Risk Management

Risk Management

The Group operates on prudent commercial principles. The principle of "prudence before profitability" guides the design of the overall risk management framework, disciplines as well as day-to-day business execution. Over the years, the Group has continuously made refinements to its risk management framework to reflect changes in the markets and its business strategies.

The Board is the highest decision-making authority of the Group and holds ultimate responsibility for risk management. The Board, with the assistance of the Corporate Risk Management Committee (**CRC**), has the primary responsibility of formulating risk management strategies in the risk appetite statement and of ensuring that the Group has an effective risk management system to implement these strategies. The risk appetite statement defines the constraints for all risk-taking activities, and these constraints are incorporated into risk limits, risk policies and control procedures that the Group follows to ensure risks are managed properly.

The CRC is responsible for overseeing the Group's various types of risks, reviewing and approving high-level risk-related policies, overseeing their implementation, and monitoring improvement efforts in governance, policies and tools. Regular stress tests are reviewed by the CRC to evaluate the Group's financial capability to weather extreme stress scenarios.

The CRC is chaired by an Executive Director, with members including the Chief Executive Officer, Senior Vice Presidents, General Counsel and senior staff from the Risk Management Department.

Under the steer of the CRC, the Group manages primarily credit risk, market risk, longevity risk, property price risk, operational risk, legal and compliance risk, leveraging risk, and environmental, social and governance risk arising from its businesses through various management committees such as the Infrastructure Financing and Securitisation Investment Committee (**IFSIC**), Infrastructure Financing and Securitisation Collateral Manager Committee (**IFSCMC**), Credit Committee (**CC**), Transaction Approval Committee (**TAC**), Asset and Liability Committee (**ALCO**), Operational Risk Committee (ORC), Longevity Risk Committee (**LRC**) and Environmental, Social and Governance Committee (**ESGC**). Other than the IFSIC, which is chaired by an Executive Director, all of these management committees are chaired by the Chief Executive Officer with members including the relevant Senior Vice Presidents, General Counsel, and senior staff from the relevant functional departments.

The insurance subsidiaries have their own Risk Committee (**RC**) to monitor insurance risk and other relevant risks. Each RC is chaired by an Executive Director of these subsidiaries, with members including the Chief Executive Officer and the relevant senior staff of these subsidiaries. The RC of the HKMCA includes independent and non-executive directors to provide independent risk oversight of its operation.

Credit Risk

Loan Assets and Guarantee Portfolio

The Group maintains loan and guarantee portfolios of retail and commercial loan assets, which primarily comprise mortgage loans. Credit risk is the Group's primary risk exposure. It is the default risk presented by loan borrowers and counterparties.

(a) *Default risk*

The Group adopts a four-pronged approach to safeguard and maintain the credit quality of its assets, Mortgage Insurance Programme (**MIP**) and SME guarantee portfolios:

- careful selection of counterparties, including Approved Sellers, Approved Servicers, Approved Reinsurers and Lenders

- prudent eligibility criteria for asset purchase, insurance and guarantee applications

- effective due diligence processes for mortgage purchase, default loss, insurance and guarantee claims

- enhanced protection for higher-risk transactions.

Losses may arise from the recovery shortfalls of defaulted loans under the Mortgage Purchase Programme (**MPP**). To mitigate this risk, the Group establishes prudent loan purchasing criteria and conducts due diligence reviews as part of the loan purchase process to maintain the credit quality of loans. In addition, depending on the projected risk exposure of each underlying loan portfolio, credit enhancement arrangements are agreed upon with Approved Sellers on a deal-by-deal basis to reduce potential default losses.

Losses may also arise from a default on loans under the MIP's insurance coverage. To mitigate this risk, each MIP application is underwritten by the Group in accordance with a set of eligibility criteria and each claim from a participating bank is reviewed by the Group to ensure the fulfilment of all MIP coverage conditions. To reduce the risk of possible concentration of this default risk, the Group transfers a portion of the risk-in-force to Approved Reinsurers through reinsurance arrangements.

Similarly, losses may arise from a borrower's default on loans in the SME guarantee portfolio. The borrower's default risk of each guarantee application is assessed by the lender in accordance with their credit policies. In addition, the Group adopts prudent eligibility criteria, conducts administrative vetting and credit reviews to better understand the credit quality of the applications, and carries out a due diligence review on each default claim to ensure the loan's compliance with the Group's eligibility criteria and the lenders' internal credit policies.

Credit performances of the loan and guarantee portfolios are tracked and reported on a regular basis to closely monitor any emerging risks, and to implement risk-mitigating measures in a timely way.

(b) *Seller/Servicer counterparty risk*
Counterparty risks may arise from the failure of an Approved Seller/Servicer of an acquired portfolio to remit scheduled payments to the Group in a timely and accurate manner.

The Approved Sellers/Servicers are subject to a risk-based eligibility review and ongoing monitoring of their loan servicing quality and credit standing.

(c) *Reinsurer counterparty risk*
Reinsurer counterparty risk refers to the failure of an Approved Reinsurer to make claim payments to the Group. To mitigate reinsurer counterparty risk effectively, the Group has a framework in place for the assessment of mortgage reinsurers' eligibility and requested collateral on the risk exposures.

The Group performs annual and ad-hoc reviews of each Approved Reinsurer to determine the eligibility for ongoing business allocation and risk-sharing portions.

(d) *Treasury counterparty risk*
Treasury counterparty risk arises when there is a delay or failure from treasury counterparties to make payments with respect to treasury instruments transacted with the Group. Treasury counterparties are managed by a rating-based counterparty assessment framework and a risk-based counterparty limit mechanism. The treasury counterparties are continually monitored and the counterparty limits are adjusted based on the assessment results.

Furthermore, the Group has set up bilateral collateral arrangements with swap counterparties to mitigate treasury counterparty risk.

(e) *Lender risk*
The Group is exposed to lender risk in SME lending that arises from: (a) a lender's underwriting being non-compliant with its credit policy; (b) a lender's loosely formulated credit policy that is not specific enough or sufficiently defined for compliance; and (c) the moral hazard of a lender being less prudent in underwriting a guarantee-protected application. The Group manages lender risk through the review of the lenders' credit policies and the due diligence reviews on claims.

(f) *Insurer counterparty risk*
Insurer counterparty risk arises when there is a delay or failure from the life insurer in meeting its obligations under the life insurance policy assigned to the Group under the Policy Reverse Mortgage Programme (**PRMP**). To mitigate insurer counterparty risk, the life insurance policy to be assigned to the Group must be issued by an insurer authorised under the Insurance Ordinance. Furthermore, the insurers are subject to ongoing monitoring.

The CC or RC as appropriate is responsible for setting the credit policies and eligibility criteria and is the approval authority for accepting applications to become Approved Sellers/Servicers under the MPP, Approved Reinsurers under the MIP and Reverse Mortgage Programme (**RMP**), Approved Lenders under the SFGS and eligible treasury counterparties. It is also responsible for setting risk exposure limits for counterparties. The CC and RC monitor the operating environment closely and put in place timely risk-mitigating measures to manage the credit risk.

The TAC or RC as appropriate conducts in-depth analysis of pricing economics and associated credit risks for business transactions, while taking into consideration the latest market conditions and business strategies approved by the Board.

Infrastructure Loans
Credit risk arises when the counterparty to a financial instrument fails to meet its contractual obligations, leading to potential or actual financial losses to the Group. The credit risk related to the IFS business is managed through prudent underwriting criteria, in-depth due diligence reviews conducted by in-house experts and independent consultants, exposure management through divestment or other risk sharing arrangement. All investments have taken into consideration the transaction structures with appropriate risks and returns, acceptable project risks and mitigation measures, including delay risk, construction risk, performance risk, operational risk, commercial risk, financial risk, counterparty risk, concentration risk, legal and compliance risk, regulatory risk, political risk, currency risk, interest rate risk and environmental and social risks, subject to ongoing monitoring and a review mechanism. The Group also adopts a robust internal credit rating methodology and a loss given default methodology to evaluate expected losses arising from an infrastructure loan default.

In terms of the risk governance structure, a dedicated division, inclusive of a risk control unit, performs the credit assessment, day-to-day monitoring, reporting and risk management of infrastructure investments. The IFSIC is the governing forum to manage the infrastructure investments and is responsible for overseeing compliance with applicable rules, guidelines and policies, and for approving and monitoring the infrastructure investments and issuance of infrastructure loan-backed securities.

Market Risk
Market risk arises when the Group's income or the value of its portfolios decreases due to adverse movements in market prices. Market risk consists of interest rate risk, asset-liability maturity mismatch risk, liquidity risk and currency risk.

(a) *Interest rate risk*
Interest rate risk arises when changes in market interest rates affect the interest income associated with the assets and/or interest expenses associated with the liabilities.

The primary objective of interest rate risk management is to limit the potential adverse effects of interest rate movements. The interest rate risk faced by the Group is two-fold, namely interest rate mismatch risk and basis risk. The Group makes prudent use of a range of financial instruments, mainly interest rate swaps, to manage interest rate mismatch risk.

The Group also uses the duration gap (i.e., the difference in interest rate re-pricing intervals between assets and liabilities) as an indicator to monitor, measure and manage interest rate mismatch risk.

Depending on the prevailing interest rate outlook and market conditions, the Group proactively re-balances the duration gap of its asset-liability portfolio under the guidance and supervision of the ALCO.

Basis risk represents the difference in benchmark rates between the Group's Prime-based interest-earning assets and its HIBOR-based interest-bearing liabilities. Over the past few years, the Group has consciously adopted a strategy that acquires more HIBOR-based assets. As a result, the Prime-HIBOR basis risk for the Group has been substantially reduced.

(b) *Asset-liability maturity mismatch risk*

Asset-liability maturity mismatch risk can be more specifically characterised as reinvestment risk and refinancing risk. Reinvestment risk refers to the risk of a lower return from the reinvestment of proceeds that the Group receives from prepayments and repayments of its loan portfolio. Refinancing risk is the risk of refinancing liabilities at a higher level of interest rate or credit spread.

Reinvestment risk is managed through the ongoing purchase of loan assets to replenish the rundown in the retained portfolios, and through the investment of surplus cash in debt securities and cash deposits, to fine-tune the average life of the overall asset pool.

The Group manages its refinancing risk through flexible debt issuance with a broad spectrum of maturities. This serves to adjust the average life of the overall liability portfolio in a dynamic fashion. In addition, refinancing risk can be mitigated by adjusting the maturities of assets in the investment portfolio, or off-loading loan assets through securitisation.

The Group uses the asset-liability maturity gap ratio to measure, monitor and manage asset-liability maturity mismatch risk to ensure a proper balance between the average life of the Group's assets and liabilities.

(c) *Liquidity risk*

Liquidity risk represents the risk of the Group not being able to repay its obligations such as the redemption of maturing debt, or to fund committed purchases of loan portfolios. Liquidity risk is managed by monitoring the daily inflow and outflow of funds, and by projecting the longer-term inflows and outflows of funds across the full maturity spectrum and under different market conditions.

Given its strong background as a wholly government-owned entity and its solid credit rating, the Group is efficient in raising funds from debt markets with both institutional and retail funding bases. This advantage is supplemented by the Group's portfolio of highly liquid investments, which is held to enable a swift and smooth response to unforeseen liquidity requirements. The HK$80 billion Revolving Credit Facility from the Exchange Fund further provides the Group with a liquidity fallback even if exceptional market strains last for a prolonged period.

The Group manages pre-funding prudently through well-diversified funding sources (**Table 1**). Such diversification allows the Group to pursue a pre-funding strategy at the lowest possible cost, while offering safeguards against the difficulty of raising funds in distorted market conditions.

Table 1: Current Funding Sources for the Corporation

Funding Source	Description
US$30 billion Medium Term Note Programme	An extensive dealer group is appointed to underwrite and distribute local and foreign currency debt to international institutional investors under the programme
HK$40 billion Debt Issuance Programme	Primary Dealers and Selling Group Members underwrite and distribute debt to institutional investors under the DIP. The Transferable Loan Certificate Sub-Programme under the DIP provides further diversification of its funding sources and broadening of its investor base
HK$20 billion Retail Bond Issuance Programme	Placing Banks use their branch networks and telephone and electronic banking facilities to assist the Group in offering retail bonds to investors
Investment Portfolio	This portfolio comprises mainly cash and bank deposits, commercial paper, high-quality certificates of deposit, and notes that are readily convertible into cash
Money Market Lines	The Group has procured money market lines from a large number of local and international banks for short-term financing
HK$80 billion Revolving Credit Facility	The Exchange Fund commits to providing the Group with HK$80 billion in revolving credit

(d) *Currency risk*

Currency risk arises from the impact of foreign exchange rate fluctuations on the Group's financial position and foreign currency-denominated cash flows. The Group manages its currency risk strictly in accordance with the investment guidelines approved by the Board and under the supervision of the ALCO, which sets daily monitoring limits on currency exposure.

To ensure adequate checks and balances, transaction execution is segregated among the front, middle and back offices which are assumed by the Treasury Department, the Risk Management Department, and the Operations Department, respectively.

The ALCO is responsible for the overall management of market risk. It follows the prudent risk management principles and investment guidelines approved by the Board. Regular meetings are held to review the latest financial market developments and formulate relevant asset-liability management strategies.

(e) *Placements with the Exchange Fund*

The HKMCA places its annuity premium receipts in the Investment Portfolio (**IP**) and Long Term Growth Portfolio (**LTGP**) of the Exchange Fund to earn an investment return. Furthermore, the HKMCA and the HKMCI have been placing their paid-up capital and retained earnings to the IP since April 2019 to manage the return on capital. The Group is exposed to market risk when the investment return falls short of the expected level. The risk of loss could result from adverse movements in interest rates, equity prices, property prices and foreign exchange rates. The Group actively monitors and reviews the investment portfolio to determine the strategic asset allocation between IP and LTGP.

The RCs of the HKMCA and the HKMCI are the governing forums for managing all risks arising from their placements with the Exchange Fund.

Longevity Risk

Longevity risk under the RMP and the PRMP refers to the heightening risk of longer payouts. The longer the payout and loan period, the larger the loan balance will accrue over time, and the lesser the buffer will be from the enforcement of collateral to cover the outstanding loan balance. A loss may arise if there is a shortfall in the recovery amount after the disposal of the property under the RMP or the claim of death benefits of the life insurance policy under the PRMP.

Longevity risk under the HKMC Annuity Plan (**Annuity Plan**) is the risk that the actual life expectancies of annuitants are longer than expected, resulting in a longer stream of monthly payouts, which in turn could materially impact the long-term sustainability of the Annuity Plan.

The Group takes on longevity risk through setting prudent actuarial assumptions in mortality rates as well as future improvement in life expectancy. An annual risk analysis is conducted to assess the potential financial impact of longevity risk, as well as the interaction among the various risk factors under the RMP, the PRMP and the Annuity Plan. The mortality assumptions are reviewed on a regular basis.

The LRC is the governing forum that manages the longevity risk of the Group. Its duties include approving longevity risk management policies, hedging transactions and reviewing longevity experiences and exposures of the Group. It also monitors and analyses the general trend, technological changes and their implications for human longevity.

Property Price Risk

Property price risk arises from fluctuation in the value of property that acts as collateral for the Group's loan and guarantee portfolios under the MPP, MIP and RMP. The Group manages property price risk by soliciting valuations from professional surveyors on each property securing a loan purchase or loan application, setting prudent assumptions in the recoverable value of the collateralised property, restricting maximum loan-to-value ratios of the loans under the relevant programmes and conducting stress tests to examine the impact of adverse market conditions.

The CC and RC are the governing forums that manage the property price risk of the Group.

Operational Risk

Operational risk represents the risk of losses arising from inadequacies, or the failure of internal processes, people or systems, or external interruptions.

The Group actively manages operational risk with its well-established internal controls, authentication structures and operational procedures. The operational infrastructure is well designed to support the launch of new products in different business areas. Rigorous reviews are conducted before the implementation of operational or system infrastructure, to ensure adequate internal controls are in place to mitigate operational risks.

To ensure an efficient and effective discharge of daily operations, the Group pursues advanced technological solutions alongside robust business logistics and controls to carry out its operational activities and business processes. The Group also implements prudent measures to institute appropriate checks and balances, thereby ensuring its operations are controlled properly. Effective internal controls help minimise financial risk and safeguard assets against unauthorised use or loss, including the prevention and detection of fraud , as well as cybersecurity threats.

In relation to cybersecurity and information risk, which represents the loss of confidentiality, integrity or availability of information and systems that may have an adverse impact to the Group, the following specific measures have been implemented to mitigate such risks:

- Preventive security architecture design and awareness programs;
- Detective measures to identify abnormal system activities in pre-empting cybersecurity threats;
- Continuous collection and analysis of external cybersecurity threats for ongoing control enhancement; and
- Establishment of structural response plans to minimise the impact of potential security events.

To ensure all line functions in the Group maintain an effective operational risk and internal control framework, the ORC establishes key risk indicators to track the key operational risk items and monitor the effectiveness of the risk-mitigating measures. Operational risk incidents are also reported for operational risk management. In addition, the ORC provides directions and resolves issues related to policies, controls and the management of operational issues as well as ensuring prompt and appropriate corrective actions in response to audit findings related to operational risks and internal controls.

Legal and Compliance Risk

Legal and compliance risk arises from the failure to comply with statutory or regulatory obligations and any unenforceability of legal documents in safeguarding the interests of the Group.

The Corporation manages such risk with the assistance of the Legal Office (including the Compliance Function).

The Legal Office, headed by the General Counsel, advises the Group on legal matters. When new products or business activities are considered, the Legal Office will advise on the relevant laws and the necessary legal documentation. Where appropriate, external counsel will be engaged to assist the Legal Office in providing legal support to the Group.

The Compliance Function is part of the Legal Office and is led by the Chief Compliance Officer, who reports to the Chief Executive Officer through the General Counsel. Where appropriate, the Compliance Function will engage external counsel to advise on compliance matters.

The ORC is the governance committee for legal and compliance risk.

Leveraging Risk

To ensure the Group would not incur excessive risk when expanding its business and balance sheet in proportion to its capital base, the Financial Secretary acted as the regulator of the Group and issued the Guidelines on Capital Adequacy Ratio (**CAR**) taking reference principally from the Basel II risk-based capital adequacy framework. The minimum CAR is set at 8%. As at 31 December 2024, the Group's CAR was 19.9%.

The prudent use of regulatory capital is monitored closely in accordance with the capital guidelines. The Chief Executive Officer reports the CAR and the daily minimum ratio to the Board of Directors on a quarterly basis. An early warning system is also in place. If the CAR drops to the threshold level of 14%, the Chief Executive Officer will alert the Executive Directors and consider appropriate remedial actions. If the CAR falls to 12% or below, the Board of Directors will be informed and appropriate remedial actions will be taken.

The capital requirements of the insurance subsidiaries are subject to the regulatory requirements of the Insurance Authority. As at 31 December 2024, the respective solvency ratios of the HKMCA and the HKMCI were at about 1.7 times and 4.0 times.

Environmental, Social and Governance Risk

ESG issues pose potential risk on the Group's operations, reputation and performance. The Group manages ESG risk under the ESG risk management framework, which mainly includes ESG risk appetite, ESG risk assessment, climate risk stress testing and monitoring risk level by ESG risk metrics. The ESGC is the governance committee for managing the ESG risk.