

# Strengthening Interest Rate Risk Management

Revised CARs on HTM Debt Securities and the Use of Behavioral Models in IRRBB Management

March 2025



In February 2025, the Hong Kong Monetary Authority (HKMA) reviewed the practice of authorized institutions on interest rate risk management and published a circular<sup>1</sup>. It provides guidance with respect to the disclosure of adjusted Capital Adequacy Ratios (CARs) on held-to-maturity (HTM) debt securities investments and the use of behavioral models in measuring interest rate risk in the banking book management (IRRBB).

We have summarized the guidance and provide insights in this brief paper, which includes the use of granular segmentation approach in non-maturity deposits (NMDs) model, five modules of the governance framework in IRRBB management, and the procedures of measuring and disclosing the adjusted CAR ratio.

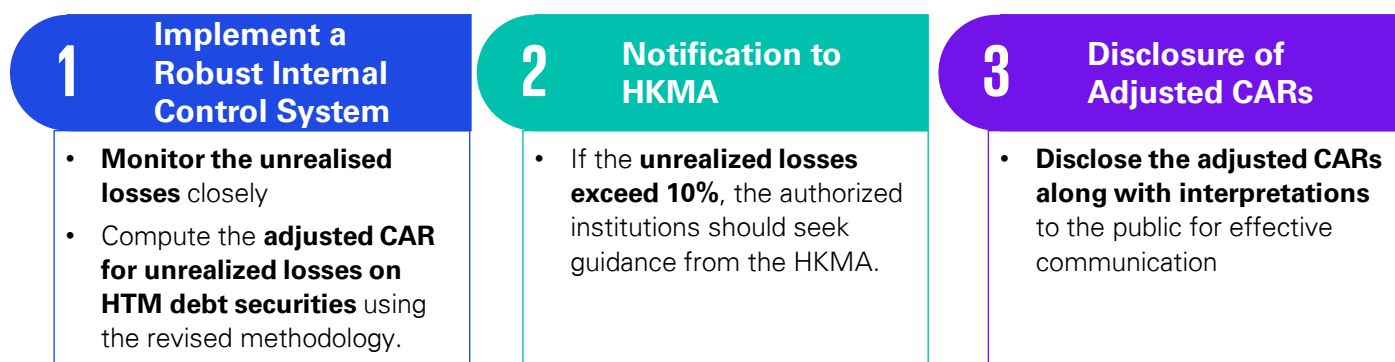
## Key Focus Area

Area	Follow-Up Actions
<b>Adjusted CARs on HTM Debt Securities</b>	<ul style="list-style-type: none"> <li>It is advised to <b>disclose the adjusted CARs along with an interpretation of the results</b> to the public.</li> <li>Institutions should closely monitor unrealized losses and seek guidance from the HKMA if these <b>losses exceed 10%</b>.</li> <li>The new <b>methodology for calculating the adjusted CAR</b> should be adopted to accurately reflect unrealized losses on <b>held-to-maturity debt securities</b>.</li> </ul>
<b>IRRBB Behavioral Model Governance</b>	<ul style="list-style-type: none"> <li>Institutions should follow the guidance in the five modules for IRRBB management with strong <b>emphasis on a model governance framework</b>.</li> <li><b>Ongoing monitoring and validation for IRRBB management with frequency of at least once a year</b> should be conducted.</li> <li>Institutions should <b>comply with HKMA’s Supervisory Policy Manual module IR-1 on “Interest Rate Risk in the Banking Book” (SPM IR-1) to meet the requirements for modelling approaches</b>.</li> </ul>
<b>Non-Maturity Deposits Model</b>	<ul style="list-style-type: none"> <li>Adopt the <b>granular segmentation behavioral model approach for non-maturity deposits</b> to assess varying depositor behaviors.</li> </ul>

<sup>1</sup> HKMA circular: [Interest rate risk management](#)

# Adjusted CARs on HTM Debts Securities

To promote transparency and effective monitoring, a new approach is recommended for disclosing adjusted CARs that reflect unrealized losses on HTM debt securities. We outlined the procedures for the calculation and disclosure of adjusted CARs below:



**Authorized institutions should incorporate the above guidance into their internal control processes.**

## Illustrating the methodology of adjusted CARs for unrealized losses on HTM Debt Securities using sample data

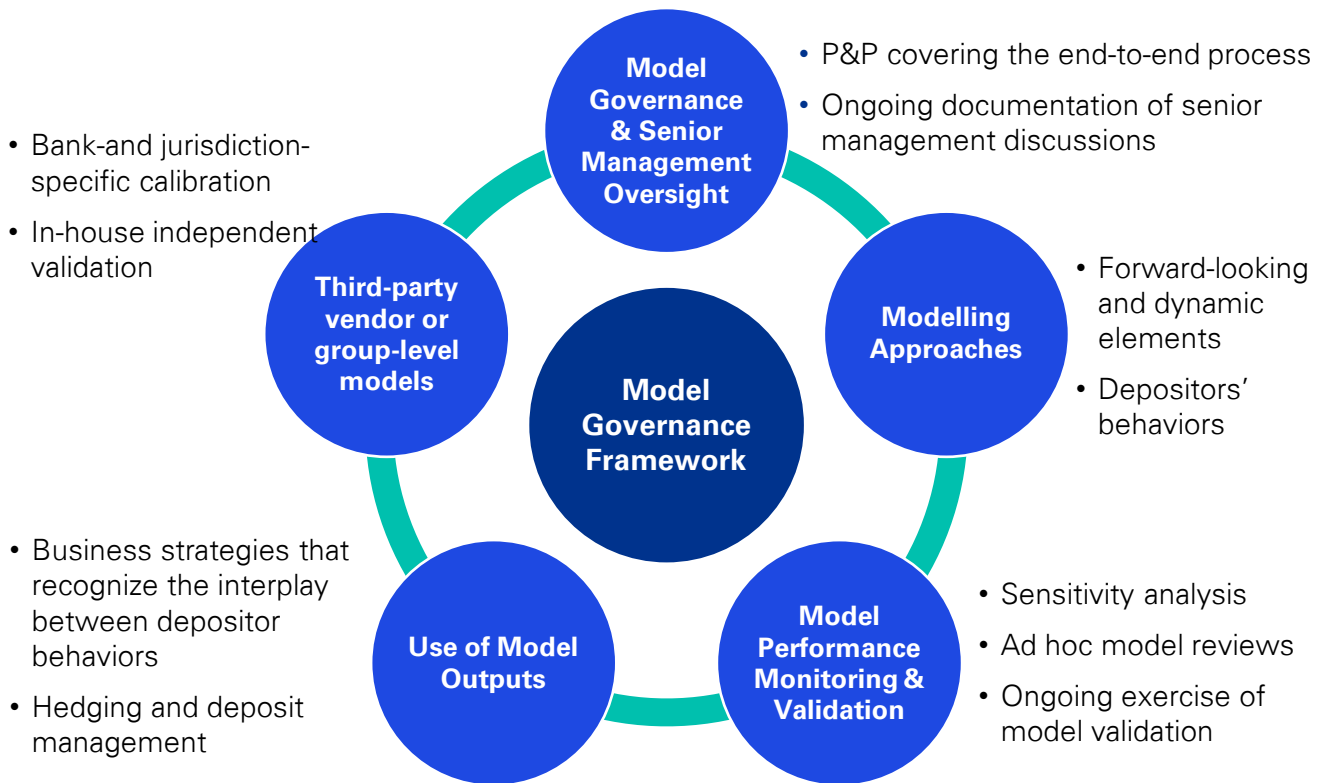
	After adjustment
CET1 Capital	500,000
Accumulated unrealized losses on HTM debt securities	100,000
<b>Adjusted CET1 Capital</b>	<b>400,000</b>
Non-CET1 Capital	70,000
<b>Adjusted Total Capital</b>	<b>470,000</b>
Total RWA	3,000,000
RWA of the HTM debt securities (with unrealized losses) measured at amortized cost	200,000
RWA of the HTM debt securities (with unrealized losses) measured at fair value	300,000
<b>Adjusted Total RWA</b>	<b>3,100,000</b>
<b>Adjusted Total Capital Ratio</b>	<b>15.16%</b>

## Notes

- **Adjusted CET1 Capital** = CET1 Capital – Accumulated unrealized losses on HTM debt securities
- **Adjusted Total Capital** = Adjusted CET1 Capital + Non-CET1 Capital
- **Adjusted Total RWA** = Total RWA – RWA of the HTM debt securities (with unrealized losses) measured at amortized cost + RWA of the HTM debt securities (with unrealized losses) measured at fair value
- **Adjusted Total Capital Ratio** = (Adjusted Total Capital / Adjusted Total RWA) x 100%

# Governance of Behavioral Models for Measuring the IRRBB

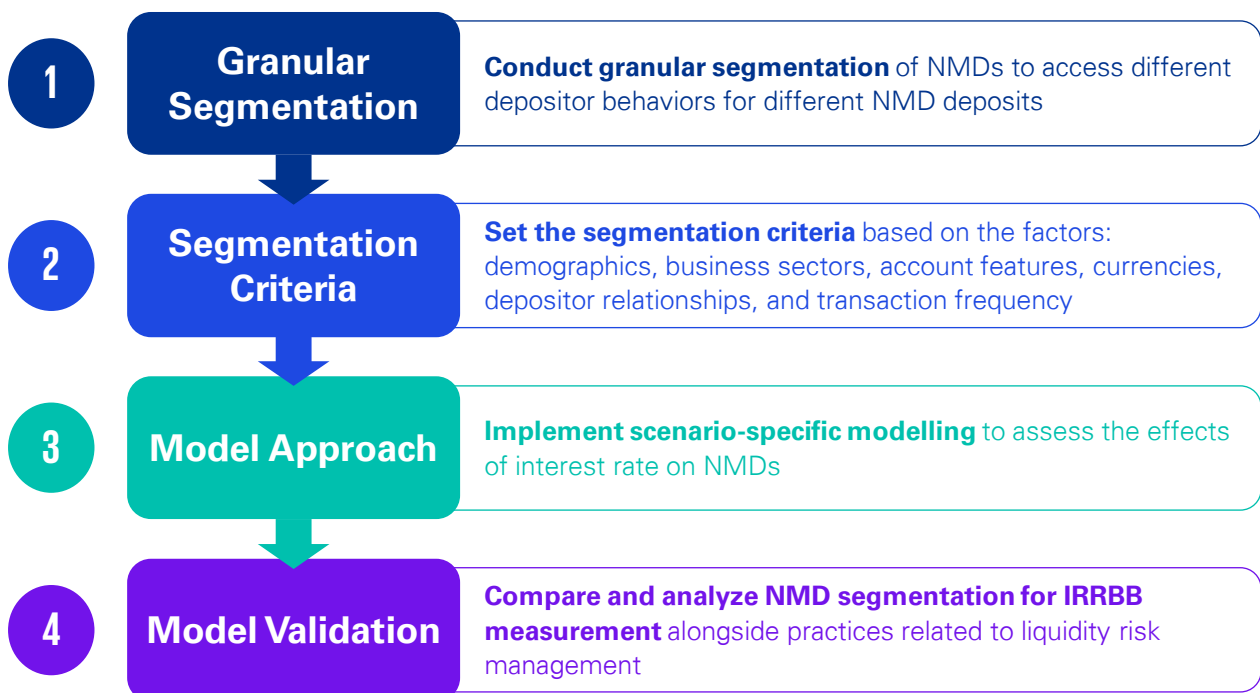
Best practice on usage of behavioral models is a stronger governance framework that encompasses the following five modules for measuring IRRBB:



*Placing a strong emphasis on establishing an adequate model governance framework*


## NMD Models

Good practices on NMD models which focuses on estimating the proportion of core deposits and the corresponding behavioral maturity.



Note: Local jurisdictions and their banking regulators may, under national discretion, recalculate the shocks for their domestic currencies using data that deviate from the initial 16-24-year period to better reflect any idiosyncratic circumstances in their markets.

# How KPMG can help



KPMG is a market leader in the implementation of IRRBB standards. We will continue to monitor revisions of the standards published by the Basel Committee on Banking Standards, and corresponding guidelines made by the HKMA. In the meantime, we offer a suite of solutions to help you navigate IRRBB implementation, including in the following key areas:



## IRRBB Framework Review & Uplift

- Perform independent review of your IRRBB framework, governance, compliance, policies & procedures, NII, EVE and Basis Risk, ICAAP, models, and other relevant areas, provide recommendations and uplift support to meet industry standards.



## IRRBB Risk Appetite and Early Warning Triggers

- Develop new or refine your existing early risk warning triggers to mitigate the risks of reaching outlier thresholds set by the HKMA; review your RAS metrics for IRRBB



## IRRBB Stress Testing Tooling and Methods

- Support you on the IRRBB stress testing requirements with specific tailored scenarios for your balance sheet and the standard six supervisory interest rate shock scenarios with our tooling and methodologies.



## IRRBB Data and Systems

- Review your granular data segmentation approaches for NMDs, overall data management and data governance for IRRBB including ETL and other required logic.
- Provide review and guidance on your IRRBB related systems and technology. KPMG also has tooling and expertise on third party solutions that can be leveraged.



## Balance Sheet Review and Optimization

- Review your balance sheet structure and provide advice and recommendations to optimize product structures, enhance your capability in balance sheet forecasting and management, as well as the ability to reposition the balance sheet to optimize NII and RWA.



## IRRBB Behavioural Model / Optionality Model Build and Validation

- Develop and or validate your IRRBB behavioural models for products with behavioural optionality, including fixed-rate loans subject to prepayment risk, fixed-rate loan commitments, term deposits subject to early redemption risk, NMDs
- Develop IRRBB option models for products with automatic option risk and perform independent validations on the IRRBB behavioural and option model
- Optimize your model framework bringing in best practices and forward looking elements into the models.

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## Contact us



**Robert Zhao**  
Partner,  
Financial Risk Management  
KPMG China  
+852 2978 8939  
[robert.zhao@kpmg.com](mailto:robert.zhao@kpmg.com)



**Michael Monteforte**  
Partner,  
Financial Risk Management  
KPMG China  
+852 2847 5012  
[michael.monteforte@kpmg.com](mailto:michael.monteforte@kpmg.com)



**Gemini Yang**  
Partner,  
Financial Risk Management  
KPMG China  
+852 3927 5731  
[gemini.yang@kpmg.com](mailto:gemini.yang@kpmg.com)



**Yi-Hsin Wang**  
Director,  
Financial Risk Management  
KPMG China  
+852 6715 0966  
[yihsin.wang@kpmg.com](mailto:yihsin.wang@kpmg.com)



**Dr John Jiang**  
Associate Director,  
Financial Risk Management  
KPMG China  
+852 2143 8816  
[john.yq.jiang@kpmg.com](mailto:john.yq.jiang@kpmg.com)



**Terence Fong**  
Associate Director,  
Financial Risk Management  
KPMG China  
+852 2913 2503  
[tc.fong@kpmg.com](mailto:tc.fong@kpmg.com)



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