or short position**.
- Net CF(K)** in each time bucket (or midpoint) are weighted by a **continuously compounded discount factor** (the cash flows should be discounted using either a risk-free rate or a risk-free rate including commercial margin and other spread components):

$$DF_{i,c}(t_k) = \exp(-R_{i,c}(t_k) \cdot t_k)$$

Scenario i
 Currency c
 Time bucket midpoints

- These **risk-weighted net positions** are summed to determine the EVE under each scenario and for each currency (excluding automatic interest rate option positions):

$$EVE_{i,c}^{nao} = \sum_{k=1}^k CF_{i,c}(k) \cdot DF_{i,c}(t_k)$$

t_k for time bucket midpoints

- Then, the full change in EVE for each scenario and currency is obtained by subtracting the previous outcome from the **EVE under the current interest rate term structure** and by adding the **add-on for automatic interest rate option risk²**.

$$\Delta EVE_{i,c} = \sum_{k=1}^k CF_{0,c}(k) \cdot DF_{0,c}(t_k) - \sum_{k=1}^k CF_{i,c}(k) \cdot DF_{i,c}(t_k) + KAO_{i,c}$$

EVE under the structure of the current interest rate
 EVE for each scenario and currency
 Add-on for automatic interest rate options (the calculations is detailed below)
 t_k for time bucket midpoints



Detail

Standardised method

Add-ons for changes in the value of automatic interest rate options are added to the Δ EVE. Then the Δ EVE is calculated as the maximum of the worst aggregated reductions to EVE across the six supervisory prescribed interest rate shocks

Stages 4 and 5: Add-on and IRRBB EVE calculation

Add-on for automatic interest rate options

- This treatment is applied to **automatic interest rate options sold**. Banks have a choice to either include **all bought automatic options** or include only automatic options used for **hedging** sold automatic interest rate options¹.
- The procedure for **calculating the add-on** is the following:
 - For each sold automatic option in each currency, the value change is calculated for each interest rate shock scenario. The value change is given by:
 - An estimate of the **value of the option to the option holder**, given a yield curve in currency under the scenario i , and a relative increase in the implicit volatility of 25%.
 - Minus the value of the sold option holder**, given the yield curve in currency at the valuation date.
 - The **add-on** under the scenario i and in currency c is calculated as the sum of the value changes for all sold options minus the sum of the value changes for all bought options²:

$$KAO_{i,c} = \sum_{o=1}^{n_c} \Delta FVAO_{i,c} - \sum_{q=1}^{m_c} \Delta FVAO_{i,c}$$

Value changes for all sold options Value changes for all bought options

IRRBB EVE calculation

$$\text{Standardised EVE risk measure} = \max_{i \in \{1,2,\dots,6\}} \left\{ \max \left(0; \sum_{c: \Delta EVE > 0} \Delta EVE_{i,c} \right) \right\}$$

Maximum across all scenarios Sum of Δ EVE for currencies where Δ EVE > 0

(1) This also applies to any behavioural option positions with wholesale customers that may change the pattern of CF(K).
 (2) If the bank chooses to only include bought automatic interest rate options that are used for hedging sold automatic interest rate options, the bank must, for the remaining bought options.

Index

Introduction

Executive summary

Detail

➡ Next steps

Annex

Next steps

Banks are expected to implement these standards by 2018

Calendar



- Banks are expected to implement these **revised standards by 2018**.
- Thus, for banks whose financial year ends on 31 December, the relevant disclosures would have to be made in 2018, based on the information as at 31 December 2017.

Index

Introduction

Executive summary

Detail

Next steps

 Annex

Annex 1

Disclosure requirements

Table A requires banks to provide a description of the risk management objectives and policies concerning IRRBB

Disclosure requirements (1/3)

TABLE A	
Purpose: to provide a description of the risk management objectives and policies concerning IRRBB.	
Scope of application: mandatory for all banks within the scope of application set out in Section III.	
Content: qualitative and quantitative information. Quantitative information is based on the daily or monthly average of the year or on the data as of the reporting date.	
Frequency: annual.	
Format: flexible.	
Qualitative disclosure	
a	A description of how the banks defines IRRBB for purposes of risk control and measurement.
b	A description of the bank's overall IRRBB management and mitigation strategies. Examples are: monitoring of EVE and NII in relation to established limits, hedging practices, conduct of stress testing, outcomes analysis, the role of independent audit, the role and practices of the ALCO, the bank's practices to ensure appropriate model validation, and timely updates in response to changing market conditions.
c	The periodicity of the calculation of the bank's IRRBB measures, and a description of the specific measures that the bank uses to gauge its sensitivity to IRRBB.
d	A description of the interest rate shock and stress scenarios that the bank uses to estimate changes in the economic value and in earnings.
e	Where significant modelling assumptions used in the bank's IMS (i.e. the EVE metric generated by the bank for purposes other than disclosure, e.g. for internal assessment of capital adequacy) are different from the modelling assumptions prescribed for the disclosure in Table B, the bank should provide a description of those assumptions and their directional implications and explain its rationale for making those assumptions (e.g. historical data, published research, management judgement and analysis).
f	A high-level description of how the bank hedges its IRRBB, as well as the associated accounting treatment.



Annex 1

Disclosure requirements

Table A requires banks to provide a description of the risk management objectives and policies concerning IRRBB

Disclosure requirements (2/3)

TABLE A	
Purpose: to provide a description of the risk management objectives and policies concerning IRRBB.	
Scope of application: mandatory for all banks within the scope of application set out in Section III.	
Content: qualitative and quantitative information. Quantitative information is based on the daily or monthly average of the year or on the data as of the reporting date.	
Frequency: annual.	
Format: flexible.	
Qualitative disclosure	
g	<p>A high-level description of key modelling and parametric assumptions used in calculating ΔEVE and ΔNII in table B, which includes:</p> <ul style="list-style-type: none"> • For ΔEVE, whether commercial margins and other spread components have been included in the cash flows used in the computation and discount rate used. • How the average repricing maturity of non-maturity deposits in (1) has been determined (including any unique product characteristics that affect assessment of repricing behaviour). • The methodology used to estimate the prepayment rates of customer loans, and/or the early withdrawal rates for time deposits, and other significant assumptions. • Any other assumptions (including for instruments with behavioural optionalities that have been excluded) that have a material impact on the disclosed ΔEVE and ΔNII in Table B, including an explanation of why these are material. • Any methods of aggregation across currencies and any significant interest rate correlations between different currencies.
h	(Optional) Any other information which the bank wishes to disclose regarding its interpretation of the significance and sensitivity of the IRRBB measures disclosed and/or an explanation of any significant variations in the level of the reported IRRBB since previous disclosures.
Quantitative disclosure	
1	Average repricing maturity assigned to NMDs.
2	Longest repricing maturity assigned to NMDs.



Annex 1

Disclosure requirements

Table B is related to the disclosure of quantitative information, which should be made on an annual basis. This table requires institutions to disclose ΔEVE and ΔNII under the six scenarios prescribed by the BCBS

Disclosure requirements (3/3)

TABLE B

Scope of application: mandatory for all banks within the scope of application set out in Section III.

Content: quantitative information.

Frequency: annual, as at the bank's financial year-end.

Format: fixed.

Accompanying narrative: commentary on the significance of the reported values and an explanation of any material changes since the previous reporting period.

In reporting currency	ΔEVE		ΔNII		
	Period	T	T-1	T	T-1
Parallel up					
Parallel down					
Steeper					
Flattener					
Short rate up					
Short rate down					
Maximum					
Period					
Tier 1 capital					

Definitions

For each of the supervisory prescribed interest rate shock scenarios, the bank must report for the current period and for the previous period:

- i. The change in the economic value of equity based in its IMS, using a run-off balance sheet and an instantaneous shock or based on the result of the standardised framework as set out in Section IV if the bank has chosen to adopt the framework or has been mandated by its supervisor.
- ii. The change in projected NII over a forward-looking rolling 12-month period compared with the bank's own best estimate 12-month projections, using a constant balance sheet assumption and an instantaneous shock.



Annex 2

Maturity schedule with time buckets

The table below includes the time buckets and the time bucket midpoints to which the CF(K) are allocated for each currency

Maturity schedule with time buckets

Buckets ¹								
Short-term rates	Overnight (0.0028Y)	O/N < t ^{CF} ≤ 1M (0.0417Y)	1M < t ^{CF} ≤ 3M (0.1667Y)	3M < t ^{CF} ≤ 6M (0.375Y)	6M < t ^{CF} ≤ 9M (0.625Y)	9M < t ^{CF} ≤ 1Y (0.875Y)	1Y < t ^{CF} ≤ 1.5Y (1.25Y)	1,5Y < t ^{CF} ≤ 2Y (1.75Y)
Medium-term rates	2Y < t ^{CF} ≤ 3Y (2.5Y)	3Y < t ^{CF} ≤ 4Y (3.5Y)	4Y < t ^{CF} ≤ 5Y (4.5Y)	5Y < t ^{CF} ≤ 6Y (5.5Y)	6Y < t ^{CF} ≤ 7Y (6.5Y)			
Long-term rates	7Y < t ^{CF} ≤ 8Y (7.5Y)	8Y < t ^{CF} ≤ 9Y (8.5Y)	9Y < t ^{CF} ≤ 10Y (9.5Y)	10Y < t ^{CF} ≤ 15Y (12.5Y)	15Y < t ^{CF} ≤ 20Y (17.5Y)	t ^{CF} > 20Y (25Y)		

M: months Y: years

