New EBA Guidelines for Interest Rate Risk in the Banking Book (IRRBB)
EBA/GL/2018/02
Deloitte Tax & Consulting, Luxembourg June 2019
The new regulatory requirements for the management of IRRBB

**EBA Guidelines** EBA/GL/2018/02
A new set of guidelines enforcing several new IRRBB quantitative measures based on an ever more robust risk framework
The regulatory framework for interest rate risk has been profoundly enhanced during the last decade, significantly increasing the weight of requirements for banks.

**A little history of interest rate risk regulations**

The regulatory framework for interest rate risk has been profoundly enhanced during the last decade, significantly increasing the weight of requirements for banks.

**CSSF**
Commission de Surveillance du Secteur Financier (CSSF) released **Circular CSSF 08/338** on implementation of a stress test in order to assess the interest rate risk arising from non-trading book activities. In particular, it included the obligation for banks to conduct a semi-annual stress test on the economic value of the balance sheet of a 200 bps parallel shift of the interest rate curve.

**Basel Committee**
In April 2016, the Basel Committee on Banking Supervision (BCBS) issued standards for IRRBB. For the new framework, this framework includes also a revised standardised approach - a principles-based approach to addressing current or prospective risk to a bank’s capital and earnings, arising from adverse movements in interest rates that may affect an institution’s financial conditions.

The key updates to the enhanced Pillar 2 approach are as follows:
- More detailed guidance on supervisory expectations for banks’ management processes around IRRBB (such as the development of interest rate shock scenarios); and
- Enhanced disclosure requirements, including some based on common interest rate shock scenarios and their impact on the change in economic value of equity (EVE) and Net Interest Income (NII).

**EBA**
The European Banking Authority (EBA) released **Guidelines on Interest Rate Risk arising from non-trading activities** which focus on different areas of interest risk assessment and control: scenarios and stress testing, measurement assumptions and methods, governance and identification of IRR, calculation and allocation of capital to IRR.

**EBA/GL/2015/08**

**EBA**
In July 2018, the European Banking Authority (EBA) released its revised Guidelines on Interest Rate Risk arising from non-trading activities that set out supervisory expectations regarding the measurement, management and governance arrangements of IRRBB and its reflection in the ICAAP. The guidelines also define the supervisory outlier test requirements for the assessment of institutions’ resilience to interest rate changes. These guidelines will become applicable as from 30 June 2019.

**EBA/GL/2018/02**

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**Deadlines**

**Application Date**
EBA/GL/2018/02
30/06/2019

**Financial Figures**
ICAAP 2019
Remittance 2020

**SREP Cat. 3 & 4**
(smaller institutions)
- CSRBB monitoring & assessment → 31/12/2019
- 6 scenarios outlier test → 31/12/2019
New guidelines from a bird’s eye view

IRRBB requirements cover all aspects of risk framework design, requiring a great amount of internal documentation and estimation processes.


“Treat IRRBB as an important risk and always assess it explicitly and comprehensively”

2. Capital
(Identification, calculation & allocation)

Internal capital allocation for the ICAAP

3. Governance
Strategy Responsibilities Risk Appetite Framework

4. Measurement
Approach Methods Shocks Scenarios Assumptions

Economic Value & Earnings

5. Supervisory Outlier Test

Max. 20% Reg. Cap.
Max. 15% Tier 1

Standard Shock +/- 200bps

6 Scenarios
New guidelines’ key novelties
Specific new requirements apply to the ‘regulatory standard shocks’ with new scenarios and measurement hypotheses

**Key Novelties**

- **6 new regulatory scenarios** (quarterly)
  - Standard scenarios differentiated by currency with PCA yield curve movements (parallel up/down, flattening/steeplening, short up/down)
  - **Annual reporting of sensitivities in the ICAAP**
  - **CSSF escalation if the EVE decline reaches 15% of Tier 1 Capital**

- **Partial Offsetting of EVE sensitivities across currencies**
  - The total EVE sensitivity is the aggregate of shocks by currency with 100% of negative sensitivities and 50% of positive ones

- **New modular floors starting at -100 bps**
  - Floors are now applied at -100bps (or lower if observed) for immediate tenors increasing by 5 bps per year

- **Quarterly IRRBB Sensitivities (EVE and NII)**
  - Explicit requirement to provide IRRBB reporting to the senior management on a quarterly basis at least

- **CSRBB** (Credit Spread Risk in the Banking Book)
  - Introduction of the requirement to monitor and assess CSRBB for relevant assets
**IRRBB 1. General Provisions**

General provisions set the overall scope of IRRBB that must be the starting point for the construction of a comprehensive risk framework.

**IRRBB is an important risk, to be assessed explicitly and comprehensively in risk management processes and internal capital assessment processes**

**IRRBB exposure identification**

**Interest rate sensitive instruments**
Assets, liabilities and off-balance-sheet items (including derivatives) in the non-trading book (excluding assets deducted from CET 1).

**Gap Risk**
Risk resulting from the term structure of interest rate sensitive instruments that arises from difference in the timing of their rate changes.

**Basis Risk**
Risk arising from the impact of relative changes in interest rates on instruments that have similar tenors but are priced using different rate indices.

**Option Risk**
Risk arising from options (embedded and explicit), where the bank/customer can alter the level and timing of their cash flows.

**Credit Spread Risk from the Banking Book (CSRBB)**
The risk driven by changes in the market perception about the price of credit risk, liquidity premium and potentially other components of credit-risky instruments inducing fluctuations in the price of credit risk, liquidity premium and other potential components, which is not explained by IRRBB or by expected credit/(jump-to-)default risk.

CSRBB-affected exposure on the non-trading book asset-side, should be monitored and assessed (where CSRBB is relevant for the bank).

**Economic Value**
Measures of changes in the NPV of interest rate sensitive instruments over their remaining life resulting from interest rate movements.

**Earnings**
Interest income and interest expenses, as well as market value variations impacting the P&L or Other Comprehensive Income (OCI).

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**CSSF IRRBB On-Site Inspections**

IRRBB is part of the focus of CSSF’s on-site inspections, historically 56% of inspected banks received administrative sanctions and or injunctions.

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**Commonly observed CSSF observations**

- Inadequate identification of sources of interest rate risk and the sub-components of IRRBB
- Inadequate measurement and monitoring processes;
- Inadequate IRRBB strategy definition and risk appetite formulation supported by an adequate escalation process;
- Flaws in the calculation of the economic value sensitivity under the regulatory standard parallel shock of +/- 200 bps, and particularly the application the 0% floor;
- Absence of IRRBB Early Warning Indicators;
- Lack of documentation with respect to governance arrangements and assumption formulation.

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**Source of regulatory risk**

56% of IRRBB inspections lead to administrative sanctions and or injunctions. IRRBB is an unnecessary exposure to regulatory risk.

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**IRRBB is an essential risk**

Although often disregarded due to its absence from Pillar I capital requirements, it should not be forgotten that IRRBB is by essence the first risk derived from banking, i.e. taking deposits and granting loans.

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**Reputation of the Risk Control Function**

IRRBB is one of the field where a bank’s risk control function can deliver best practices and build a solid reputation.

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**IRRBB 2. Capital Identification, Calculation and Allocation**

IRRBB must be internally covered by sufficient capital derived from both measurements and risk appetite, in terms of EVE and EaR based on regulatory and own scenarios.

**Internal capital required for IRRBB** → risks to economic value that could arise from adverse movements of interest rates and impact on future earnings capacity.

**Internal Capital**

Proportionate to

- Measured risks
- Risk Appetite

**At the levels of**

- Economic Value
- Earnings

Not expected to double-count

**Own methodologies for capital allocation**
- Risk appetite (size and tenor of internal IRRBB limits)
- Expected cost of hedging positions
- Sensitivity of internal IRRBB measures
- Basis risk impact
- EVE and earnings impact of mismatched positions in different currencies
- Impact of embedded losses/gains
- Risk drivers and risk materialisation circumstances

+ adequate distribution of internal capital across entities (applicable at individual entity level)

**Inclusion of earnings at risk?**
- Materiality of net interest income in the P&L
- Inability of interest rate margins to absorb the volatility of the cost of liabilities (weak margins)
- Risk to internal capital through earnings under a plausible range of market scenarios

**Scenarios adapted to the risk profile**

**Business line allocation**

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**IRRBB 3. Governance**

Strong governance arrangements, under the oversight of the management body, must be set-up to ensure a robust management of IRRBB aligned with requirements.

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**Strategy**

- **Yield Curve Strategy**
  - Strategy for generating a sustainable net interest income

**Risk Appetite + Limit**

- **EVE**
  - + sub-risks if applicable (gap risk, basis risk, option risk)

- **EaR**

**Specific Elements**

- Hedging strategies (derivatives)
- New products
- Customer behaviour
- Consolidation considerations

**Documented Arrangements**

- System of limits
- Clear responsibilities
- Escalation lines and actions
- Modelling assumptions
- Permissible hedging strategies
- Scenario design
- Control and monitoring
- Recurrent reporting
- IT and data systems
- Data quality and flexibility

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**Management Body Oversight Responsibility**

- Regular review and independent validation

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**Defined by the Board of Directors**

- Regular review (annually)
**IRRBB 3. Governance**

Internal policies require extensive documentation governing all processes relating to the management of IRRBB

<table>
<thead>
<tr>
<th>Risk Policies and Processes</th>
<th>Internal Controls</th>
<th>IT Systems &amp; Data Quality</th>
<th>Internal Reporting</th>
<th>Model Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Robust risk policies, processes and systems (updating scenarios, measuring IRRBB, assumptions of models, documentation and controls of allowed hedging, lines of responsibility for managing IRRBB)</td>
<td>• Approval processes, exposure limits and reviews</td>
<td>• Capable IT systems for IRRBB (capture IRRBB data to identify, measure and aggregate risk, flexibility to apply any scenario, individual transaction identification)</td>
<td>• Timely, accurate and comprehensive IRRBB reporting <em>(quarterly)</em></td>
<td>• Policy for validation and assessment of measurement methods (independent validation required, policy approved by the management body or delegates)</td>
</tr>
<tr>
<td>• Policies suited for the Bank (definition of banking book, definition of economic value and consistency of methods, definition of earnings risk and consistency of methods, interest rate shocks, pipeline transactions, multicurrency exposures, basis risk management, non-maturing assumptions, behavioural assumptions, treatment of commercial margins, assessment granularity, etc.)</td>
<td>• Assessment of the effectiveness of IRRBB controls</td>
<td>• Transaction data available on the repricing profile, interest rate characteristics and options (dates, reference rate options and related fees when exercised)</td>
<td>• Adequate IRRBB report provided to the management body (currency detail, sensitivity to factors, evolution of the risk profile)</td>
<td>• Review and validation results must be approved by the management body before modelling update</td>
</tr>
<tr>
<td></td>
<td>• Escalation procedures for internal limit breaches</td>
<td>• Control of IT systems to prevent corruption of IRRBB data</td>
<td>• IRRBB reports regularly incorporate results of reviews and audit</td>
<td>• Policies for model transition, etc.</td>
</tr>
<tr>
<td></td>
<td>On a regular basis</td>
<td>• Reliable market and internal data, stable over time (allowing comparison)</td>
<td>• Reporting on limits</td>
<td><strong>Required independent validation of models and modelling assumptions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Audit (external or internal) of IRRBB processes for identification, measurement, monitoring and control</strong></td>
<td>• Reconciliation processes</td>
<td>• Reporting on aggregate IRRBB exposures, assets, liabilities, cash flows and strategies</td>
<td>For example, the repricing frequency of a sight deposit is a modelling assumption!</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consistency between IRRBB data and financial planning</td>
<td>• Reporting on key modelling assumptions (non-maturing, prepayments, early redemptions, commitment drawings, currency treatment, etc.)</td>
<td></td>
</tr>
</tbody>
</table>
**IRRBB 4. Measurement**

Both EVE and EaR are subject to measurement based on regulatory and own scenarios, with specific sub-risk identification.

**Comprehensive measurements: capture all components and sources of IRRBB**

- **Economic Value of Equity Sensitivities**
  - Include or exclude commercial margins
  - At least 1 measure

- **Duration Analysis**
  (Modified Duration, PV01 of equity or partial durations and PV01)

- **Economic Value of Equity Impact**

- **Risk to Earnings**
  - Include commercial margins
  - At least 1 measure

- **Gap Analysis**
  (Repricing Gaps)

- **Net Interest Income Impact**

**Common features**

- Consider non-performing exposures as interest rate sensitive instruments, according to their expected cash flows and timing;
- Capture the complex nature of IRRBB over short-term and long-term horizon;
- Isolate key impacts of modelling assumptions;
- Isolate the impact of derivatives in the banking book;
- Supervisory outlier test (regulatory scenarios) + own assumptions and calculation methods

**Identification of IRRBB sub-components**

- **Gap Risk**
  Identified through gap analysis or partial durations

- **Basis Risk**
  Grouping based on the underlying interest rate

- **Option Risk**
  Inventory of transactions with embedded options (types and volumes)
**IRRBB 4. Measurement**

Measurement approaches must be based on documented assumptions. Stress scenarios must also be produced, at least for the annual ICAAP report.

**IRRBB Scenario Features for Ongoing Measurement**

<table>
<thead>
<tr>
<th>Cash Flow</th>
<th>Currency</th>
<th>Negative Interest Rates</th>
<th>Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconditional (fixed)</td>
<td>All currencies included</td>
<td>Negative levels</td>
<td>1 Internal scenarios (parallel/non-parallel, sudden/gradual, historical/expected)</td>
</tr>
<tr>
<td>Conditional (varying with the level of interest rates)</td>
<td>Specific shocks for material currencies</td>
<td>Asymmetrical impacts (assets/liabilities)</td>
<td>2 Scenario of key market rate divergence (basis risk)</td>
</tr>
</tbody>
</table>

Scenario results to feed into the decision-making at appropriate management level
Including, strategic/business decisions, internal capital allocation, risk management decisions and IRRBB framework review.

**Assumptions** (to be fully understood, documented and reviewed annually)

**Minimum perimeter of assumptions:**
- Exercise of options (automatic/behavioural, puts/calls);
- Treatment of non maturing deposits;
- Treatment of fixed term deposits with early redemption risk;
- Treatment of fixed rate loans (commitments);
- Treatment of own equity (EVE);
- Accounting implications for IRRBB measurement (e.g. hedge accounting effectiveness)

**Specific assumptions**
+ Products with customer options
+ Customer accounts without repricing date
+ Corporate planning assumptions for own equity capital

**Stress Scenarios** (at least annually)

**ICAAP stress testing considering severe changes in market conditions and customer behaviour (impact on EVE and/or EaR)**
- Well documented assumptions and sound methodologies
- Interaction with other risks (credit risk, liquidity risk, etc.)
- Reverse stress testing
- Larger and more extreme shifts than "standard" scenarios
**IRRBB 5. Supervisory Outlier Test**

The regulatory scenarios for EVE are enhanced and diversified with the addition of 6 new scenarios. All EVE measures must be performed at least quarterly.

### Standard Regulatory Shock (+/-200bps)

Parallel shock of +200 and - 200 bps

**Measure:** EVE  
**Frequency:** quarterly

### Regulatory Limit: 20% of total capital

**Assumptions:**
- All positions, CET 1 excluded  
- Automatic and behavioural assumptions  
- All cash flows to be considered (repayment of principal, repricing of principal, interest payments)  
- NPE with expected cash flows, net of provisions (NPE ratio > 2%)  
- Interest rate options, notably floors  
- Consistent treatment of commercial margins  
- Run-off balance sheet (snapshot at estimation time)  
- Maturity dependent floor (ON -100 bps or lower if observed, +5bps per year to 0%)  
- All material currencies (5% banking book assets) and at least 90% of A/L  
- Offsetting of shocks between currencies (50% EVE+)

### Six Scenarios (differentiated by currency)

**Parallel up**  
**Parallel down**  
**Steepener**  
**Flattener**  
**Short up**  
**Short down**

**Measure:** EVE  
**Frequency:** quarterly  
**Shock:** differentiated by currency

### Regulatory Limit: 15% of Tier 1 capital

**Assumptions:**
- All positions, CET 1 excluded  
- Automatic and behavioural assumptions  
- All cash flows to be considered (repayment of principal, repricing of principal, interest payments)  
- NPE with expected cash flows, net of provisions (NPE ratio > 2%)  
- Interest rate options, notably floors  
- Consistent treatment of commercial margins  
- Run-off balance sheet (snapshot at estimation time)  
- Maturity dependent floor (ON -100 bps or lower if observed, +5bps per year to 0%)  
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**IRRBB 5. Supervisory Outlier Test**

The sophistication of measurement methods may be softened for smaller less complex institutions (SREP categories 3 and 4)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Metric</th>
<th>SREP Category 4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>EaR</td>
<td>Repricing Gap</td>
<td>Standard maturity buckets advised in Basel Committee for Banking Supervision</td>
<td>Gap based on evolving size and composition of the banking book due to business responses to differing interest rate environments. Including projected commercial margins consistent with the interest rate scenario</td>
<td></td>
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</tr>
<tr>
<td>Modified Duration/PV01 of Equity</td>
<td>Time buckets advised in BCBS Standards. Application of standard shocks. Yield curve model with tenors corresponding to the time buckets.</td>
<td>Time buckets advised in BCBS Standards, application of partial duration weights. Application of standard shocks and other interest rate shock and stress scenarios. Yield curve model with tenors corresponding to the time buckets.</td>
<td>Partial duration computed per instrument type and time bucket. Application of standard and other interest rate shock and stress scenarios. Yield curve model with tenors corresponding to the time buckets.</td>
<td></td>
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</tr>
<tr>
<td>EVE</td>
<td>Partial Modified Duration/Partial PV01</td>
<td>Standard shock applied to earnings under a constant balance sheet. Based on time buckets advised in the BCBS Standards.</td>
<td>Standard and other interest rate shock and stress scenarios for the yield curve applied to earnings, reflecting constant balance sheet or simple assumptions about future business development.</td>
<td>Standard and other interest rate shock and stress scenarios for the yield curve and between key market rates separately applied to earnings projected by business plan or constant balance sheet. Including projected commercial margins consistent with the interest rate scenario.</td>
<td>Comprehensive interest rate and stress scenarios, combining shifts of yield curves with changes in basis and credit spreads, as well as changes in customer behaviour, are applied to reforecast business volumes and earnings to measure the difference compared with the underlying business plan. Including projected commercial margins consistent with the interest rate scenario.</td>
</tr>
<tr>
<td>Cash Flows partially or fully conditional on interest rates</td>
<td>Application of standard and other interest rate shock and stress scenarios for the yield curve, using time buckets as advised in the BCBS Standards; yield curve tenors corresponding to the time buckets.</td>
<td>Measure computed on transaction or cash flow basis. Application of standard and other interest rate shock and stress scenarios for the yield curve and between key market rates separately. Adequate tenors in yield curves. Full optionality valuation.</td>
<td>Comprehensive interest rate and stress scenarios, combining shifts of yield curves with changes in basis and credit spreads, as well as changes in customer behaviour. Adequate tenors in all yield curves. Full optionality valuation. Scenario analysis complemented by Monte Carlo or historical simulations on portfolios with material optionality. Daily updating of risk factors.</td>
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</table>
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