# "Basel IV"

## Regulatory Overview and IRB Approach for Credit Risk

### Regulation Overview

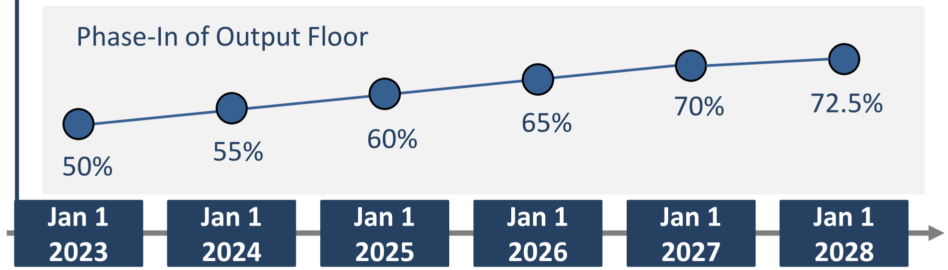
In December 2017 the Basel Committee on Banking Supervision published final rules to "Basel IV" (also referred to as Basel 3.1) to build on the earlier Basel Accords. It aims to update the way risk-weighted assets (RWAs) are calculated and improve the comparability of banks' capital ratios by:

I. Enhancing the robustness and risk sensitivity of the standardised approaches for credit risk, credit valuation adjustment (CVA) risk and operational risk;
II. Constraining the use of the internal model approaches by no longer allowing the use of the internal model approaches for CVA risk and for operational risk, and placing input floors on the IRB approach for credit risk;
III. Introducing a leverage ratio buffer to further limit the leverage of global systemically important banks (G-SIBs); and
IV. Introducing a new output floor based on the standardized approaches.

### Implementation Dates and Transitional Arrangements

**BCBS 424:** Jan 1 2023 International Implementation Date of "Basel IV"

1. Revised standardised approach for credit risk,
2. Revised IRB framework,
3. Revised CVA framework,
4. Revised operational risk framework,
5. Revised market risk framework,
6. Leverage ratio (revised exposure definition and G-SIB buffer)




### Revisions to the Internal Ratings-Based (IRB) Approaches for Credit Risk

There are three main revisions to the IRB approaches for credit risk:

1. Removal of the option to use the advanced internal-ratings based (A-IRB) approach for certain asset classes;
2. Floors introduced for bank-estimated IRB parameters such as probabilities of default (PD) and loss-given-default (LGD) which are used as inputs to the RWA calculation;
3. Greater specification provided of parameter estimation practices to reduce RWA variability.

**Revised scope of IRB approaches for asset classes:**

| Portfolio/exposure | Before: Available Approaches | After Basel 'IV': Available Approaches |
|---|---|---|
| Large & mid-sized corporates (consolidated rev's > €500m) | Advanced IRB (A-IRB), Foundation IRB (F-IRB), Standardised Approach (SA) | F-IRB, SA |
| Banks & other FIs | A-IRB, F-IRB, SA | F-IRB, SA |
| Equities | Various IRB approaches | SA |
| Specialised lending | A-IRB, F-IRB, slotting, SA | A-IRB, F-IRB, slotting, SA |

**Minimum parameter values in the revised IRB framework:**

| | PD | LGD | | EAD |
|---|---|---|---|---|
| | | Unsecured | Secured | |
| Corporate | 5 bp | 25% | Varying by collateral type | The sum of: (i) on-B/S exposures; & (ii) 50% of off-B/S exposure using applicable CCF in standardised approach |
| **Retail Classes:**<br>Mortgages<br>QRRE transactors<br>QRRE revolvers<br>Other retail | <br>5 bp<br>5 bp<br>10 bp<br>5 bp | <br>N/A<br>50%<br>50%<br>30% | <br>5%<br>N/A<br>N/A<br>Varying by collateral type | |

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## Revised Standardised Approach to Credit Risk (1/2)

### Revisions to the Standardised Approach for Credit Risk

The main revisions to the standardised approach for credit risk applying to banks and corporates is as follows:
• For banks and corporates, a more granular approach has been developed for unrated exposures and exposures where the ratings approach is not permitted;
• For exposures to banks, some of the risk weights for rated exposures have been recalibrated, and standalone treatment for covered bonds has been introduced;
• For exposures to corporates, a more granular approach has been developed, including specific weights applying to small and medium-sized enterprises (SMEs), and a standalone treatment for exposures to project finance, object finance and commodities finance.

**Exposures to Banks *(Risk weights in jurisdictions where the ratings approach is permitted)***

| **External Rating** | **AAA to AA-** | **A+ to A-** | **BBB+ to BBB-** | **BB+ to B-** | **Below B-** | **Unrated** |
|---|---|---|---|---|---|---|
| Risk Weight | 20% | 30% | 50% | 100% | 150% | As for SCRA below |
| Short-Term Exposures | 20% | 20% | 20% | 50% | 150% | As for SCRA below |

**Exposures to Banks *(Risk weights where the ratings approach is not permitted and for unrated exposures)***

| **Standardised Credit Risk Assessment Approach (SCRA) grades** | **Grade A** | **Grade B** | **Grade C** |
|---|---|---|---|
| Risk Weight | 40% | 75% | 150% |
| Short-Term Exposures | 20% | 50% | 150% |

**Exposures to Covered Bonds *(Risk weights for rated covered bonds)***

| **External Issue-Specific Rating** | **AAA to AA–** | **A+ to BBB–** | **BB+ to B–** | **Below B–** |
|---|---|---|---|---|
| Risk Weight | 10% | 20% | 50% | 100% |

**Exposures to Covered Bonds *(Risk weights for unrated covered bonds)***

| **Risk Weight of Issuing Bank** | **20%** | **30%** | **40%** | **50%** | **75%** | **100%** | **150%** |
|---|---|---|---|---|---|---|---|
| Risk Weight | 10% | 15% | 20% | 25% | 35% | 50% | 100% |

**Exposures to General Corporates *(Risk weights in jurisdictions where the ratings approach is permitted)***

| **External Rating of Counterparty** | **AAA to AA–** | **A+ to A–** | **BBB+ to BBB–** | **BB+ to BB–** | **Below BB–** | **Unrated** |
|---|---|---|---|---|---|---|
| Risk weight | 20% | 50% | 75% | 100% | 150% | 100% or 85% if corporate SME |

**Exposures to General Corporates *(Risk weights where rating approach is not permitted)***

| **SCRA Grades** | **Investment Grade** | **All Other** |
|---|---|---|
| General corporate (non-SME) | 65% | 100% |
| SME general corporate | 85% | 85% |

**Exposures to Project Finance, Object Finance and Commodities Finance**

| **Exposure (Excluding Real Estate)** | **Project Finance** | **Object and Commodity Finance** |
|---|---|---|
| Issue-specific ratings available and permitted | Same as for general corporate (see above) | Same as for general corporate (see above) |
| Rating not available or not permitted | 130% pre-operational phase<br>100% operational phase<br>80% operational phase (high quality) | 100% |

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## Revised Standardised Approach to Credit Risk (2/2)

The main revisions to the standardised approach for credit risk applying to the remaining exposures is as follows:

- For residential real estate and commercial real estate exposures, more risk-sensitive approaches have been developed;
- For retail exposures, a more granular treatment applies, which distinguishes between different types of retail exposures such as revolving facilities & transactors;
- For subordinated debt and equity exposures, a more granular risk weight treatment applies;
- For off-balance sheet items, the credit conversion factors (CCFs) have been made more risk-sensitive, including the introduction of positive CCFs for unconditionally cancellable commitments (UCCs).

**Retail Exposures Excluding Real Estate**

| | **Non-Revolving** | **Revolving Transactors** | **Revolving Revolvers** | **Other Retail** |
|---|---|---|---|---|
| Risk Weight | 75% | 45% | 75% | 100% |

**Residential Real Estate Exposures**

| **LTV bands** | **Below 50%** | **50% to 60%** | **60% to 70%** | **70% to 80%** | **80% to 90%** | **90% to 100%** | **above 100%** | **Criteria not met** |
|---|---|---|---|---|---|---|---|---|
| General RRE: Whole Loan Approach RW | 20% | 25% | 30% | | 40% | 50% | 70% | RW of counterparty |
| General RRE: Loan Splitting Approach RW | 20% | | RW of counterparty | | | | | RW of counterparty |
| IPRRE: Whole loan approach RW | 30% | 35% | 45% | | 60% | 75% | 105% | 150% |

**Commercial Real Estate (CRE) Exposures**

| | | | | |
|---|---|---|---|---|
| General CRE: Whole loan approach | **LTV ≤ 60%**<br>Min (60%, RW of counterparty) | | **LTV > 60%**<br>RW of counterparty | **Criteria not met**<br>RW of counterparty |
| General CRE: Loan-splitting approach | **LTV ≤ 55%**<br>Min (60%, RW of counterparty) | | **LTV > 55%**<br>RW of counterparty | **Criteria not met**<br>RW of counterparty |
| IPCRE: Whole loan approach | **LTV ≤ 60%**<br>70% | **60% < LTV ≤ 80%**<br>90% | **LTV > 80%**<br>110% | **Criteria not met**<br>150% |
| **Land acq., develop and construction exposures:**<br>Loan to company/SPV<br>Residential ADC loan | <br>150%<br>100% | | | |

**Subordinated Debt and Equity (Excluding Amounts Deducted)**

| | **Subordinated debt** | **Equity exposures to legislated programmes** | **“Speculative unlisted equity”** | **All other equity exposures** |
|---|---|---|---|---|
| Risk Weight | 150% | 100% | 400% | 250% |

**Credit Conversion Factors for Off-Balance Sheet Exposures**

| | **UCCs** | **Commitments** | **NIFs and RUFs, and contingencies** | **ST self-liquidating letters of credit** | **Direct credit substitutes** |
|---|---|---|---|---|---|
| CCF | 10% | 40% | 50% | 20% | 100% |

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## Other Key Revisions to Risk Frameworks

### Revisions to the CVA Risk Framework

The CVA risk framework to is being revised to 1 enhance its risk sensitivity, 2 strengthen its robustness, and 3 improve its consistency with the market risk framework:

1 The CVA framework is being revised to take into account the <u>exposure component of CVA risk</u> along with its associated hedges;

2 The internally modelled approach is no longer allowed to be used as it was viewed that banks could not model it in a robust and prudent manner. Rather CVA risk be calculated using: (i) a standardised approach; and (ii) a basic approach.
In addition, a bank with an aggregate notional amount of non-centrally cleared derivatives less than or equal to €100 billion may calculate their CVA capital charge as a simple multiplier of its counterparty credit risk charge.

3 The standardised and basic approaches of the revised CVA framework is being updated to be more consistent with the revised market risk framework such as basing the standardized CVA approach on fair value sensitivities to market risk factors.

### Revisions to the Operational Risk Framework

The operational risk framework is becoming more streamlined as the advanced measurement approaches (AMA) for calculating operational risk capital requirements which uses bank's internal models and the existing three standardised approaches are being replaced with a single risk-sensitive standardised approach.

The new standardised approach for operational risk determines a bank's operational risk capital requirements based on two components:

(i) <u>A measure of a bank's income:</u> assuming operational risk has a positive correlation with bank's income; and
(ii) <u>A measure of a bank's historical losses:</u> assuming historical operational losses is positively correlated with future operational losses.

**Operational Risk Capital** is the product of:

**Business Indicator (BI)** x **Marginal BI Coefficients ($\alpha_i$)** x **Internal Loss Multiplier**

**Business Indicator (BI):** BI = Interest, Leases, & Derivative Component + Services Component + Financial Component

**Marginal BI Coefficients ($\alpha_i$):** $\alpha_i$ based on BI bucket:

| BI Range | $\alpha_i$ |
|---|---|
| ≤€1 bn | 0.12 |
| €1 bn < BI ≤ €30 bn | 0.15 |
| >€30 bn | 0.18 |

**Internal Loss Multiplier:** A function of the bank's previous 10 years historical losses

### Revisions to the Leverage Ratio Framework

"Basel IV" introduces a leverage ratio buffer for global systemically important banks (G-SIBs) which must be met with Tier 1 capital and is set at 50% of a G-SIB's risk-weighted higher-loss absorbency requirements. In addition, there will be distribution constraints imposed on G-SIBs that will depend on its CET1 risk-weighted ratio and Tier 1 leverage ratio.

Also, there are updates to the definition of the leverage ratio exposure measure such as (i) modifying how derivatives are reflected in the exposure measure and (ii) updating the treatment of off-balance sheet exposures.

### Introduction to a New Output Floor

A new capital output floor is being introduced that limits the extent to which banks can lower their capital requirements using internal models relative to the standardised approaches..

Under the new approach the calculation of risk weighted assets is the higher of:

(i) total risk weighted assets calculated under the approach approved by their regulator, and
(ii) 72.5% of the total risk weighted assets calculated using the standardised approach;

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