**Basel III: Post-Crisis Reforms**

**Implementation Timeline**

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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<tbody>
<tr>
<td>Focus</td>
<td>Capital Definitions, Capital Buffer and Liquidity Requirements</td>
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<tr>
<td>1 January 2018</td>
<td>Full implementation of Leveraged Ratio (existing exposure definition)</td>
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</tbody>
</table>

**Capital Ratios**

- **Core Equity Tier 1 (CET1)**
- **Tier 1 (T1)**
- **Total Capital (Tier 1 + Tier 2)**

**Revisions to the Existing Standardised Approach**

- **Exposures to Banks**
  - Bank exposures will be risk-weighted based on either the External Credit Risk Assessment Approach (ECRA) or Standardised Credit Risk Assessment Approach (SCRA). Banks are to apply ECRA where regulators do the allow the use of external ratings for regulatory purposes and SCRA for regulators that don't.

- **Exposures to Multilateral Development Banks (MDBs)**
  - For exposures that do not fulfi the eligibility criteria, risk weights are to be determined by either SCRA or ECRA.

- **Exposures to Corporates**
  - A more granular risk-weight look-up table as well as a specific risk weight for small and medium-sized enterprises (SMEs) have been developed.

- **Retail Exposures (Excluding Real Estate)**
  - Retail exposures are broken down into more granular types such as transactors and revolvers. A Qualifying Retail Revolving Exposure (QRR) is the exposure to an obligor in relation to a revolving credit facility where the balance has been repaid in full at each scheduled repayment date for the previous 12 months or there have been no drawdowns over the previous 12 months. All exposures that are not QRR exposures are QRR revolvers.

- **Residential Real Estate (RRE) and Commercial Real Estate (CRE) Exposures**
  - More risk-sensitive approaches have been developed. Variable risk weights, based on mortgages’ Loan-to-Value (LTV) ratios, will replace the previous flat risk weights of 35% and 100% for RRE and CRE respectively.

- **Exposures to Subordinated Debts and Equity**
  - A more granular risk weight treatment applies relative to the current flat risk weight.

- **Exposures to Off-Balance Sheet Items**
  - Credit Conversion Factors (CCFs) have been made more risk-sensitive such as introducing positive CCFs for Unconditionally Cancellable Commitments (UCCs).

**Standardised Approach for Credit Risk**

- **New Categories of Exposures**
  - Exposure to Covered Bonds
  - Exposure to Project Finance, Object and Commodities Finance
  - Land acquisition, development and construction (ADC) exposures

**Off Balance Sheet Exposures**

- **UCCs**
- **Commitments except UCCs**
- **Note issuance and letters of credit**
- **Other exposures**

**Credit Conversion Factors (CCFs)**

- **Residential Real Estate (CRE)**
  - Risk Weight: 2.5% (LTV ≤ 55%)
  - Risk Weight: 2.5% (LTV > 60%)

- **Commercial Real Estate (CRE)**
  - Risk Weight: 20% (LTV ≤ 55%)
  - Risk Weight: 25% (LTV > 60%)

- **Non-Specific Facilities**
  - Risk Weight: 20% (LTV ≤ 55%)
  - Risk Weight: 25% (LTV > 60%)

- **Covered Bonds**
  - Risk Weight: 2.5% (LTV ≤ 55%)
  - Risk Weight: 2.5% (LTV > 60%)

- **Unrated**
  - Risk Weight: 100%

- **Other Retail**
  - Risk Weight: 100%

- **Counter cyclical Buffer**
  - Risk Weight: 10%

- **Conservation Buffer**
  - Risk Weight: 0%

- **Minimum Capital Requirement**
  - Risk Weight: 0%

**Implementation Timeline**

- **2018**
  - Focus: Capital Definitions, Capital Buffer and Liquidity Requirements
- **2019**
  - Focus: Capital Requirements
- **2020 - 2027**
  - 1 January 2018: Full implementation of Leveraged Ratio (existing exposure definition)
  - 1 January 2019 - 2027: Output floor: 50% (LTV > 55%)

**New Categories of Exposures**

- **Exposure to Covered Bonds**
  - Rated covered bonds will be risk weighted based on issue specific rating while risk weights for unrated covered bonds will be inferred from the issuer’s ECRA or SCRA risk weights.

- **Exposure to Project Finance, Object and Commodities Finance**
  - A new standalone treatment for specialisation lending, a subcategory of the corporate exposure class.

- **Land acquisition, development and construction (ADC) exposures**
  - New treatment for ADC financing, a subcategory of the real estate exposure class.
**Market Risk – Fundamental Review of Trading Book**

**More Defined Regulatory Boundary Between Banking and Trading Book**

The revised boundary treatment retains the link between the regulatory trading book and the set of instruments that banks generally hold for trading purposes but at the same time addresses the weaknesses (i.e. arbitrage between the two sets of books) that were present in the previous standard. Key parameters are:

- The bank's ability to substitute the trading book with the regulatory book,
- Enhanced supervisory powers and reporting requirements,
- Clearer treatment of internal risk transfers across the regulatory boundary.

**Market Risk – The Standardised Approach (SA)**

**Revised Standardised Approach**

Being part of the standardised measurement method, the Sensitivities based method builds on the elements and expands the use of delta, vega and curvature risk to factor sensitivities. The standardised approach capital charge is the sum of the sensitivities-Based Method capital charge, default risk charge and residual add-on.

**Sensitivities Based Method**

### Classification of instrument into risk class and risk factor

#### Delta Risk

A risk measure based on the standardised measurement method for a bank’s trading book to regulatory delta risk factors.

#### Vega Risk

A risk measure for the instruments with sensitivities to underlying risks to the Vega risk factors to be used as inputs to a similar aggregation formula as for Delta.

### Calculating the net weighted sensitivity (%)

#### Delta Risk

\[
\text{Weighted net sensitivity} = R_k \times K_i
\]

where, \( K_i \) is the corresponding risk weight and in the corresponding weight.

#### Vega Risk

\[
\text{Weighted net sensitivity} = W_k \times S_i
\]

where, \( W_k \) is the corresponding vega weight and \( S_i \) is the corresponding sensitivities.

### Calculating the risk factor exposure

#### Delta Risk

\[
\text{Risk factor exposure} = \sum_{k=1}^{K} W_k \times S_i \times K_i
\]

#### Vega Risk

\[
\text{Risk factor exposure} = \sum_{k=1}^{K} W_k \times S_i \times W_k
\]

Note: The residual add-on captures any other risks beyond the main risk factors already provided for a simple and conservative capital treatment for the more sophisticated/complex instruments that would otherwise not be captured in a practical manner under the other two components of the revised standard approach.

**Default Risk Charge (DRC)**

The standardised DRC, while it will facilitate the credit risk treatment in returning banks to a reduced capital allocation, is capital-sensitive to changes in similar risk exposures across the banking book and trading book. DRC is computed for non-credit-default, re-estimates (non-credit-related trading portfolio) and re-estimates (credit-related trading portfolio).

1. Compute the gross (long and short) risk positions for each instrument subject to default risk.
2. Compute the net risk position by subtracting the amounts of long and short exposure in respect of the same obligations between permitted netting and net short amounts in distinct obligations.
3. Calculate DRC by discounting the net exposure at a risk-free interest rate and applying default risks to arrive at a capital charge.

**Residual Add-on**

This captures any other risks beyond the main risk factors already provided for a simple and conservative capital treatment for the more sophisticated/complex instruments that would otherwise not be captured in a practical manner under the other two components of the revised standard approach. The Residual Add-on is the simple sum of gross notional amounts of the instruments bearing residual risks, multiplied by a weighted risk of 1% for instruments with an asbestos-weighting and a residual risk of 0.5% for instruments bearing other residual risks.

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**Market Risk – The Internal Models Approach (IMA)**

**Determining the Eligibility of Trading Activities for the IMA**

**Risk Factors**

- Banks must ensure that the regulatory capital adequacy criteria are being satisfied and used to estimate the IMA. Those criteria include:
  - Low risk-weighted exposures on a gross basis.
  - Low off-balance sheet risk.
  - Low off-balance sheet risk.
  - The risk factors are those identified in the regulatory capital adequacy framework.
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Securitisation Framework

1. Compute the IRB capital charge of the underlying portfolio, $K_{IRB} = \text{IRB capital requirement for the underlying exposure in the pool} = \text{expected amount of the pool} \times \text{risk weight of the pool}$
2. Compute the tranche detachment point, $A = \text{max} \left( 0, \frac{1}{\text{fluctuation band of all tranches that start or end below the tranche that contains the securitisation exposure of the bank}} \right)$
3. Compute the tranche detachment point, $D = \text{max} \left( 0, \frac{1}{\text{fluctuation band of all tranches that start or end below the tranche that contains the securitisation exposure of the bank}} \right)$
4. Calculate the effective number of exposures, $N = \frac{\text{aggregate capital charge for market risk}}{\text{risk weight of market risk}}$
5. Calculate the expected exposure average, $\text{expected exposure average} = \frac{\text{sum of market risk capital charge for each tranche}}{\text{number of exposures}}$
6. Compute the supervisory parameter, $p$

(i) For non-SES tranches:

$\text{rate of return adjusted for credit risk in the tranche} = \frac{1}{\text{rate of return of underlying assets}}$ and $\text{tranche maturity} = \text{maturity of underlying assets}$

(ii) For SES tranches:

$\text{rate of return adjusted for credit risk in the tranche} = \frac{1}{\text{rate of return of underlying assets}}$ and $\text{tranche maturity} = \text{maturity of underlying assets}$

7. Compute the capital requirement per unit of securitisation exposure, $K_{SECP} = \frac{K_{IRB}}{N}$

8. The risk weight (RW) assigned to a securitisation exposure is subject to a floor of 10% for non-SES capital securitisation and 10% for senior tranches and 15% for non-senior tranches for SES capital securitisation, RW is comprised of the following:

(i) $\text{IF} \quad A \geq K_{IRB} \quad \text{RW} = 1250%$

(ii) $\text{IF} \quad A < K_{IRB} \quad \text{RW} = 12.5 \times K_{SECP}$

(iii) $\text{IF} \quad A \geq K_{IRB} \quad \text{RW} \geq 12.5 \times K_{SECP}$

Securitisation Framework

1. Risk weight, subject to a floor of 15% for non-SES capital securitisation and 10% for senior tranches and 15% for non-senior tranches for SES capital securitisation, is determined by exposure rating:

(i) With short term rating:

$\text{RW} = 12.5 + \text{risk rating for the short term rating}$

(ii) With long term rating:

$\text{RW} = \text{if from table below after adjusting for maturity} \times (1 - \text{rating} \times \text{rating} \times \text{rating} \times \text{rating})$

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<th>Rating</th>
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</table>

2. Subject to supervisory approval, a bank may use the Internal Assessment Approach for its Assets-backed Commercial Paper (ABCAP) programme provided that the bank has at least one approved IRB model and if the bank's internal assessment process meets the operational requirements.

3. Compute the weighted average capital charge of the entire portfolio of underlying exposures, $K_{wca} = \text{sum of market risk capital charge for each tranche} / \text{number of exposures} \times \text{weighting factor}$

4. Compute the capital requirement per unit of securitisation exposure, $K_{SECP} = \frac{K_{IRB}}{N}$

5. The risk weight (RW) assigned to a securitisation exposure is subject to a floor of 10% for non-SES capital securitisation and 10% for senior tranches and 15% for non-senior tranches for SES capital securitisation, RW is comprised of the following:

(i) $\text{IF} \quad A \geq K_{IRB} \quad \text{RW} = 1250%$

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(iii) $\text{IF} \quad A \geq K_{IRB} \quad \text{RW} \geq 12.5 \times K_{SECP}$

(iv) $\text{If} \quad K_{SECP} \geq K_{IRB} \quad \text{RW} = 12.5 \times K_{SECP}$

(v) $\text{If} \quad K_{IRB} \geq K_{SECP} \quad \text{RW} = 12.5 \times K_{SECP}$

(vi) $\text{If} \quad K_{SECP} < K_{IRB} \quad \text{RW} = 12.5 \times K_{SECP}$
Credit Valuation Adjustment (CVA)

Introduction of Leverage Ratio Buffer for Global Systemically Important Banks (G-SIBs)

Leverage Ratio Buffer

The leverage ratio buffer seeks to replicate externalities created by G-SIBs and is tied to the risk-weighted G-SIB buffer. The average leverage ratio of a G-SIB is higher than the capital ratio requirements. Materiality threshold

Output Floor

The output floor places a limit on the regulatory capital benefits that a bank using internal models can receive from the standardized approaches. This serves to provide a risk-based backstop, limiting the extents banks can lower their capital requirements, as well as support the credibility of banks’ risk-weighted calculations and improve comparability vis-à-vis the related disclosures.
The new Standardised Measurement Approach (SMA), a risk-sensitive standardised approach based on a bank’s historical losses, replaces the Advanced Measurement Approach (AMA), Basic Indicator Approach (BIA), and Alternative Standardised Approach (AS) regulations prior to the new International Capital Framework (BIS III). The Operational Risk Capital (ORC) is defined as the product of the Business Indicator Component (BI), which itself is the product of the Business Indicator (BI) and its marginal coefficient α, and Operational Loss Multiplier (ILM).

\[ ORC = BI \times ILM = \sum_i B_i \times ILM \]

### Business Indicator Component (BI)

The bi is the sum of the Interest, Leases And Dividends Component (ILDC), the Services Component (SC) and the Financial Component (FC).

\[ BI = ILDC + SC + FC \]

The terms in the individual components of Bi are calculated as the average over three years and is indicated by a bar in the following formula.

\[ ILDC = \bar{\text{Interest & Leasing Income}} \times \text{Average Interest & Leasing Income } \times 2.25 \text{%} \]

\[ SC = \max \left( \text{Other Operating Income}, \text{Operating Expense} \right) + \max \left( \text{Net Interest Income}, \text{Operating Expense} \right) \]

\[ FC = \text{Profit Before Tax} \times \text{Book Value} + \text{Profit Before Tax} \times \text{Book Value} \]

### Operational Loss Multiplier (ILM)

- Operation loss risk experiences affect the computation of ORC via the ILM through the BI component (BC).

\[ ILM = \left( \bar{\text{Loss Experience Over 10 Years}} \right)^{\alpha} \]

- The LC is equal to 10 times the average annual operational risk losses incurred over the previous 10 years.

- The relationship between LC and ILM, summarised below, is inversely related.

\[ ILM \times LC = \text{constant} \]

- Banks in Bucket 1 have an ILM of 1. Regulators have a discretion of setting an ILM of 1 for all banks in their jurisdiction.

### Marginal BI Coefficient (α)

The marginal coefficient increases with the size of BI.

<table>
<thead>
<tr>
<th>BI Value</th>
<th>Marginal BI Coefficient (α)</th>
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<tbody>
<tr>
<td>0.12</td>
<td>0.15</td>
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<td>0.18</td>
<td>0.25</td>
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### About Asian Institute of Chartered Bankers

Asian Institute of Chartered Bankers (AICB) has been championing the vision of professionalising bankers since 1977 by upholding the standards of excellence for the financial services sector to empower its workforce through the systematic transfer of knowledge and qualifications.

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