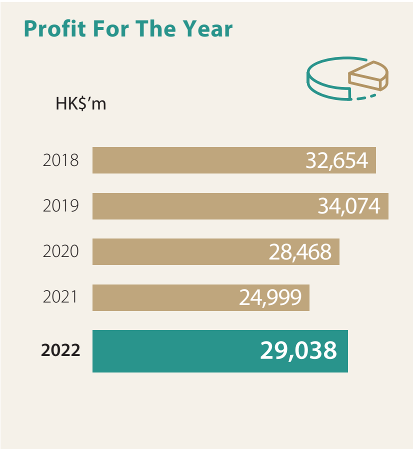
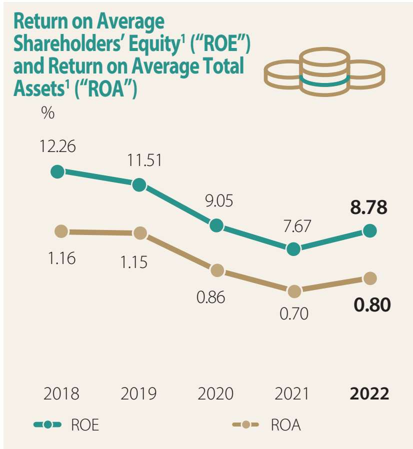
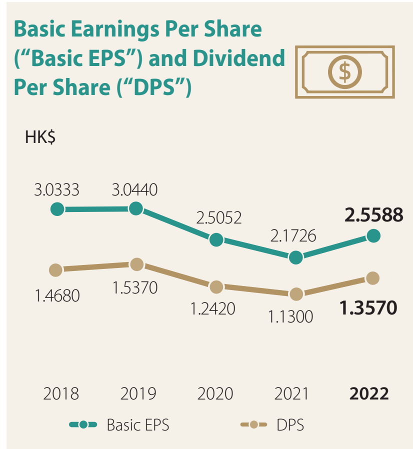
# Management Discussion and Analysis

## Financial Performance and Conditions at a Glance

The following table is a summary of the Group's key financial results for 2022 in comparison with the previous four years. The average value of the Group's liquidity coverage ratio and net stable funding ratio for 2022 are reported on a quarterly basis.

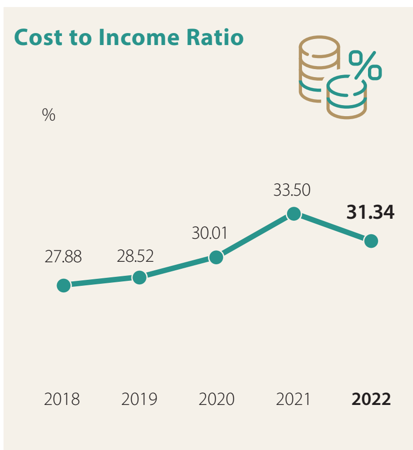


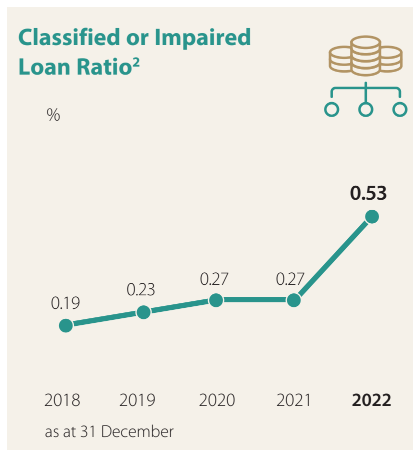




**Profit for the year returned to a growth trajectory**

- Profit for the year increased by 16.2% year-on-year to HK$29,038 million.
- ROE and ROA were 8.78% and 0.80% respectively, up 1.11 percentage points and 0.10 percentage points respectively year-on-year.
- Basic EPS was HK$2.5588. DPS was HK$1.3570.


**Seizing opportunities from rising market interest rates, leading to a notable increase in NIM**

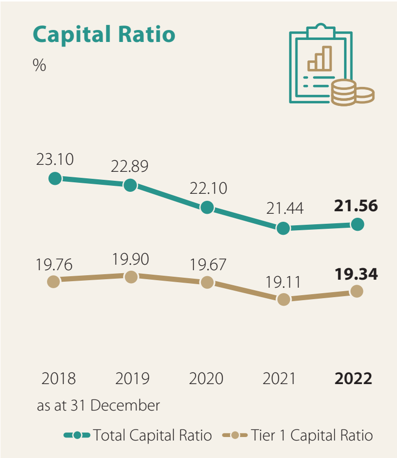
- NIM was 1.25%. If the funding income or cost of foreign currency swap contracts[3] were included, NIM would have been 1.36%, up 27 basis points year-on-year. This was primarily due to the Group's efforts to seize opportunities from rising market interest rates while proactively managing its assets and liabilities, which resulted in a widening of the loan and deposit spread and an increase in the yield of debt securities investments.

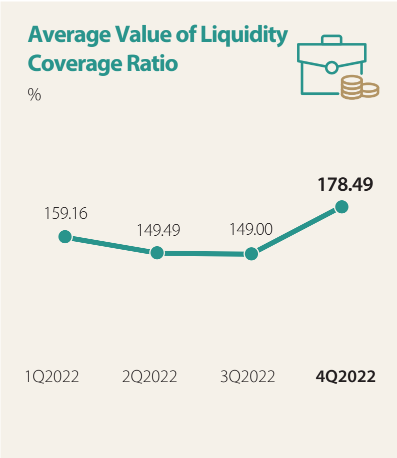
**Maintaining satisfactory levels of cost efficiency through continuous optimisation of resource allocation**

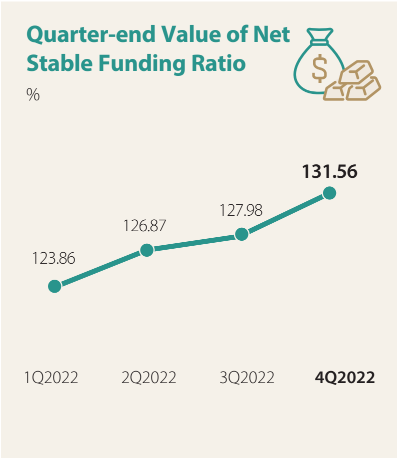
- Cost to income ratio was 31.34%. The Group continuously optimised its resource allocation, implemented low-carbon operational initiatives and explored the utilisation of internal resources to meet additional requirements, thus maintaining its cost to income ratio at a satisfactory level relative to industry peers.

**Maintaining benign asset quality through prudent risk management**

- The classified or impaired loan ratio was 0.53%, which remained below the market average.




**Strong capital position to support stable business growth**

- The tier 1 capital ratio was 19.34% and the total capital ratio was 21.56%.

**Liquidity remained ample**

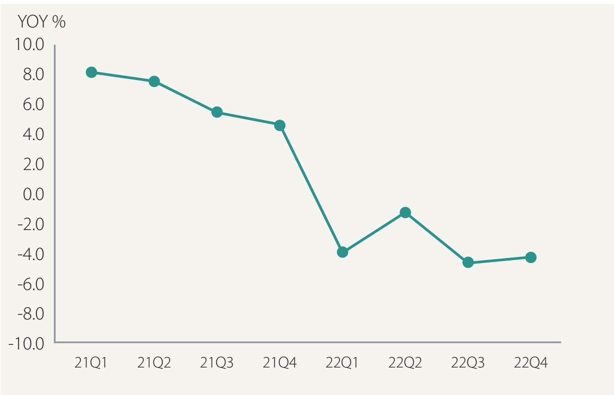
- The average value of the Group's liquidity coverage ratio and the quarter-end value of its net stable funding ratio in each quarter of 2022 met regulatory requirements.

1. Return on average shareholders' equity and return on average total assets as defined in "Financial Highlights".
2. Classified or impaired advances to customers represent advances which are either classified as "substandard", "doubtful" or "loss" under the Group's classification of loan quality, or classified as Stage 3.
3. Foreign exchange swap contracts are normally used for the Group's liquidity management and funding activities. In foreign exchange swap contracts, the Group exchanges one currency (original currency) for another (swapped currency) at the spot exchange rate (spot transaction) and commits to reverse the spot transaction by exchanging the same currency pair at a future maturity date at a predetermined rate (forward transaction). In this way, surplus funds in the original currency are swapped into another currency for liquidity and funding purposes with minimal foreign exchange risk. The exchange difference (funding income or cost) between the spot and forward contracts is recognised as a foreign exchange gain or loss (as included in "net trading gain"), while the corresponding interest differential between the surplus funds in the original currency and swapped currency is reflected in net interest income.

## Economic Background and Operating Environment

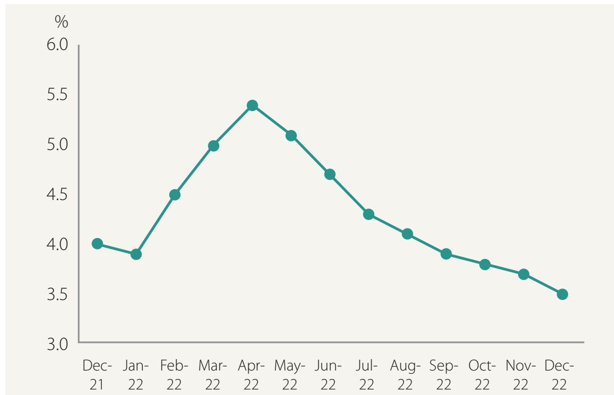
In 2022, the global pandemic situation remained volatile and the external environment featured a relatively high degree of uncertainty amid persistent geopolitical risks. Against a backdrop of high inflation, central banks around the world tightened their monetary policies. The US Federal Reserve continued to increase its benchmark rate and reduce its balance sheet, while the European Central Bank also repeatedly increased its benchmark rates. The Chinese mainland was adversely affected by increasingly complicated and severe international conditions, as well as a volatile domestic pandemic situation. In response, the Chinese Government introduced a range of stimulus measures with the aim of stabilising the economy. Pandemic-related containment measures in Southeast Asia countries were gradually eased, facilitating economic recovery in the region.

**Hong Kong GDP Growth Rate**




Source: HKSAR Census and Statistics Department

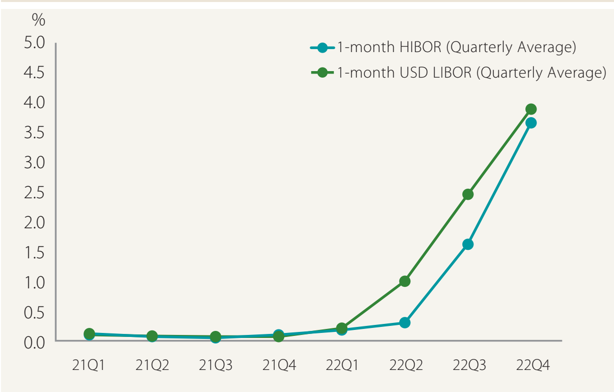
**Hong Kong Unemployment Rate**




Source: HKSAR Census and Statistics Department

The fifth wave of the pandemic took its toll on Hong Kong economic activity in the first quarter of 2022. Following an improvement in the pandemic situation as well as the introduction of supportive measures by the HKSAR Government, economic performance in the second quarter improved on a quarter-on-quarter basis, with the unemployment rate also gradually declining. However, financial conditions in Hong Kong tightened amid rising interest rates, while the deterioration of the external environment adversely affected Hong Kong exports. As a result, the year-on-year decline in quarterly GDP widened during the third quarter, putting downward pressure on the economy in the fourth quarter.

**HIBOR and USD LIBOR**




Source: Bloomberg

The exchange rate of the Hong Kong dollar against the US dollar repeatedly triggered the weak-side Convertibility Undertaking in 2022, which led the Hong Kong Monetary Authority ("HKMA") to purchase Hong Kong dollars from the market and caused a contraction in the aggregate balance of the banking sector. The 1-month HIBOR increased from 0.16% at the end of 2021 to 4.35% at the end of 2022. As the US Federal Reserve started to increase its benchmark rate, the 1-month USD LIBOR increased from 0.10% at the end of 2021 to 4.39% at the end of 2022, while the 1-month Secured Overnight Financing Rate ("SOFR") increased from 0.05% to 4.36% over the same period. The US treasury yield curve flattened and subsequently became inverted. The treasury yield spread between 2-year and 10-year tenors was 78 basis points at the end of 2021, while the former was 55 basis points higher than the latter at the end of 2022.

In 2022, the Hong Kong stock market was affected by weak global market sentiment, with anemic levels of IPO activity. The total amount of funds raised and the average daily trading volume of the stock market decreased by 67.4% and 25.1% respectively compared to the year 2021. Hong Kong stock market performance was volatile, being affected by such factors as the pandemic situation, heightened inflationary pressures and a property market downturn in the Chinese mainland. As at the end of 2022, the Hang Seng Index was down 15.5% compared with the end of 2021.

In Hong Kong's property market, residential property transaction volumes decreased year-on-year in 2022 while private residential property prices declined compared with the end of 2021. This occurred amid local stock market volatility, the US Federal Reserve's initiation of a rate hike cycle and balance sheet reduction, and stricter pandemic-related social distancing measures. The HKSAR Government continued to implement demand-side management measures and the HKMA maintained prudent supervisory measures on mortgage loans, notwithstanding the easing of the upper limit on the value of properties eligible for the Mortgage Insurance Programme and the relaxing of stress test requirements for mortgage loan applications. In general, the asset quality of banks' mortgage businesses remained stable. Meanwhile, the pace of recovery in the commercial property market was slowed by social distancing measures. Rental costs, prices and transaction volumes of retail properties fell.

Despite challenges in the macroeconomic environment, the banking industry continues to enjoy enormous development opportunities. The 14th Five-Year Plan will further enhance the opening up of the financial sector in the Chinese mainland and promote RMB internationalisation. Together with other favourable conditions including the further development of the Guangdong-Hong Kong-Macao Greater Bay Area, the expansion of mutual financial market access between the Chinese mainland and Hong Kong, the enactment of the Regional Comprehensive Economic Partnership ("RCEP"), the development of Hong Kong's Northern Metropolis area and the resumption of normal traveller clearance between Hong Kong and the Chinese mainland, these will provide promising business opportunities for the banking sector in Hong Kong.

# Consolidated Financial Review

## Financial Highlights

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Net operating income before impairment allowances | **56,932** | 48,982 | 16.2 |
| Operating expenses | **(17,844)** | (16,407) | 8.8 |
| Operating profit before impairment allowances | **39,088** | 32,575 | 20.0 |
| Operating profit after impairment allowances | **36,743** | 30,430 | 20.7 |
| Profit before taxation | **34,988** | 29,968 | 16.8 |
| Profit for the year | **29,038** | 24,999 | 16.2 |
| Profit attributable to equity holders of the Company | **27,054** | 22,970 | 17.8 |

In 2022, the banking sector faced pressure from a complex and challenging operating environment, characterised by an uncertain pandemic situation and financial market volatility. Upholding "bottom-line" thinking in its risk management, the Group actively responded to market volatility and captured business opportunities, with both income and profit returning to a growth trajectory. In 2022, the Group's net operating income before impairment allowances amounted to HK$56,932 million, an increase of HK$7,950 million or 16.2% year-on-year. If the funding income or cost of foreign currency swap contracts were included, net interest income would have recorded year-on-year growth, owing to the Group's efforts to capture opportunities from rising market interest rates and proactively manage its assets and liabilities. Net trading gain increased year-on-year, which was attributable to growth in income from customer transactions amid financial market volatility, as well as changes in the mark-to-market value of certain interest rate instruments. However, net fee and commission income dropped year-on-year, mainly due to the volatile pandemic situation in Hong Kong, persistently dampened investor sentiment in the market, delays in business activities and weakened consumer demand. Operating expenses increased, with the Group pursuing efficient resource allocation in order to meet its basic operating needs and ensure strategic implementation; while also optimising its existing cost base, so as to achieve balanced growth in expenses and income. At the same time, it actively implemented low-carbon operational initiatives and explored the utilisation of internal resources to meet additional requirements for enhancing cost efficiency. Meanwhile, the net charge of impairment allowances increased and a higher net loss was recorded from fair-value adjustments on investment properties. Profit for the year amounted to HK$29,038 million, an increase of HK$4,039 million or 16.2% year-on-year. Profit attributable to equity holders was HK$27,054 million, an increase of HK$4,084 million or 17.8% year-on-year.

**Second Half Performance**

In the second half of 2022, the Group's net operating income before impairment allowances increased by HK$2,468 million or 9.1%, compared to the first half of 2022. This was mainly attributable to an increase in net interest income, including the funding income or cost of foreign currency swap contracts. Meanwhile, the net charge of impairment allowances decreased from the first half of the year. As a result, the Group's profit after taxation increased by HK$204 million or 1.4% on a half-on-half basis.

## Income Statement Analysis

**Net Interest Income and Net Interest Margin**

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Interest income | 63,834 | 40,298 | 58.4 |
| Interest expense | (25,020) | (8,357) | 199.4 |
| Net interest income | 38,814 | 31,941 | 21.5 |
| Average interest-earning assets | 3,106,367 | 3,015,219 | 3.0 |
| Net interest spread | 1.08% | 1.00% | |
| Net interest margin | 1.25% | 1.06% | |
| Net interest margin (adjusted)* | 1.36% | 1.09% | |

* Including the funding income or cost of foreign currency swap contracts.

Net interest income amounted to HK$38,814 million in 2022. If the funding income or cost of foreign currency swap contracts[#] were included, net interest income would have increased by 28.6% year-on-year to HK$42,367 million. This was mainly due to growth in average interest-earning assets and a widening of net interest margin.

Average interest-earning assets expanded by HK$91,148 million or 3.0% year-on-year.

If the funding income or cost of foreign currency swap contracts were included, net interest margin would have been 1.36%, up 27 basis points year-on-year, as a result of the Group's efforts to seize opportunities from rising market interest rates while proactively managing its assets and liabilities, which led to a widening of the loan and deposit spread and an increase in the yield of debt securities investments.

**Second Half Performance**

Compared with the first half of 2022, the Group's net interest income would have increased by HK$7,041 million or 39.9% if the funding income or cost of foreign currency swap contracts were included. This was mainly due to improvement in net interest margin. Net interest margin widened by 46 basis points to 1.59% as market interest rates rose rapidly in the second half of the year, leading to an increase in the asset yield of advances to customers and debt securities investments.

\# Foreign exchange swap contracts are normally used for the Group's liquidity management and funding activities. In foreign exchange swap contracts, the Group exchanges one currency (original currency) for another (swapped currency) at the spot exchange rate (spot transaction) and commits to reverse the spot transaction by exchanging the same currency pair at a future maturity date at a predetermined rate (forward transaction). In this way, surplus funds in the original currency are swapped into another currency for liquidity and funding purposes with minimal foreign exchange risk. The exchange difference (funding income or cost) between the spot and forward contracts is recognised as a foreign exchange gain or loss (as included in "net trading gain"), while the corresponding interest differential between the surplus funds in the original currency and swapped currency is reflected in net interest income.

The table below summarises the average balances and average interest rates of individual categories of assets and liabilities:

| ASSETS | 2022 Average balance HK$'m | 2022 Average yield % | 2021 Average balance HK$'m | 2021 Average yield % |
|---|---|---|---|---|
| Balances and placements with banks and other financial institutions | **403,002** | **1.07** | 383,631 | 0.82 |
| Debt securities investments and other debt instruments | **1,043,987** | **1.75** | 1,015,239 | 1.26 |
| Advances to customers and other accounts | **1,649,018** | **2.48** | 1,600,436 | 1.52 |
| Other interest-earning assets | **10,360** | **3.77** | 15,913 | 0.75 |
| Total interest-earning assets | **3,106,367** | **2.05** | 3,015,219 | 1.34 |
| Non interest-earning assets | **531,548** | **–** | 574,040 | – |
| Total assets | **3,637,915** | **1.75** | 3,589,259 | 1.12 |

| LIABILITIES | 2022 Average balance HK$'m | 2022 Average rate % | 2021 Average balance HK$'m | 2021 Average rate % |
|---|---|---|---|---|
| Deposits and balances from banks and other financial institutions | **284,175** | **0.84** | 250,428 | 0.65 |
| Current, savings and time deposits | **2,234,610** | **0.95** | 2,188,701 | 0.30 |
| Subordinated liabilities | **9,607** | **3.45** | – | – |
| Other interest-bearing liabilities | **54,444** | **1.83** | 19,820 | 0.60 |
| Total interest-bearing liabilities | **2,582,836** | **0.97** | 2,458,949 | 0.34 |
| Shareholders' funds* and other non interest-bearing deposits and liabilities | **1,055,079** | **–** | 1,130,310 | – |
| Total liabilities | **3,637,915** | **0.69** | 3,589,259 | 0.23 |

* Shareholders' funds represent capital and reserves attributable to the equity holders of the Company.

**Net Fee and Commission Income**

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Loan commissions | **2,547** | 2,746 | (7.2) |
| Securities brokerage | **2,491** | 3,743 | (33.4) |
| Credit card business | **1,991** | 2,141 | (7.0) |
| Insurance | **1,257** | 1,529 | (17.8) |
| Payment services | **724** | 751 | (3.6) |
| Trust and custody services | **723** | 764 | (5.4) |
| Funds distribution | **541** | 724 | (25.3) |
| Bills commissions | **514** | 623 | (17.5) |
| Safe deposit box | **299** | 306 | (2.3) |
| Currency exchange | **210** | 119 | 76.5 |
| Funds management | **49** | 161 | (69.6) |
| Others | **1,359** | 1,196 | 13.6 |
| Fee and commission income | **12,705** | 14,803 | (14.2) |
| Fee and commission expense | **(3,193)** | (2,931) | 8.9 |
| Net fee and commission income | **9,512** | 11,872 | (19.9) |

In 2022, net fee and commission income amounted to HK$9,512 million, down HK$2,360 million or 19.9% year-on-year. The decline was mainly due to weakened investor sentiment in the market, which resulted in a year-on-year decrease in commission income from securities brokerage, insurance, funds distribution and funds management of 33.4%, 17.8%, 25.3% and 69.6% respectively. Commission income from loans, credit card business, bills, trust and custody services as well as payment services also decreased owing to delays in business activities and weakening consumer demand. However, commission income from currency exchange rose by 76.5% year-on-year, which was mainly attributable to increased demand for foreign currency banknotes following the gradual easing of travel restrictions for most countries. Fee and commission expenses increased due to a notable uplift in the sales volume of BOC Life's broker and tied agency channels.

**Second Half Performance**

Compared with the first half of 2022, net fee and commission income decreased by HK$776 million or 15.1%, mainly owing to a decrease in commission income from loans, securities brokerage, funds distribution, bills and funds management. However, commission income from credit card business, insurance, trust and custody services, currency exchange and payment services increased, which partially offset the overall decline in fee and commission income. Fee and commission expenses decreased due to the lower sales volume of BOC Life's broker and tied agency channels.

### Net Trading Gain

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Foreign exchange and foreign exchange products | **8,084** | 4,725 | 71.1 |
| Interest rate instruments and items under fair value hedge | **4,951** | (60) | N/A |
| Commodities | **173** | 175 | (1.1) |
| Equity and credit derivative instruments | **74** | 251 | (70.5) |
| Total net trading gain | **13,282** | 5,091 | 160.9 |

Net trading gain amounted to HK$13,282 million, an increase of HK$8,191 million or 160.9% year-on-year. If the funding income or cost of foreign currency swap contracts were excluded, net trading gain would have increased by 138.0% year-on-year to HK$9,729 million. This was mainly attributable to the Group recording a net trading gain from interest rate instruments and items under fair value hedge in 2022, as compared with a net trading loss in 2021, which resulted from changes in the mark-to-market value of certain interest rate instruments caused by market interest rate movements. Net trading gain from foreign exchange and foreign exchange products increased compared to the previous year, driven in part by year-on-year growth in currency exchange income from customer transactions. Net trading gain from equity and credit derivative instruments decreased by HK$177 million, with less income realised from equity-linked products amid weakened investor sentiment in the market in 2022.

#### Second Half Performance

Compared with the first half of 2022, net trading gain decreased by HK$4,634 million or 51.7%. If the funding income or cost of foreign currency swap contracts were excluded, net trading gain would have decreased by 54.3% from the first half of the year to HK$3,053 million. This was mainly attributable to the Group further optimising the investment mix of its banking book portfolio, which led to reduced volatility in the mark-to-market value of certain interest rate instruments caused by market interest rate movements.

### Net Loss on Other Financial Instruments at Fair Value through Profit or Loss

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Net loss on other financial instruments at fair value through profit or loss | **(3,243)** | (1,136) | 185.5 |

The Group recorded a net loss of HK$3,243 million on other financial instruments at fair value through profit or loss in 2022, an increase of HK$2,107 million or 185.5% year-on-year. The change was mainly due to a drop in the mark-to-market value of BOC Life's equity and debt securities investments, caused respectively by a weakened local stock market and market interest rate movements. The abovementioned changes to the mark-to-market value of BOC Life's debt securities investments were offset by changes to its policy reserves, also attributable to market interest rate movements, which were reflected in changes in net insurance benefits and claims and movements in liabilities.

#### Second Half Performance

Compared with the first half of 2022, net loss on other financial instruments at fair value through profit or loss increased by HK$301 million or 20.5% to HK$1,772 million, which was mainly attributable to a net loss from changes in the mark-to-market value of securities investments.

**Operating Expenses**

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Staff costs | 9,946 | 9,542 | 4.2 |
| Premises and equipment expenses (excluding depreciation and amortisation) | 1,273 | 1,232 | 3.3 |
| Depreciation and amortisation | 3,001 | 3,039 | (1.3) |
| Other operating expenses | 3,624 | 2,594 | 39.7 |
| Operating expenses | 17,844 | 16,407 | 8.8 |

| | At 31 December 2022 | At 31 December 2021 | Change (%) |
|---|---|---|---|
| Staff headcount measured in full-time equivalents | 14,832 | 14,553 | 1.9 |

Operating expenses amounted to HK$17,844 million, an increase of HK$1,437 million or 8.8% year-on-year. The Group pursued efficient resource allocation in order to meet its basic operating needs and ensure strategic implementation, while optimising its existing cost base so as to achieve balanced growth in expenses and income. At the same time, it actively implemented low-carbon operational initiatives. It also explored the utilisation of internal resources to meet additional requirements for enhancing cost efficiency. The cost to income ratio was 31.34%, remaining at a satisfactory level relative to industry peers.

Staff costs increased by 4.2% year-on-year, mainly due to annual salary increment and increased headcount. The increase was also due to a lower base of performance-related remuneration in 2021 for comparison.

Premises and equipment expenses increased by 3.3%, mainly due to an increase in investment in information technology.

Depreciation and amortisation decreased by 1.3%, mainly due to lower depreciation charges on right-of-use assets and information technology, which more than offset the impact of increased amortisation of intangible assets and higher depreciation charges on premises.

Other operating expenses increased by 39.7%, mainly due to an increase in anti-pandemic, advertising, professional consultancy fees, cleaning and other one-off expenses.

**Second Half Performance**

Compared with the first half of 2022, operating expenses increased by HK$2,192 million or 28.0%. The increase was mainly due to higher staff costs, increased investment in information technology and an increase in advertising, professional consultancy fees, telecommunications and other one-off expenses.

**Net Charge of Impairment Allowances on Advances and Other Accounts**

| HK$'m, except percentages | 2022 | 2021 | Change (%) |
|---|---|---|---|
| Net reversal/(charge) of impairment allowances on advances and other accounts | | | |
| Stage 1 | **816** | 465 | 75.5 |
| Stage 2 | **(1,340)** | (1,182) | 13.4 |
| Stage 3 | **(2,021)** | (1,249) | 61.8 |
| Net charge of impairment allowances on advances and other accounts | **(2,545)** | (1,966) | 29.5 |

**Total Loan Impairment Allowances as a Percentage of Advances to Customers**

| | At 31 December 2022 | At 31 December 2021 |
|---|---|---|
| Total loan impairment allowances as a percentage of advances to customers | **0.70%** | 0.62% |

In 2022, the Group's net charge of impairment allowances on advances and other accounts amounted to HK$2,545 million, an increase of HK$579 million or 29.5% year-on-year. Impairment allowances at Stage 1 recorded a net reversal of HK$816 million, up HK$351 million from the net reversal in 2021, as the Group revised its expected credit loss model in the second half of 2022, which resulted in a net reversal of impairment allowances. Impairment allowances at Stage 2 recorded a net charge of HK$1,340 million, an increase of HK$158 million year-on-year. The change was mainly attributable to the higher impairment allowances made, when the Group revised its expected credit loss model and took into consideration the potential risks arising from exposures to certain Mainland property developers and clients under the prevailing pandemic relief measures in the second half of 2022. Impairment allowances at Stage 3 amounted to a net charge of HK$2,021 million, an increase of HK$772 million year-on-year, owing to new impairment allowances being made in response to the downgrading of certain corporate advances in 2022. The credit cost of advances to customers and other accounts was 0.15%, up 3 basis points year-on-year. As at 31 December 2022, the Group's total loan impairment allowances as a percentage of advances to customers was 0.70%.

**Second Half Performance**

Compared with the first half of 2022, the Group's net charge of impairment allowances on advances and other accounts decreased by HK$907 million. This decrease was attributable to there being a higher base for comparison, owing to impairment allowances made in the first half of 2022 relating to the downgrading of certain corporate customers and the Group's higher loan growth.

## Analysis of Assets and Liabilities

The table below summarises the Group's asset composition. Please refer to Note 24 to the Financial Statements for the contract/notional amounts and fair values of the Group's derivative financial instruments. Please refer to Note 42 to the Financial Statements for the contractual amounts of each significant class of contingent liability and commitment, and the aggregate credit risk-weighted amounts.

**Asset Composition**

| | At 31 December 2022 | | At 31 December 2021 | | |
|---|---|---|---|---|---|
| HK$'m, except percentages | Balance | % of total | Balance | % of total | Change (%) |
| Cash and balances and placements with banks and other financial institutions | **535,194** | **14.5** | 465,535 | 12.8 | 15.0 |
| Hong Kong SAR Government certificates of indebtedness | **208,770** | **5.7** | 203,810 | 5.6 | 2.4 |
| Securities investments and other debt instruments[1] | **1,079,982** | **29.3** | 1,167,770 | 32.1 | (7.5) |
| Advances and other accounts | **1,645,354** | **44.7** | 1,597,194 | 43.9 | 3.0 |
| Fixed assets and investment properties | **60,330** | **1.6** | 64,163 | 1.8 | (6.0) |
| Other assets[2] | **155,427** | **4.2** | 140,958 | 3.8 | 10.3 |
| Total assets | **3,685,057** | **100.0** | 3,639,430 | 100.0 | 1.3 |

1. Securities investments and other debt instruments comprise investment in securities and financial assets at fair value through profit or loss.
2. Other assets comprise derivative financial instruments, interests in associates and joint ventures, current tax assets and deferred tax assets.

As at 31 December 2022, the total assets of the Group amounted to HK$3,685,057 million, an increase of HK$45,627 million or 1.3% compared with the end of 2021. Cash and balances and placements with banks and other financial institutions increased by HK$69,659 million or 15.0%, mainly due to an increase in balances with central banks and banks. The Group prudently managed its banking book investments, resulting in a decrease in securities investments and other debt instruments of HK$87,788 million or 7.5%. Advances and other accounts rose by HK$48,160 million or 3.0%, with advances to customers growing by HK$50,426 million or 3.2%, and trade bills decreasing by HK$935 million or 12.9%.

**Advances to Customers**

| HK$'m, except percentages | At 31 December 2022 | | At 31 December 2021 | | Change (%) |
|---|---|---|---|---|---|
| | Balance | % of total | Balance | % of total | |
| Loans for use in Hong Kong | **1,173,707** | **71.2** | 1,083,205 | 67.7 | 8.4 |
| Industrial, commercial and financial | **641,206** | **38.9** | 581,799 | 36.4 | 10.2 |
| Individuals | **532,501** | **32.3** | 501,406 | 31.3 | 6.2 |
| Trade financing | **51,879** | **3.1** | 73,611 | 4.6 | (29.5) |
| Loans for use outside Hong Kong | **423,924** | **25.7** | 442,268 | 27.7 | (4.1) |
| Total advances to customers | **1,649,510** | **100.0** | 1,599,084 | 100.0 | 3.2 |

The Group actively responded to market changes and captured opportunities from the Hong Kong, Greater Bay Area, Southeast Asian and overseas markets. Adhering to its customer-centric philosophy, the Group expanded its business in response to customers' loan financing needs. It strengthened its support to local commercial and SME customers in Hong Kong by fulfilling their business requirements through integrated services and offering them exclusive service solutions. It also launched financial relief initiatives to help SMEs cope with market changes. The Group made concerted efforts to develop its mortgage business by enhancing cooperation with real estate agencies and mortgage intermediaries, as well as by optimising its Home Expert mobile application including the online approval process, with a view to reinforcing its leading market position in the Hong Kong mortgage market. It also captured development opportunities from regional synergies by collaborating with its Southeast Asian entities and BOC entities in the Greater Bay Area and Asia-Pacific region to better understand the loan financing needs of key industries and target customers, thus enhancing its cross-border business advantages. During the year, the Group remained the top mandated arranger in the Hong Kong-Macao syndicated loan market and held the top market position in terms of the total number of new mortgage loans in Hong Kong. In 2022, advances to customers grew by HK$50,426 million, or 3.2%, to HK$1,649,510 million.

Loans for use in Hong Kong grew by HK$90,502 million or 8.4%.

- Lending to the industrial, commercial and financial sectors increased by HK$59,407 million or 10.2%, reflecting loan growth in property investment and development, wholesale and retail trade, manufacturing and information technology.

- Lending to individuals increased by HK$31,095 million, or 6.2%, mainly driven by growth in residential mortgage loans and other individual loans.

Trade financing decreased by HK$21,732 million or 29.5%. Loans for use outside Hong Kong decreased by HK$18,344 million or 4.1%, mainly due to a decrease in loans for use in the Chinese mainland.

**Loan Quality**

| HK$'m, except percentages | At 31 December 2022 | At 31 December 2021 |
|---|---|---|
| Advances to customers | **1,649,510** | 1,599,084 |
| Classified or impaired loan ratio | **0.53%** | 0.27% |
| Total impairment allowances | **11,575** | 9,877 |
| Total impairment allowances as a percentage of advances to customers | **0.70%** | 0.62% |
| Residential mortgage loans[1] – delinquency and rescheduled loan ratio[2] | **0.02%** | 0.01% |
| Card advances – delinquency ratio[2] | **0.28%** | 0.23% |

| | 2022 | 2021 |
|---|---|---|
| Card advances – charge-off ratio[3] | **1.38%** | 1.49% |

1. Residential mortgage loans exclude those under the Home Ownership Scheme and other government-sponsored home purchasing schemes.
2. The delinquency ratio is the ratio of the total amount of overdue advances (more than three months) to total outstanding advances.
3. The charge-off ratio is the ratio of total write-offs made during the year to average card receivables during the year.

In 2022, several industries faced stiff challenges in light of the volatile pandemic situation, ongoing geopolitical risks and rising worldwide inflation. The Group proactively strengthened its risk management systems for all types of risks and continuously enhanced its risk management so as to maintain solid asset quality. As at 31 December 2022, the Group's classified or impaired loans amounted to HK$8,724 million, an increase of HK$4,403 million from the end of 2021, mainly owing to the downgrading of certain corporate advances. The classified or impaired loan ratio was 0.53%, up 0.26 percentage points from the end of 2021. The combined delinquency and rescheduled loan ratio of residential mortgage loans was 0.02%. The charge-off ratio of card advances was 1.38%, down 0.11 percentage points year-on-year.

### Deposits from Customers

| HK$'m, except percentages | At 31 December 2022 | | At 31 December 2021 | | Change (%) |
|---|---|---|---|---|---|
| | Balance | % of total | Balance | % of total | |
| Demand deposits and current accounts | **236,115** | **9.9** | 327,234 | 14.1 | (27.8) |
| Savings deposits | **993,689** | **41.8** | 1,194,094 | 51.2 | (16.8) |
| Time, call and notice deposits | **1,147,403** | **48.3** | 809,827 | 34.7 | 41.7 |
| Total deposits from customers | **2,377,207** | **100.0** | 2,331,155 | 100.0 | 2.0 |

In 2022, against the backdrop of rising interest rates, the Group undertook a number of strategic measures in response to the trend of customer migration from CASA deposits to time deposits. It enhanced and reinforced its mid- to high-end customer base, seized market opportunities from the Cross-boundary Wealth Management Connect Scheme, promoted digital applications and product innovation, and strengthened cooperation with government authorities, large corporates and major central banks. At the same time, the Group actively expanded its e-payment, e-collection, payroll, cash management and cash pooling businesses. At the end of 2022, total deposits from customers amounted to HK$2,377,207 million, an increase of HK$46,052 million or 2.0% from the end of 2021. Time, call and notice deposits increased by 41.7%. Savings deposits decreased by 16.8%. Demand deposits and current accounts decreased by 27.8%. The CASA ratio was 51.7%, down 13.6 percentage points from the end of 2021.

### Capital and Reserves Attributable to Equity Holders of the Company

| HK$'m, except percentages | At 31 December 2022 | At 31 December 2021 | Change (%) |
|---|---|---|---|
| Share capital | **52,864** | 52,864 | – |
| Premises revaluation reserve | **37,683** | 38,590 | (2.4) |
| Reserve for financial assets at fair value through other comprehensive income | **(8,748)** | (413) | (2,018.2) |
| Regulatory reserve | **6,655** | 6,073 | 9.6 |
| Translation reserve | **(1,683)** | (1,000) | (68.3) |
| Retained earnings | **216,274** | 201,885 | 7.1 |
| Reserves | **250,181** | 245,135 | 2.1 |
| Capital and reserves attributable to equity holders of the Company | **303,045** | 297,999 | 1.7 |

Capital and reserves attributable to equity holders of the Company amounted to HK$303,045 million as at 31 December 2022, an increase of HK$5,046 million or 1.7% from the end of 2021. The premises revaluation reserve decreased by 2.4%. The deficit in the reserve for financial assets at fair value through other comprehensive income increased, mainly due to the impact of market interest rate movements. The regulatory reserve increased by 9.6%, mainly driven by growth in advances to customers and a change in the net charge of impairment allowances. The deficit in translation reserve increased, mainly due to a depreciation in the carrying value of the Group's Southeast Asian entities' local currency net assets caused by the strengthening of the US dollar. Retained earnings rose by 7.1% from the end of 2021.

**Capital Ratio**

| HK$'m, except percentages | At 31 December 2022 | At 31 December 2021 |
|---|---|---|
| Consolidated capital after deductions | | |
| Common Equity Tier 1 capital | 229,798 | 224,189 |
| Additional Tier 1 capital | 23,476 | 23,476 |
| Tier 1 capital | 253,274 | 247,665 |
| Tier 2 capital | 29,036 | 30,174 |
| Total capital | 282,310 | 277,839 |
| Total risk-weighted assets | 1,309,536 | 1,296,153 |
| Common Equity Tier 1 capital ratio | 17.55% | 17.30% |
| Tier 1 capital ratio | 19.34% | 19.11% |
| Total capital ratio | 21.56% | 21.44% |

As at 31 December 2022, Common Equity Tier 1 ("CET1") capital and Tier 1 capital increased by 2.5% and 2.3% respectively from the end of 2021, which was primarily attributable to profits recorded for 2022. Total capital increased by 1.6%. Total risk-weighted assets ("RWAs") increased by 1.0%. The CET1 capital ratio was 17.55% and Tier 1 capital ratio was 19.34%, up 0.25 and 0.23 percentage points respectively from the end of 2021, while the total capital ratio was 21.56%, up 0.12 percentage points from the year-end of 2021. The Group properly managed its capital plan on a continuous basis so as to maintain an appropriate capital level for meeting regulatory requirements and supporting sustainable business development while balancing returns to equity holders.

**Liquidity Coverage Ratio and Net Stable Funding Ratio**

| | 2022 | 2021 |
|---|---|---|
| Average value of liquidity coverage ratio | | |
| First quarter | 159.16% | 130.80% |
| Second quarter | 149.49% | 130.81% |
| Third quarter | 149.00% | 131.01% |
| Fourth quarter | 178.49% | 142.96% |

| | 2022 | 2021 |
|---|---|---|
| Quarter-end value of net stable funding ratio | | |
| First quarter | 123.86% | 123.61% |
| Second quarter | 126.87% | 117.22% |
| Third quarter | 127.98% | 124.63% |
| Fourth quarter | 131.56% | 125.48% |

The Group's liquidity position remained sound, with the average value of its liquidity coverage ratio and the quarter-end value of its net stable funding ratio meeting regulatory requirements for all four quarters of 2022.

## Business Review

In 2022, the Group thoroughly implemented the "2021-2025 Strategic Development Plan of BOCHK Group". It continued to deeply cultivate its core market of Hong Kong, consolidate its business foundations and realise customer growth potential. Capitalising on opportunities from the national strategic policies of the Chinese mainland, the Group vigorously developed its cross-border business and participated in the innovative policies of the Guangdong-Hong Kong-Macao Greater Bay Area. With the aim of further enhancing its regional service capabilities and expediting the delivery of products and services, the Group kept up with the pace of RMB internationalisation, strengthened regional collaborations across Southeast Asia, and seized major development opportunities arising from the official launch of RCEP. Meanwhile, it actively integrated the concept of sustainable development into its business and operations, continuously putting into practice low-carbon and resource efficiency initiatives in its own operations while also taking advantage of green finance business opportunities brought about by carbon neutrality targets and actively supporting the establishment of carbon markets. The Group consolidated the core capacities of its technological foundations so as to offer an all-round digital banking service, and strengthened the development of its integrated business platforms and collaborative mechanisms to improve its integrated service capabilities. In addition, it adhered to "bottom line" thinking in risk management and made constant efforts to refine its human resources, culture and operational procedures in order to provide strong support for the implementation of its strategic plan.

### Business Segment Performance

**Profit/(Loss) before Taxation by Business Segment**

| HK$'m, except percentages | 2022 | % of total | 2021 | % of total | Change (%) |
|---|---|---|---|---|---|
| Personal Banking | 7,940 | 22.7 | 6,331 | 21.1 | 25.4 |
| Corporate Banking | 11,407 | 32.6 | 12,924 | 43.1 | (11.7) |
| Treasury | 14,933 | 42.7 | 10,238 | 34.2 | 45.9 |
| Insurance | 911 | 2.6 | 1,023 | 3.4 | (10.9) |
| Others | (203) | (0.6) | (548) | (1.8) | 63.0 |
| Total profit before taxation | 34,988 | 100.0 | 29,968 | 100.0 | 16.8 |

Note: For additional segmental information, see Note 46 to the Financial Statements.

## Personal Banking

### Financial Results

Personal Banking achieved a profit before tax of HK$7,940 million in 2022, an increase of HK$1,609 million or 25.4% year-on-year, mainly driven by an increase in net interest income, which was partially offset by a decrease in net fee and commission income and an increase in net charge of impairment allowances. Net interest income increased by 54.2%, which was mainly attributable to improvement in the deposit spread. Net fee and commission income decreased by 19.7%, mainly due to weakened investor sentiment in the market, which resulted in lower transaction volumes in the stock market and hence lower commission income from securities brokerage and funds distribution. Commission income from credit card business decreased owing to weakening consumer demand. The Group recorded a net charge of impairment allowances of HK$344 million in 2022, as compared with a net reversal of HK$128 million in 2021.

## Business Operations

**Cultivating the green finance sector and pursuing sustainable development**

In line with market trends towards low-carbon transition, the Group captured opportunities from the development of green finance and enriched its green finance products and services so as to promote sustainable development and smart living. In response to growing market and customer interest in green investment and ESG products, it fully supported the HKSAR Government's issuance of retail green bonds and introduced Hong Kong's first retail green bond trading platform via mobile banking, ranking first in the market in terms of both subscription volume and number of customers. To support environmental sustainability, the Group introduced a sustainable infrastructure fund, and launched a RMB-denominated decarbonisation-themed fund for subscription on an exclusive priority basis, allowing retail investors to capture opportunities from market trends. The Group also pioneered the first green personal loan in Hong Kong, which at the initial stage offers preferential loans to customers intending to purchase electric vehicles so as to encourage the adoption of green transport. It also launched "BOC Chill Card", its first eco-friendly credit card, with the aim of attracting customers to participate in green consumption. The Group actively encouraged low-carbon living. It promoted paperless loan applications via online platforms, doubling the amount of personal loans processed through electronic channels in 2022 than that of the previous year, and continued to promote its paperless payment receipt scheme, expanding coverage to 15,000 merchants and over 20,000 point-of-sale ("POS") terminals. It also extended its Green Mortgage Plan to cover the primary and secondary purchases of all green buildings accredited with BEAM Plus Platinum or Gold certification from both private developers and government-subsidised residential projects. In addition, the Group become the banking sector's first Platinum Patron member of the Hong Kong Green Building Council, and stepped up its efforts to further promote green buildings, low-carbon living and a greener future.

**Pushing forward development into a digital bank and enhancing the competitiveness of core products**

The Group utilised innovative technology to enhance its online service capabilities, thus ensuring continuous and effective business operations. It consolidated the market-leading advantages of its core products, achieving stable growth in customer deposits and maintaining the top market position in terms of total number of new residential mortgage loans. The number of customers using its digital platforms as at the end of 2022 grew steadily as compared with the end of 2021, with the Group also recording year-on-year growth in the number of transactions conducted through its mobile banking platform, particularly those related to insurance, time deposits and foreign exchange trading, each of which recorded satisfactory growth. With a view to enhancing its digital strengths so as to improve customer experience in online investments, the Group launched its "PickAStock" stock analytic tool which enables customers to manage their wealth independently and meet their financial goals across different life stages. Now with more than 150,000 total accumulated downloads, its Home Expert mobile application was optimised through the utilisation of blockchain technology in property valuations, which was used in 99% of its valuation reports during the year. The average number of online mortgage applications received per month in 2022 was approximately nine times higher than that in 2021, and the proportion of online mortgage applications within total applications rose by more than 40 percentage points. During the year, BOCHK was awarded Excellent Brand of Securities and Investment Banking Services and Excellent Brand of Property Purchase Planning and Mortgage Services – Banking Solutions in the Hong Kong Leaders' Choice 2022 awards organised by Metro Finance. It also won Digital Transformation of the Year – Hong Kong and Mobile Banking & Payment Initiative of the Year – Hong Kong in the Asian Banking & Finance Retail Banking Awards 2022 organised by *Asian Banking & Finance*, as well as winning the Best in Future of Customer Experience – Hong Kong and Asia Pacific in the Future Enterprise Awards 2022 organised by International Data Corporation for the second consecutive year.

**Strengthening exclusive service experiences to targeted customer segments to meet their comprehensive needs**

The Group continued to promote its premium brand and strengthened the range of exclusive products and services offered to its high-end customers. It introduced its "Segment-of-One" personalised customer experience, which makes use of big data and artificial intelligence to analyse customers' daily financial behaviour and habits and translate them into corresponding exclusive personal notifications. In order to meet high-net-worth customers' online wealth management needs, it upgraded its mobile banking RM Chat service, a remote financial management tool exclusively available to its Private Wealth customers, by introducing a market-first "RM Chat Investment by Video Service" delivered via the Bank's own platform. This allows Private Wealth customers to arrange video-conferences with their dedicated relationship managers and carry out fund investments remotely. The Group also offered high-end customers USD personal green deposits placement through e-channels. It launched the brand new and exclusive "BOC Private Card", as well as an exclusive one-to-one mortgage consultation service for Private Wealth customers, all with the aim of better fulfilling their investment, financial and wealth management needs. As a result, the number of Private Wealth customers at the end of 2022 recorded double-digit percentage growth as compared with the end of 2021, further expanding its customer base. Meanwhile, the Group rolled out a brand new "Bank For Future" themed campaign to better serve Wealth Management customers. "Bank For Future" offers a diversified range of products and services that embrace the three key "future bank" elements of "Beyond Digital", "Beyond Green" and "Beyond Border", with the aim of enabling customers to capture wealth management opportunities. The Group also introduced "Banking TrendyToo", a new brand targeting the young customer segment, aiming to assist young customers to meet their financial goals across the four dimensions of "Chill Banking+", "Happy Spending+", "Smart Investing+" and "Cool Living+", by offering diversified, 24/7 services alongside easy tips for "Trendy Banking". As a result, over 90% of total transactions conducted by the young customer segment was made via digital channels. During the year, BOCHK was named Most Selected Main Retail Bank in Hong Kong and Best Wealth Management Bank in Hong Kong by *The Asian Banker*.

The Group's private banking business maintained solid growth. By enhancing its collaboration with other business units within the Group, its Southeast Asian entities and BOC Group, it was able to optimise its service chain by providing professional private banking services to high-net-worth clients and family offices with diversified needs. The Group integrated ESG standards into product and service design, pushing forward high-quality and sustainable development in its private banking business. In addition, it continued to promote digital transformation and accelerated business process automation and digitalisation, so as to enhance its private banking service and trading platform. At the same time, it introduced new business partners, innovated its service model by providing tailor-made professional wealth planning services to clients, and enriched its product range in order to enhance customer experience. As at the end of 2022, the Group's private banking assets under management increased by 12.7% compared to the end of 2021.

**Refining the construction of seamless cross-border financial scenarios and promoting the development of RMB business**

In order to improve the cross-border customer experience, the Group continuously optimised its bank account management services to allow customers to resolve issues with their mainland bank accounts remotely, including extending the grace period for customers with expired Mainland Travel Permits and expanding the coverage of its attestation service. Together, this enabled customers to enjoy convenient cross-border payment and wealth management services. As at the end of 2022, the cumulative number of GBA accounts opened exceeded 200,000, representing steady growth from the end of 2021. The Group improved the account opening efficiency and customer experience of its Bank of China Cross-Boundary Wealth Management Connect service by continuously optimising its product offerings and online workflows, including the launch of "E-Application for Southbound Cross-border Account Opening via Attestation Service". As at the end of 2022, the Group's aggregate number of accounts opened and the total amount of funds transferred for both Southbound and Northbound services ranked among the top tier in Hong Kong, with the amount of new funds transferred under the Southbound service ranking first in the Greater Bay Area market in 2022. To satisfy growing demand for RMB products and to meet customers' investment and wealth management needs, the Group leveraged its prominent position in RMB business and introduced a series of "RMB One" packages that offer a wide range of RMB products and services such as securities, funds, life insurance, time deposits and foreign exchange. During the year, BOCHK was once again named Best Chinese Bank for the Greater Bay Area and was recognised as Best Chinese Bank for the Wealth Management Connect in GBA by *Asiamoney*, and was awarded Excellent Brand of Wealth Management Connect Scheme in the Hong Kong Leaders' Choice 2022 awards organised by Metro Finance. It also received the Banking Sector Cross Border Wealth Management (Personal) – Excellence award in the Financial Institution Awards 2022 organised by *Bloomberg Businessweek (Chinese Edition)*.

**Promoting regional wealth management business and enhancing the service capabilities of its Southeast Asian entities**

In its Southeast Asian business, the Group promoted regional brand development and client referral services. Having already successfully implemented mutual brand recognition of the Group's Wealth Management services with BOC Thailand, BOC Malaysia and the Phnom Penh Branch, the Wealth Management brand experience was further extended to the wealth management clients of the Jakarta Branch and BOC Singapore Branch. Cross-border opening for BOCHK personal accounts was launched in seven Southeast Asian entities and two BOC branches, while private banking referral services now extend to eight Southeast Asian entities. The Group also accelerated digitalisation and efficiency improvements in its Southeast Asian entities, with BOC Thailand, BOC Malaysia and the Manila Branch each launching an online RMB salary direct remittance service. It also remained committed to optimising the online payment experience for local customers, with the Manila Branch becoming the first Chinese bank in the Philippines to support real-time bank transfers; the Phnom Penh Branch becoming the first Chinese bank in Cambodia to support cross-border UnionPay QR payments, small value real-time payments and e-wallets; and five Southeast Asian entities actively participating in the national-level payment projects of their respective local markets. This included BOC Thailand rolling out its PromptPay 24/7 real-time fund transfer and QR code remittance services, and BOC Malaysia introducing the second phase of the Real-time Retail Payments Platform (RPP) and its Real-time Financial Process Exchange (FPX) payment service.

## Corporate Banking

### Financial Results

Corporate Banking achieved a profit before tax of HK$11,407 million, a decrease of HK$1,517 million or 11.7% year-on-year, mainly due to a higher net charge of impairment allowances. Net operating income before impairment allowances increased by 2.1% year-on-year. Net interest income rose 3.5% from last year, mainly driven by an improvement in the deposit spread, although this was partially offset by a narrowing in the loan spread. Net fee and commission income decreased by 4.6% year-on-year, with lower commission income from loans, bills and trust and custody services. Net trading gain rose 10.4%, which was mainly attributable to increased currency exchange income from customer transactions. Net charge of impairment allowances amounted to HK$2,008 million, up HK$1,713 million year-on-year, mainly reflecting the higher net charge of impairment allowances related to the downgrading of certain corporate advances.

### Business Operations

**Enhancing integrated service capabilities to reinforce business advantages**

Adhering to its customer-centric philosophy, the Group continuously promoted the deepening of business transformation and provided professional services, with the aim of meeting the integrated financial demands of key customers such as local blue-chip and industry leading enterprises. As a result, the Group remained the top mandated arranger bank in the Hong Kong-Macao syndicated loan market for the 18th consecutive year. It also maintained its market leadership as an IPO main receiving bank in terms of the number of listings and total funds raised on the Main Board. The Group focused on the promotion of its key businesses including trade finance, payment and settlement as well as treasury centre services, and continued to maintain its leading position in the cash pooling business. It continuously improved its online servicing capabilities, which led to a year-on-year increase of 16.5% in the number of online transactions from corporate customers. In recognition of its excellent and highly professional services, a number of its customer collaborations were commended by professional media groups, including a global cash management project implemented for a dairy company that received The Adam Smith Award Asia of Highly Recommended Winners 2022 – Best Treasury Transformation Project from *Treasury Today*, a domestic cash pooling project in cooperation with a local retail chain enterprise that received the Award for Excellence in Cash Management Solutions by *Ming Pao*, and four cooperative cash management projects that were respectively awarded the Excellent Treasury Award, Smart Finance Award, Best Shared Service Platform Award and Best Foreign Exchange Management Award from *Treasury China*.

**Giving full play to synergistic advantages and expediting regional business development**

The Group deepened its cooperation with BOC's institutions in the Greater Bay Area so as to better understand the financial needs of key industries and target customers, with the aim of consolidating its competitive advantages in cross-border financial service. It actively captured opportunities arising from the HKSAR Government's Northern Metropolis Development Strategy and formulated related integrated financial service solutions, with a view to cultivating new business growth drivers. The Group also established work plans underpinned by the strategic partnership agreement signed with the Shenzhen Nanshan District Government, with a view to steadily enhancing the depth and breadth of its business collaborations. It leveraged its solid franchise in technology finance and supported the development of innovative technology enterprises, facilitating Hong Kong Science Park's business cooperation and communication with the Chinese mainland. To expand its trading business customer base, the Group capitalised on the wide coverage of its digital financing services across the supply chain in order to satisfy customers' cross-border financing needs. Meanwhile, it promoted RMB internationalisation in an orderly manner, thus maintaining the leading market position under mutual market access schemes such as Bond Connect. It also strengthened RMB business cooperation with key state-owned enterprises and institutional customers, and continuously innovated RMB products and integrated financial services, with a view to reinforcing its competitive edge in the offshore RMB market.

In terms of its Southeast Asian business, the Group adhered to the concept of business integration and seized opportunities arising from the enactment of RCEP. In order to drive the collaborative development of its Southeast Asian entities, it focused on the development of Belt and Road and "Going Global" projects as well as large corporate customers in the region. It also strengthened collaboration with BOC's entities in the Asia-Pacific region, and actively led or participated in syndicated projects in Southeast Asia, with the aim of enhancing its market influence. Committed to realising the concept of sustainable development, the Group pushed forward the development of green finance in the Southeast Asian region. The Vientiane Branch successfully launched the first certified green deposits in Laos. The Phnom Penh Branch launched its first certified ESG-social responsibility deposits. Serving as joint lead underwriter and bookrunner, the Manila Branch assisted in the pricing and issuance of the Government of the Philippines' US$2.25 billion sovereign bond, which included its first global ESG bond, priced at US$1 billion. It constantly optimised its regional product offering and refined the functionality of its intelligent Global Transaction Banking (iGTB) in order to support a range of online transactions including transfers within the same bank, domestic interbank transfers and international remittance services. It also provided a variety of distinct payment service gateways in the Southeast Asian region, including cross-currency payroll services. All of these contributed to significant improvements in the Group's regional management capabilities and the competitiveness of its corporate banking business.

**Strengthening financial support for commercial and SME customers and promoting inclusive finance**

The Group strengthened business cooperation with local commercial and SME customers by delivering customised financial solutions that pinpoint customer needs through enhanced sectoral and digital servicing capabilities. It remained committed to undertaking its corporate social responsibilities and further strengthening financial support in response to the pandemic situation in Hong Kong, including launching six financial support initiatives to assist SMEs in coping with changes in the business environment. The Group also actively engaged in the HKMA's Commercial Data Interchange project and was amongst the first batch of participating banks to successfully connect to the Commercial Credit Reference Agency. To address SME's financing pain points, it also launched the BOCHK Bill Merchant Loan Programme, which makes use of BoC Bill transaction data in the credit approval process for SMEs, thus simplifying the loan application process and enhancing approval efficiency. In order to build an online ecosystem for its corporate customers, the Group launched the "BOC Connect" mobile application, an all-in-one digital platform that offers information sharing, interactive communication and online banking services. The Group's ongoing efforts to provide SMEs with high-quality digital services won wide acclaim and recognition, receiving the Best SME's Partner Award from the Hong Kong General Chamber of Small and Medium Business for the 15th consecutive year, the Corporate Banking – Outstanding Innovative SME Banking Services Award at the Fintech Awards 2021 organised by *etnet*, and the SME Banking Services Award at the Financial Services Awards of Excellence organised by *Hong Kong Economic Journal* for the fourth consecutive year.

**Cultivating the concept of sustainable development and actively promoting green finance**

To support customers' green transition, the Group constantly refined and continuously promoted its green finance products and services, including green bond underwriting and investment, green loan arrangement, green deposits, green consulting, and green cash management services. As at the end of 2022, the balance of its green and sustainability-linked loans increased by 143% compared to the end of 2021, while the amount of green deposits and newly underwritten ESG-related bond issuance in 2022 recorded year-on-year growth of 17% and 3% respectively. During the year, the Group issued "sustainable and smart living" themed green bonds for the second consecutive year, and cooperated with S&P Dow Jones Indices to launch the "S&P BOCHK China Hong Kong Greater Bay Area Net Zero 2050 Climate Transition Index", the first climate transition index covering listed companies in the Guangdong-Hong Kong-Macao Greater Bay Area, receiving an encouraging market response. It also constantly diversified its offshore RMB-denominated bond products offering and assisted the People's Government of Hainan Province and the Shenzhen Municipal People's Government in the issuance of offshore RMB local government green bonds and blue bonds in Hong Kong, further reinforcing Hong Kong's position as the global hub for offshore RMB business and a centre for green finance in the Asia Pacific region. In recognition of its efforts in promoting sustainable development, the Group received multiple awards at the Hong Kong Green and Sustainable Finance Awards 2022 organised by the Hong Kong Quality Assurance Agency. It was also awarded Hong Kong Domestic ESG Liquidity Management Initiative of the Year by *Asian Banking & Finance*, Most Sustainable Trade Finance Initiative by *The Asian Banker*, as well as the Best Industry Solutions Award by *Treasury China* for the first time.

**Steadily developing custody and trust business so as to enhance integrated service capabilities**

In order to expand its custody business, the Group captured opportunities from the respective national mutual market access policies and continuously strengthened collaborative marketing efforts with BOC's branches in Chinese mainland and overseas, so as to expand its client base such as that of financial institutions. It deepened business cooperation with Chinese investment companies on corporate trust and agency services, making every effort to help its customers to raise funds from bond markets. As at the end of 2022, the number of its custodian clients increased by 11% compared to the end of 2021, with total assets under custody from corporate and institutional clients amounting to over HK$640 billion. It was awarded Bond Connect Top Custodian for the fifth consecutive year by Bond Connect Company Limited.

BOCI-Prudential Trustee Limited ("BOCPT") recorded steady growth in its MPF business. As at the end of 2022, MPF assets under its trusteeship amounted to HK$75.5 billion and BOCPT continued to rank among the top tier in Hong Kong. In 2022, BOCPT was successfully appointed as administrator to several ORSO schemes by a number of sizable enterprises, and launched a brand-new Special Purpose Acquisition Company ("SPAC") escrow account service to provide support for companies with alternative listing needs. It continuously optimised its retirement scheme and asset servicing digital platforms, and rolled out the upgraded BOC-Prudential Easy Choice e-Form as well as My Choice MPF Scheme e-Onboarding mobile applications. Meanwhile, it actively assisted one of the Group's major institutional clients in launching a sizable quantitative fund, establishing an open-ended fund company, and introducing its first non-money market fund featuring daily dividend distribution and re-investment. In 2022, BOCPT received a number of accolades, including seven awards at the 2022 MPF Awards organised by MPF Ratings Ltd, multiple awards at the Lipper Fund Awards Hong Kong 2022 organised by *Refinitiv*, and Best Fund Administrator, Retail Funds – Highly Commended in the Triple A Sustainable Investing Awards for Institutional Investor, ETF, and Asset Servicing Providers 2022 organised by *The Asset*.

# Treasury

## Financial Results

Treasury recorded a profit before tax of HK$14,933 million, an increase of HK$4,695 million or 45.9% year-on-year. This was primarily due to an increase in net trading gain, which was attributable to changes in the mark-to-market value of certain interest rate instruments caused by market interest rate movements as well as an increase in net gain from foreign currency swap contracts, coupled with an increase in net interest income amid rising interest rates, which were partially offset by the net loss on other financial instruments and an increase in operating expenses.

## Business Operations

**Continuously enhancing trading capability and steadily promoting global markets business**

The Group proactively seized business development opportunities by closely monitoring market trends, and achieved stable growth in its trading business. It further pushed forward digital transformation and technological advancement in its treasury business, with improvements made in its online trading services and transaction processing capabilities, as well as its diversified product and service capabilities, thus achieving satisfactory results in client business. The Group expedited the innovation and promotion of RMB products and placed emphasis on cultivating the offshore RMB market. It expanded its interconnected businesses and reinforced its competitive advantages in RMB business, thus contributing to satisfactory growth momentum in related business scale. Seizing market opportunities, the Group was among the first batch of Qualified Foreign Institutional Investors ("QFII") to complete a direct bond investment on the Shanghai Stock Exchange and Shenzhen Stock Exchange. Committed to promoting green development and ESG best practices, it was among the first batch of market participants of Core Climate, an international carbon marketplace launched by HKEX, and successfully executed international carbon credit transactions priced and settled in RMB and HKD, with a view to promoting Hong Kong as an international carbon trading hub that supports regional and global trades. Meanwhile, the Group assisted its Southeast Asian entities in the implementation of IBOR reform-related treasury products, with BOC Thailand and BOC Malaysia completing a number of related foreign exchange swap and interest rate swap transactions and the Phnom Penh Branch launching its first foreign exchange forward transaction on behalf of its clients. In addition, the Phnom Penh Branch, Vientiane Branch and Brunei Branch each achieved breakthroughs in their RMB trade financing business. At the same time, the Group continued to collaborate with BOC's entities in the Asia Pacific region. It helped BOC Tokyo Branch to successfully launch the world's first JPY floating-rate bond to reference the new Tokyo Overnight Average Rate (TONA) benchmark, assisted BOC Singapore Branch in a pricing project for a green fixed-rate bond, and executed foreign exchange swap business transactions with BOC Tokyo Branch and BOC Sydney Branch. The Group received a number of awards in recognition of its professional expertise. It was awarded Most Influential Market Participant 2021 and Excellent Overseas Member of RMB FX Market 2021 by China Foreign Exchange Trade System, Outstanding International Member 2021 by the Shanghai Gold Exchange, as well as Northbound Top FX Settlement Bank and Primary Market Pioneer Award by Bond Connect Company Limited.

**Expanding the depth and breadth of cross-border business to reinforce its strong franchise in RMB clearing services**

Authorised by the People's Bank of China to serve as the RMB Clearing Bank in Hong Kong, BOCHK is committed to providing Hong Kong and overseas participating banks with efficient and professional RMB clearing services. The total clearing volume of the Hong Kong RMB Clearing Bank in 2022 reached RMB384 trillion, representing a year-on-year increase of 7%, maintaining its growth momentum. Regarding its Southeast Asian business, the Group assisted six peer banks in Southeast Asia to apply for indirect participant qualification in the Cross-border Interbank Payment System (CIPS). BOC Thailand successfully strengthened cooperation with a renowned local securities company in financial market interconnection, and successfully acquired the custodian business of a local brokerage in Thailand for its Qualified Foreign Institutional Investor (QFII) assets. As RMB clearing banks, BOC Malaysia and the Manila Branch achieved continuous growth in clearing volumes which increased by 42.1% and 15.4% respectively from the year 2021. BOCHK was named as an Excellent Participant in multiple business areas by CIPS Company Limited.

**Adhering to a solid and risk-aware investment strategy and promoting green finance**

The Group continued to take a cautious approach to managing its banking book investments and closely monitored worldwide interest rate adjustments. It actively responded to market volatility during the interest rate hike cycle and took a pre-emptive approach to managing risk while seeking fixed-income investment opportunities to enhance returns. In 2022, the Group stepped up its efforts to promote innovation in green finance and executed its first green repo transaction with funds obtained to support sustainable building projects, further enhancing the Group's position in green finance markets.

**Enriching product offering in its asset management business**

Despite volatile global capital markets, BOCHK Asset Management Limited ("BOCHK AM") proactively sought out and captured investment opportunities for its clients, and further diversified its product offering, including launching the BOCHK All Weather China New Dynamic Equity Fund and a series of China-themed alternative investment funds to cope with asset allocation demand from retail and institutional investors. Fostering ESG concepts to support sustainable development, BOCHK AM embedded climate-related risks into its risk management framework in order to enhance related risk management. It also continued to push forward the digital upgrading of its operating systems and the optimisation of its customer service procedures, with the aim of improving its middle and back office service systems so as to provide a better customer experience. In recognition of its professional expertise, BOCHK AM was awarded Best China Fund House and Best RMB Manager in the 2022 Best of the Best Awards by *Asia Asset Management*.

## Insurance

### Financial results

In 2022, the Group's insurance segment actively promoted new products with higher value-add, leading to an increase in the value of new business of 32.0% year-on-year to HK$1,374 million. However, standard new premium was down 15.3% from 2021 to HK$8,713 million owing to the impact of the pandemic. Profit before tax was down 10.9% year-on-year to HK$911 million, mainly due to a decrease in investment income resulting from financial market volatility. The Group will adopt Hong Kong Financial Reporting Standard 17 for the basis of preparation of insurance business in 2023. This adoption is not expected to significantly affect or change the Group's business development, financial strength or ability to pay claims.

### Business Operations

**Promoting product transformation and strengthening its multi-channel development strategy**

During the year, BOC Life sought to increase the value of new business by boosting the sales of savings protection plans, which led to a substantial increase in the proportion of higher-value new business sales within total new business sales. BOC Life continued to expand its brokerage channel by forming partnerships with Chinese bank brokers and multinational insurance brokers that manage high-net-worth customers, enhanced collaborations with independent financial advisors, and promoted a range of value-added services in order to increase its mid to high-end customer base. It took several steps to strengthen its multi-channel development strategy, including expanding its tied agent workforce through upgraded measures to recruit and retain talent, and maintained its leading position in bancassurance. BOC Life actively pushed forward its various sales and marketing strategies, including expanding the coverage of its digital channels and enhancing the competitiveness of its products. It also continued to expand its health ecosystem, with over 60,000 users and 50 third-party partners under its "Live Young" reward programme. In 2022, BOC Life supported Livi Bank to obtain an insurance agency license and launched the 3-Year Savings Insurance Plan through the livi mobile application. Through the BOCHK mobile banking platform, it launched the BOC Life iGreen Savings Insurance Plan, Hong Kong's first-ever green insurance plan to be certified by an independent third-party, successfully seizing opportunities from customer demand for green products.

**Advancing sustainable development initiatives and launching brand-new ESG products to create diversified social value**

BOC Life remained committed to supporting ESG initiatives and captured market opportunities to launch green insurance products. With a view to addressing the needs of the community and fulfilling its social responsibilities, it actively organised a number of corporate charity projects, served as the sole title sponsor of the BOC Life Rogaine Charity Race 2022 and BOC Life Hong Kong Harbour Marathon 2022, and provided full support for youth development. It partnered with HKU Business School to set up the BOC Life Future Leader Scholarship to nurture future leaders, and provided STEAM education for underprivileged students under its New Generation Financial and Technology Designers' Programme. In addition, it cooperated with the World Green Organisation (WGO) to introduce the ESG Accelerator Programme, which provides startup companies with multi-channel platforms for developing their green businesses, thus fostering the development of innovative technology companies as well as ESG and sustainable development in Hong Kong. BOC Life further bolstered its brand reputation as an outstanding corporate citizen and ESG advocate by co-organising the HKMA/BOC Life Sustainability Summit 2022 with the Hong Kong Management Association and sponsoring the Sustainable Investing and ESG Conference co-organised by the WGO and United Nations Economic and Social Commission for Asia and the Pacific. Moreover, BOC Life was awarded the WGO's Green Office Awards and Eco-Healthy Workplace accreditations, setting the benchmark for continual improvement in its sustainable development in the future.

**Receiving plaudits for outstanding performance and winning recognition for community service**

BOC Life maintained its leading position in Hong Kong's life insurance market, surpassed peers in term of sales conducted via e-channels, and remained the market leader in RMB insurance. In recognition of its product and service excellence, BOC Life was commended with a number of awards, including Outstanding Insurance Business – Annuity Award and Outstanding Insurance Business – Saving Insurance Award for the second consecutive year in the RMB Business Outstanding Awards organised by Metro Finance and Hong Kong Ta Kung Wen Wei Media Group, as well as Outstanding Agent of the Year from The Hong Kong Federation of Insurers. Meanwhile, BOC Life was widely recognised for its community care initiatives and promotion of ESG and sustainable development, receiving the Excellence in Social Sustainability (Good Health and Well-Being) award at the GBA Corporate Sustainability Awards from Metro Finance for two years in a row and the Brand Value – Award for Excellence in Community Contribution at the Awards for Excellence in Finance organised by *Ming Pao*.

## Southeast Asian Business

The Group remained committed to its strategic goal of building a first-class regional banking group, and continued to pursue regional integrated development with the aim of building its Southeast Asian entities into mainstream foreign banks in their local markets. The year 2022 marked both the first year of a comprehensive strategic partnership between China and the ASEAN, and the year in which RCEP was enacted. These milestones, coupled with several large-scale regional and international conferences hosted in Southeast Asia such as the ASEAN Summit, the G20 Summit and the Asia-Pacific Economic Cooperation (APEC) Summit, clearly demonstrated that countries around the world are now paying close attention to the influence of Southeast Asia and the Asia-Pacific region. Owing to a combination of positive factors, including higher COVID-19 vaccination rates and the relaxation of pandemic prevention measures, most Southeast Asian economies will continue their economic recovery momentum. Looking forward, the Southeast Asian region will blossom with unlimited business opportunities and prospects. By deepening economic and trade cooperation, China and the ASEAN will create more landmark collaborations through the high-quality implementation of RCEP, the ongoing construction of the Belt and Road, continuous advances in infrastructure interconnection and the development of the digital economy.

**Enhancing regional business network layout and optimising management of its Southeast Asian entities**

The Group actively promoted the optimisation and integration of its regional business network, and continued to improve its network efficiency. It completed the relocation and business commencement of the Central Park Sub-Branch of Jakarta Branch and the Tuek Thla Sub-Branch of Phnom Penh Branch (formerly known as the Melawai Sub-Branch and Olympic Sub-Branch respectively), and proceeded with other branch relocations as planned. Overcoming adverse factors including the economic downturn and volatile pandemic situation, the Group seized various opportunities in the region and deepened its management-by-business-unit approach across its Southeast Asian entities, demonstrating the resilience of its integrated operations and achieving steady progress in business development. Leveraging its digital transformation, the Group integrated technological elements into its business and management so as to optimise procedures and improve service levels, with the aim of creating new competitive advantages for high-quality development. To further enhance its regional management, it steadily pushed forward the centralisation of its Southeast Asian operations, successfully moving approximately 60% of its business processes to centralised operation as at the end of 2022, including loan-related operations, customer due diligence, integrated banking services, customer services, international payments, information processing, settlement and trade services, with nearly 40% relocated to the Regional Operation Centre in Nanning, Guangxi. The Group continued to promote business development in an effective manner, enhancing its management capacity as the regional headquarters, strengthening integrated regional development, and adopting the organic integration of market-by-market strategies as the guiding principle for a differentiated management approach across its regional entities.

The Group's Southeast Asian entities* recorded steady business growth. As at the end of 2022, deposits from customers and advances to customers amounted to HK$69,863 million and HK$52,387 million respectively, up 13.8% and 0.4% from the end of last year, excluding the impact of foreign exchange rates. Driven by an improvement in net interest margin and an increase in income from foreign exchange business, net operating income before impairment allowances stood at HK$3,225 million, an increase of 27.6% year-on-year, excluding the impact of foreign exchange rates. As at the end of 2022, the non-performing loan ratio was 2.49%, up 0.10 percentage points from the end of 2021.

* This refers to the nine Southeast Asian entities of BOC Thailand, BOC Malaysia, Ho Chi Minh City Branch, Manila Branch, Jakarta Branch, Phnom Penh Branch, Vientiane Branch, Brunei Branch and Yangon Branch. Net operating income before impairment allowances and the balances of deposits from customers and advances to customers represent the consolidated data which were prepared in accordance with Hong Kong Financial Reporting Standards. The non-performing loan ratio was calculated in accordance with local regulatory requirements.

**Adhering to stringent risk management so as to continuously strengthen regional capabilities**

The Group continued to strengthen its overall regional risk management and adhered to its "bottom-line" mindset. It provided professional guidance to and adopted differentiated management of its Southeast Asian entities. The Group pursued a steady and stable approach in its regional credit risk management, strengthened its industry, customer and product foundations, and optimised its credit portfolio structure in the Southeast Asian region. It also carried out risk control in a flexible manner to strictly manage new non-performing loans in order to achieve high-quality development. Moreover, it strengthened forward-looking management and the monitoring of risk indicators to enhance its Southeast Asian entities' risk management capabilities in market risk, interest rate risk and liquidity risk. The Group also made use of system and technological advantages to further strengthen its Southeast Asian entities' risk management and control capabilities in compliance, anti-money laundering and anti-fraud, and to promote the standardisation of compliance and the application of key risk indicators in the region.

## Digital Transformation Development

In 2022, the Group followed the "BOCHK 2021-2025 Digital Transformation Strategy" and made earnest efforts to improve the core support capacity of its technological foundations and push forward digital transformation, while thoroughly pursuing the concept of sustainable development. Upholding its customer-centric philosophy, the Group deepened its digital transformation driven by data, business intelligence and ecological approaches. It facilitated the development of ecological, open and scenario-based banking services, promoted integrated and regional products and services, and provided a seamless process experience. At the same time, the Group focused on its three major markets, deepened technological empowerment, strengthened its corporate culture and cultivated digital talent, thus providing its customers and staff with high-quality services and experiences while laying a solid foundation for its long-term development.

**Developing ecological, open and scenario-based banking services**

The Group actively promoted open banking services, drew on different customer groups and ecologies to construct innovative business models, consolidated its open banking ecosystems and accelerated data interconnection, so as to achieve mutual growth through collaboration. It launched the third phase of Open Application Programme Interface ("API") applications related to corporate and personal customers, introducing over 100 Open APIs to meet the needs of different customers, with peak daily usage recording year-on-year growth of 17.9%. The total number of registered partners reached 378, covering a range of services and businesses, including payment, supply chain, enquiry, payment collection, treasury and factoring. As a result, it achieved a market-leading position in terms of Open API scale. The Group enhanced its financial services reach in the local market through the use of innovative fintech in scenario-based applications, including its major home purchase, education and wellness scenario-based ecosystems. In line with the latest digitalisation trends in consumer spending and business models, it continuously pushed forward digital empowerment and made use of innovative technology to provide customers and merchants with ease and convenience when making and receiving digital payments, thus contributing to the development of mobile payments in the local market. It capitalised on the HKSAR Government's Consumption Voucher Scheme, offering BoC Pay customers a variety of rebates and promotions while providing integrated payment collection services to BoC Bill merchants, so as to deepen the application of digital payments. As at the end of 2022, the number of BoC Pay users increased by 20.2% compared with the end of 2021, and the total transaction volume in 2022 increased by 21% year-on-year. Meanwhile, the total transaction amount of BoC Bill increased by 6.1% year-on-year.

**Promoting integrated products and services**

The Group promoted integration between products and services along the value chain, with the aim of providing customers with one-stop product and service solutions. It launched the iGTB online loan application service for corporate clients, which enables them to submit loan applications by entering information and uploading documents through online platforms. The Group actively expanded the regional development of its iGTB platform, successfully extending coverage to nine major dialects used in Hong Kong and eight Southeast Asian countries, including Thailand, Malaysia, Vietnam, the Philippines, Cambodia, Laos, Brunei and Myanmar, which enhanced its service levels and customer experience across the region and contributed unique advantages to its regional development. In addition, it launched numerous online products and functions in order to provide a full range of digital corporate financial services to local enterprises and corporate customers with business operations throughout Southeast Asia, which significantly improved the operational efficiency of these corporates during the pandemic.

**Providing a seamless process experience**

To further enhance the customer service experience, the Group reviewed its end-to-end processes so as to provide its customers with omni-channel and seamless services. During the year, it implemented around 200 functional enhancements to its mobile banking, including new features for trading, registration services and user interface design. It also enhanced the approval efficiency of mortgage loans by expediting the automation of related approval procedures in optimising the pre-default eligibility criteria. The Group launched Hong Kong's first remote account opening service through its mobile banking using iAM smart, which was awarded the Fintech (Regulatory Technology and Risk Management Award) Certificate of Merit in the Hong Kong ICT Awards 2022 arranged by the Office of the Government Chief Information Officer of the HKSAR Government. It supported the Treasury of the HKSAR Government to launch a convenience store-based payment collection service that supports payments to a number of government departments. The standard product service features of the Group's Merchants Entrust FPS APP-to-APP services were extended to support the Hong Kong Housing Authority's online application for housing services as well as the Hospital Authority's mobile application. Meanwhile, the Group promoted the full digital transformation of its traditional cross-border services. Aligning with the needs of each of its Southeast Asian entities, it established an e-channel for the RMB salary direct remittance services of BOC Thailand, BOC Malaysia and the Manila Branch, forming a replicable service experience which will be extended to other Southeast Asian entities.

**Deepening technological empowerment and accelerating intelligent operations to drive operational efficiency**

The Group made use of big data and artificial intelligence to create a hyper-personalised customer experience. It utilised real-time digital footprints, intelligent decision-making and cross-channel collaborations at the middle-office level to empower its front offices to enhance productivity. It also leveraged big data to establish customer tags and intelligent models that link into its precision marketing platform and enable cross-unit applications, and received the Innovative ICT Solution/Intelligent Application Bronze Award in the 2022 CAHK STAR Awards organised by the Communications Association of Hong Kong. The Group launched the ERP Cloud Service – Accounting Cloud service, which provides SMEs with free access to safe and reliable one-stop cloud-based financial accounting software services, recording continuous growth in customer base. This project was widely recognised by the industry and market, receiving the Smart Business (Solution for SME) Gold Award in the Hong Kong ICT Awards 2022 arranged by the Office of the Government Chief Information Officer of the HKSAR Government, and Best FinTech Merit Award in the 2022 CAHK STAR Awards organised by the Communications Association of Hong Kong. The Group accelerated the expansion of intelligent technology applications and further enhanced its Optical Character Recognition (OCR) technology so as to improve the efficiency of data input and processing. It stepped up efforts to promote digitalised operations and incorporated ESG elements into its business processes, including reinforcing paperless green operations. At the same time, the Group pushed forward the expansion of the Regional Operation Centre in Nanning, Guangxi, so as to achieve a more cost-effective operating model. It promoted agile project management and collaboration to improve staff experience and operational efficiency, and implemented intelligent risk control applications to help strike a balance between its risk management and business development needs. The Group actively promoted its intelligent anti-fraud platform, which utilises regtech to detect fraud cases, and successfully developed and applied intelligent anti-fraud models. At the initial stage, the Group was able to conduct real-time risk control of abnormal credit card transactions. During the year, BOCHK was awarded Effective Application of Regtech in the Bank Staff Recognition Ceremony organised by the Hong Kong Police Force, in recognition of its efforts in actively adopting a multi-pronged approach to combat deception cases by making use of regtech in crime detection and prevention.

**Strengthening corporate culture and cultivating talented teams**

The "BOCHK Challenge 2021-22" innovation competition hosted by BOCHK and co-organised by the HKMA and the Hong Kong Science and Technology Parks Corporation, was successfully held to discover new ways to apply fintech within the financial industry, explore breakthrough business models that disrupt traditional industry frameworks, improve customers' digital experiences and enhance the operational efficiency of the banking sector. In terms of talent cultivation, the Group promoted its corporate culture through multiple channels, including all-staff training, expert interviews, in-house competitions, videos and animations, prize-winning games, and instant messaging software emoticons and posters, with the aim of deepening staff understanding of innovation culture, ESG and corporate values. In order to ensure appropriate talent development to support the digital transformation of the Group, it arranged external professional training courses, identified different options regarding professional qualification standards and professional sequencing for digital talent, and introduced targeted and stratified training for all staff while encouraging them to pursue professional qualifications and certifications. The Group also conducted internal fintech training on topics such as AI, cloud technology, big data and database development trends, in order to train staff to become fintech practitioners. In line with its strategic goals, the Group made use of market and campus recruitments and organised specialised internships or competitions to proactively acquire digital-savvy and IT-related talent. It cooperated with local public and charitable organisations to launch a range of projects covering the themes of poverty alleviation, youth development, environmental protection and carbon reduction, arts and sport, as well as innovative technology. To support the "Enhanced Competency Framework on Fintech" launched by the HKMA, the Group applied for the one-off exemption and certification of eligible staff, and arranged enrollment in the scheme for staff with a potential talent for fintech so as to enhance their professional standards.

## Outlook and Business Focus for 2023

Looking ahead into 2023, it is expected that successive interest rate hikes by major central banks will further inhibit economic activities in varying emergent ways. In particular, the economic prospects of Europe and the US will come under greater pressure, while the international environment may become more complicated and severe. However, China's economic outlook will be more resilient, as the effectiveness of various stimulus measures become more clearly felt. In Southeast Asia, the easing of pandemic controls and higher COVID-19 vaccination rates will enable economic activity to restart, while the tourism industry is expected to continually improve. Together, this will support the region's economic recovery. Hong Kong's economy will face challenges arising from the global economic slowdown and geopolitical instability. However, the full resumption of Hong Kong's full quarantine-free travel to and from the Chinese mainland and other countries and regions, as well as the probable continuous improvement of the labour market, will provide strong support to Hong Kong economic prospects. The macro environment will remain highly uncertain. With this in mind, the Group will closely monitor changes in the market environment and adopt flexible and effective business development strategies in order to mitigate potential impacts.

The Group will implement its established policies according to its mid to long-term plan. With the strategic goal of building a first-class regional banking group, the Group will continue to capture business opportunities from its strategic markets of Hong Kong, the Greater Bay Area and Southeast Asia. It will deeply cultivate the local market in Hong Kong and tap the full potential of its target customers. It will focus on the core market strengths in the Greater Bay Area and vigorously develop cross-border business. It will strengthen business development in Southeast Asia, continue to expand its regional customer base, and enrich its regional product suite. At the same time, the Group will steadily push forward its sustainable development plan and implement the transformation of its environmental, social and governance practices in the service of high-quality development. It will improve its integrated service capabilities, strengthen internal and external collaboration, and strive to be the beating heart of BOC Group's integrated services. It will promote digital transformation and increase the penetration rate of digital services. In addition, the Group will continue to adhere to bottom-line thinking in its risk management and consolidate its human resources, culture and operational procedures in order to provide strong support for the implementation of its strategic plan.

## Credit Ratings

| As at 31 December 2022 | Long-term | Short-term |
|---|---|---|
| Standard & Poor's | A+ | A-1 |
| Moody's | Aa3 | P-1 |
| Fitch | A | F1+ |

# Risk Management

## Banking Group

### Overview

The Group believes that sound risk management is crucial to the success of any organisation. In its daily operation, the Group attaches a high degree of importance to risk management and emphasises that a balance must be struck between risk control and business development. The principal types of risk inherent in the Group's businesses are credit risk, market risk, interest rate risk, liquidity risk, operational risk, reputation risk, legal and compliance risk, and strategic risk. The Group's risk management objective is to enhance shareholder value by maintaining risk exposures within acceptable limits. The Group has a defined risk appetite statement approved by the Board, which is an expression of the types and level of risk that the Group is willing to take in a controllable way in order to achieve its business goals and to meet the expectations of its stakeholders. For details of the Group's risk management governance structure, please refer to Note 4 to the Financial Statements.

### Credit risk management

Credit risk is the risk of loss that a customer or counterparty is unable to or unwilling to meet its contractual obligations. Credit risk exists in the trading book and banking book, as well as from on- and off-balance sheet transactions of the Group. It arises principally from lending, trade finance and treasury businesses. For details of the Group's Credit Risk Management, please refer to Note 4.1 to the Financial Statements.

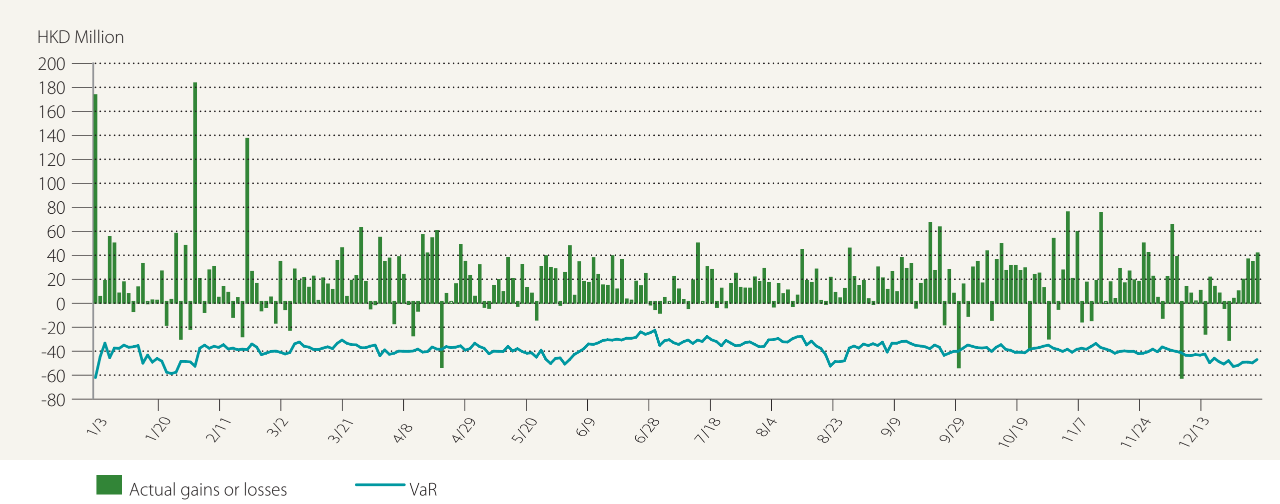
### Market risk management

Market risk refers to the risk of loss arising from movements in the value of foreign exchange, interest rate, equity and commodity positions held by the Group due to the volatility of financial market price (foreign exchange rate, interest rate, credit spreads, equity price, commodity price). The Group adopts a moderate market risk appetite to achieve a balance between risk and return. For details of the Group's Market Risk Management, please refer to Note 4.2 to the Financial Statements.

The Group uses the VaR to measure and report general market risks to the Risk Committee ("RMC") and senior management on a periodic basis. The Group adopts a uniformed VaR calculation model, using a historical simulation approach and two years of historical market data, to calculate the VaR of the Group and its subsidiaries over a one-day holding period with a 99% confidence level, and sets up the VaR limit of the Group and its subsidiaries.

The Group adopts back-testing to measure the accuracy of VaR model results. The back-testing compares the calculated VaR figure of market risk positions of each business day with the actual and hypothetical gains or losses arising from those positions on the next business day. Generally speaking, the number of back-testing exceptions in a rolling 12-month period will not exceed four times, given a 99% confidence level. The graph below shows the back-testing result of the VaR against actual gains or losses of the Group.

**Daily Back-testing in 2022**




There were four actual losses exceeding the VaR for the Group in 2022 as shown in the back-testing results. The exceptions were driven by unexpected market movements.

**Interest rate risk management**

Interest rate risk means the risks to a bank's earnings and economic value arising from movements in interest rate and term structures of the bank's asset and liability positions. The Group's interest rate risk exposures are mainly from structural positions. The major types of interest rate risk from structural positions are gap risk, basis risk and option risk. For details of the Group's Interest Rate Risk Management, please refer to Note 4.2 to the Financial Statements.

**Liquidity risk management**

Liquidity risk is the risk that banks may not be able to obtain sufficient and timely funding at a reasonable cost to meet their obligations as they fall due. The Group maintains a sound liquidity risk appetite to provide stable, reliable and adequate sources of cash to meet liquidity needs under normal circumstances and stressed scenarios. For details of the Group's Liquidity Risk Management, please refer to Note 4.3 to the Financial Statements.

**Operational risk management**

Operational risk is the risk of loss resulting from inadequate or failed internal process, people and system, or from external events. The risk is inherent in all banking products, activities, processes and systems and confronted by the Group in its day-to-day operational activities.

The Group has implemented the "Three Lines of Defence" for its operational risk management. All departments or functional units as the first line of defence are the first parties responsible for operational risk management, and carry out the duties and functions of self risk control in the process of business operation through self assessment and self enhancement. The Legal & Compliance and Operational Risk Management Department ("LCO"), together with certain specialist functional units in relation to operational risk management within the Group, including the Human Resources Department, Corporate Services Department, Financial Crime Compliance Department, Financial Management Department, Treasury and General Accounting & Accounting Policy Department (collectively known as "specialist functional units"), are the second line of defence. They are responsible for assessing and monitoring the operational risk conditions in the first line of defence, and providing them with guidance. The LCO, being independent from the business units, is responsible for assisting the Management in managing the Group's operational risk, including the establishment and review of the operational risk management policy and framework, designing the operational risk management tools and reporting mechanism, and reporting the overall operational risk position to the Management and RMC. Specialist functional units are required to carry out their managerial duties of the second line of defence with respect to some specific aspects of operational risk and its related issues. Besides taking charge of operational risk management in their own units, these units are also required to provide other units with professional advice/training in respect of certain operational risk categories and to lead the group-wide operational risk management. Group Audit is the third line of defence which provides independent assessment to the effectiveness and adequacy of the operational risk management framework and is required to conduct risk-based review of the operational risk management activities of various departments or functional units within the Group regarding their compliance and effectiveness and to put forward recommendations for remedial actions.

The Group has put in place an effective internal control process which requires the establishment of policies and control procedures for all the key activities. The Group adheres to the fundamental principle of proper segregation of duties and authorisation. The Group adopts various operational risk management tools or methodologies such as key risk indicators, self-assessment, operational risk events reporting and review to identify, assess, monitor and control the risks inherent in business activities and products, as well as purchase of insurance to mitigate unforeseeable operational risks. Business continuity plans are established to support business operations in the event of an emergency or disaster. Adequate backup facilities are maintained and periodic drills are conducted.

**Reputation risk management**

Reputation risk is the risk that negative publicity about the Group's business practices, whether genuine or not, will cause a potential decline in the customer base, or lead to costly litigation or revenue decrease. Reputation risk is inherent in other types of risk and every aspect of business operation and covers a wide spectrum of issues.

In order to mitigate reputation risk, the Group has formulated and duly followed its Reputation Risk Management Policy. The policy aims to identify and prevent reputation risk proactively at an early stage when an incident occurs. Since reputation risk is often caused by various types of operational and strategic issues that negatively impact the trust and perception of the Group, all operational and key risks identified are assessed through the established Key Control Self-Assessment framework, including risk assessment tools, to evaluate the severity of their impact on the Group, including the damage to reputation.

In addition, the Group has put in place a comprehensive framework to continuously monitor reputation risk incidents in the financial industry. This continuous monitoring enables the Group to effectively manage, control and mitigate any potential adverse impact from an incident. The Group also adopts robust disclosure practices to keep our stakeholders informed at all times, which helps build confidence in the Group and establish a strong public image.

**Legal and compliance risk management**

Legal risk is the risk that unenforceable contracts, lawsuits or adverse judgments may disrupt or otherwise negatively affect the operations or financial conditions of the Group. Compliance risk is the risk of legal or regulatory sanctions, financial losses or losses in reputation the Group may suffer as a result of its failure to comply with applicable laws and regulations. Legal and compliance risks are managed by the LCO, while the risks related to money laundering, terrorist financing, fraud, bribery and corruption are managed and monitored by the Financial Crime Compliance Department ("FCC"). Both LCO and FCC report directly to the CRO. As part of the Group's corporate governance framework, the policies for the management of legal and compliance risks, and money laundering, terrorist financing and financial crime compliance risks are approved by the RMC as delegated by the Board.

**Strategic risk management**

Strategic risk generally refers to the risks that may cause current and prospective impacts on the earnings, or capital or reputation or market position of the Group because of poor business decisions, improper implementation of strategies and inadequacies in the response to the changing market condition. The Board reviews and approves the Strategic Risk Management Policy. Key strategic issues have to be fully evaluated and properly endorsed by the senior management and the Board.

The Group regularly reviews its business strategies to cope with the latest market situation and developments.

**Capital management**

The major objective of the Group's capital management is to maximise total shareholders' return while maintaining a capital adequacy position in relation to the Group's overall risk profile. The Asset and Liability Management Committee ("ALCO") periodically reviews the Group's capital structure and adjusts the capital mix where appropriate to maintain an optimal balance among risk, return and capital adequacy.

To comply with the HKMA's requirements as stated in the Supervisory Policy Manual "Supervisory Review Process", the Group adopts the internal capital adequacy assessment process ("ICAAP") and reviews it annually. Based on the HKMA's guidelines on Pillar II, ICAAP has been initiated to assess the extra capital needed to cover the material risks not captured or not adequately captured under Pillar I, and therefore minimum Common Equity Tier 1 capital ratio, minimum Tier 1 capital ratio and minimum Total capital ratio are determined. Meanwhile, operating ranges for the aforementioned capital ratios have also been established which enable the flexibility for future business growth and efficiency of capital utilisation.

In 2022, to comply with the applicable internal loss-absorbing capacity requirements under the Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements – Banking Sector) Rules ("LAC Rules") with compliance period starting from 1 January 2023, BOC has granted non-capital loss-absorbing capacity debt instruments totalling RMB47 billion and USD3 billion to BOCHK, which has strengthened the loss-absorbing and recapitalisation capacity of the Group.

**Stress testing**

The Group supplements the analysis of various types of risks with stress testing. Stress testing is a risk management tool for estimating risk exposures under stressed conditions arising from extreme but plausible market or macroeconomic movements. These tests are conducted on a regular basis by the Group's various risk management units in accordance with the principles stated in the Supervisory Policy Manual "Stress-testing" published by the HKMA. The ALCO monitors the results against the key risk limits approved by the RMC. The Financial Management Department reports the combined stress test results of the Group to the Board and RMC regularly.

## BOC Life

BOC Life's principal business underwrites long-term insurance business in life and annuity (Class A), linked long term business (Class C), permanent health (Class D), retirement scheme management category I (Class G) and retirement scheme management category III (Class I) as defined under the Insurance Ordinance in Hong Kong. Major types of risk arising from BOC Life's insurance business are insurance risk, interest rate risk, liquidity risk, credit risk, equity and fund price risk, currency risk and compliance risk. BOC Life closely monitors these risks and reports to its Risk Management Committee on a regular basis. Furthermore, BOC Life has regular communication with the Group to ensure consistency with the Group's risk management strategy. The key risks of its insurance business and related risk control process are as follows:

**Insurance risk management**

BOC Life is in the business of insuring against the risk of mortality, morbidity, disability, critical illness, accidents and related risks. These risks are managed through the application of underwriting strategy, reinsurance arrangements and regular experience monitoring.

The underwriting strategy is intended to set premium pricing at an appropriate level that corresponds with the underlying exposure of the risks underwritten, and BOC Life's underwriting procedures include screening processes, such as the review of health condition and family medical history, to ensure alignment with the underwriting strategy.

Uncertainty in the estimation of future benefit payments and premium receipts for long-term insurance contracts arises from the unpredictability of long-term changes in overall levels of mortality, morbidity and persistency. In this regard, BOC Life has conducted relevant experience studies and researches regularly to identify emerging trends. Results would be taken into account in pricing and underwriting management.

For details of the Group's Insurance Risk Management, please refer to Note 4.4 to the Financial Statements.

**Interest rate risk management**

An increase in interest rates may result in the depreciation of the value of BOC Life's investment assets. A decrease in interest rates may result in an increase in insurance liability and customer dissatisfaction due to decrease in returns. BOC Life manages the matching of assets and liabilities of its portfolios within an asset liability management framework that has been developed to achieve investment returns that match its obligations under insurance contracts; and to manage the adverse impact due to interest rate movement.

**Liquidity risk management**

BOC Life's liquidity risk is the risk of not being able to meet payment obligations as they fall due. BOC Life's asset and liability management framework includes stress tests and cash flow management to preserve liquidity to fulfil policy payment obligations from time to time.

**Credit risk management**

BOC Life has exposure to credit risk that a customer, debtor or counterparty will be unable to or unwilling to meet a commitment that they have entered into. Key areas to which BOC Life's insurance business is exposed include:

- Default risk associated with bonds, notes and counterparties
- Credit spread widening as a result of credit migration (downgrade)
- Reinsurers' share of unpaid insurance contract liabilities
- Amounts due from reinsurers in respect of claims already paid
- Amounts due from insurance contract holders
- Amounts due from insurance intermediaries

BOC Life manages credit risk by placing limits on its exposure to each investment counterparty or issuer. Such limits are subject to review by the Management at least once a year.

The reinsurance arrangement transfers the insurance risk associated with the insurance contracts to the third party. It does not, however, discharge BOC Life's liability as the primary insurer. If a reinsurer fails to pay a claim for any reasons, BOC Life remains liable for the payment to the policyholder. The creditworthiness of reinsurers is considered by reviewing the reinsurers' financial strength prior to finalisation of any reinsurance contract. Management of BOC Life directs its reinsurance placement policy and assesses the creditworthiness of all reinsurers and intermediaries by reviewing credit grades provided by rating agencies and other publicly available financial information. BOC Life also monitors the reinsurance counterparty risk exposure on an ongoing basis.

**Equity and fund price risk management**

BOC Life's equity and fund price risk refers to the risk of loss due to volatility of market price in equity securities, equity funds and private equity. BOC Life's asset and liability management framework includes managing the adverse impact due to equity price movement through stress test and exposure limit.

**Currency risk management**

BOC Life's currency risk refers to the risk of loss due to volatility of exchange rate. BOC Life's asset and liability management framework includes managing the adverse impact due to exchange rate movement through stress test, exposure limit and risk limit.

# Understanding Brings Us Closer

We understand that we all build the future together

Nurturing green growth and social wellbeing

Expanding your connections to bring you closer to your goals