5. Banking sector performance

Retail banks' profit improved in the second half of 2022 compared with the same period in 2021 mainly due to higher net interest income. Reflecting upward pressure on Hong Kong dollar interbank rates and retail deposit rates amid US interest rate hikes, the overall Hong Kong dollar funding costs for retail banks increased notably in the second half of 2022. The classified loan ratio increased during the review period, but remained at a healthy level. Overall, the Hong Kong banking sector remained resilient, underpinned by sound and robust capital and liquidity positions. Looking ahead, while the relaxation of COVID-19 restrictions should brighten the outlook for the Hong Kong economy, uncertainties related to future US interest rate adjustments, the growth outlook for major advanced economies, and the lingering geopolitical risks will pose challenges to the banking sector. Banks should stay vigilant against the impacts of these risk factors on the asset quality of their loan portfolios.

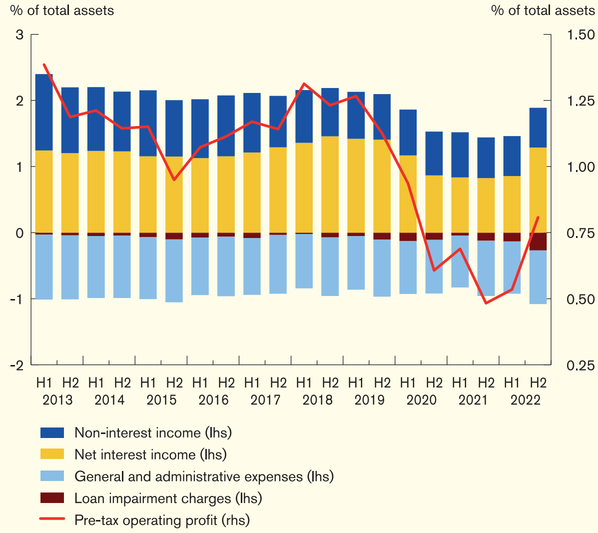
5.1 *Profitability and capitalisation*

Profitability

The aggregate pre-tax operating profit of retail banks[42] rose by 74.0% in the second half of 2022 compared with the same period in 2021, while the return on assets also rose to 0.80% from 0.48% (Chart 5.1). The improvement in profit was attributable to increases in net-interest income and income from foreign exchange and derivatives, which were partly offset by an increase in bad debt provisions and a decline in income from fees and commissions. Against the rising interest rate environment, the net interest margins (NIMs) of retail banks increased notably to 1.59% in the second half of 2022 from 0.98% a year ago (Chart 5.2).

For 2022 as a whole, the aggregate pre-tax operating profit increased by 19.0%, while the return on assets rose to 0.67% from 0.59% in 2021.

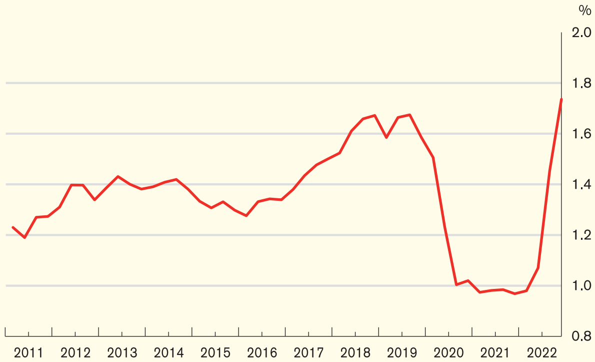
Chart 5.1
Profitability of retail banks



Note: Annualised semi-annual figures.
Source: HKMA.

[42] Throughout this chapter, figures for the banking sector relate to Hong Kong offices only, unless otherwise stated.

Chart 5.2
Net interest margin of retail banks

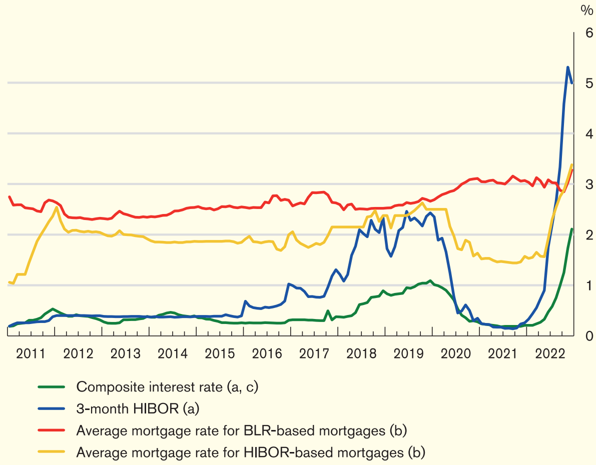


Note: Annualised quarterly figures.
Source: HKMA.

Largely following the rapid increase in US interest rates, the Hong Kong Interbank Offered Rates (HIBORs) rose markedly in 2022. In particular, the three-month HIBOR, after having increased by 149 basis points in the first six months of 2022, rose by another 324 basis points in the second half of the year to 4.99% at the end of December 2022 (the blue line in Chart 5.3).[43]

On the retail front, banks have generally lifted their Hong Kong dollar time-deposit rates to compete for long-term stable funding. In addition, banks raised their savings deposit rates several times in 2022, in line with the corresponding rise in their best lending rates (BLR). Reflecting both higher wholesale and retail funding costs, the composite interest rate (a measure of the average cost of Hong Kong dollar funds for retail banks) has increased by 164 basis points over the past six months to 2.11% at the end of 2022 (green line in Chart 5.3). Nevertheless, the rise in the composite interest rate remained relatively moderate compared to the US interest rate hikes during the same period.

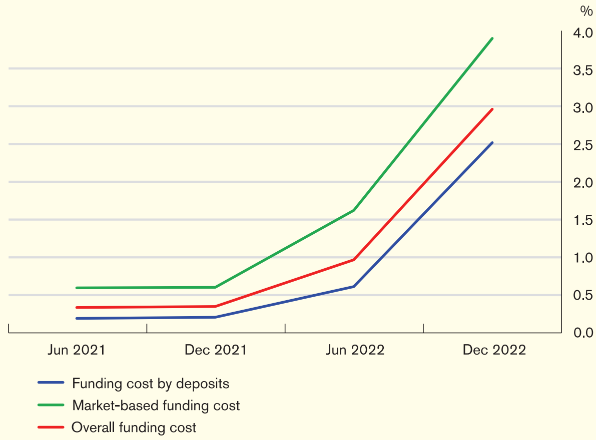
Chart 5.3
Interest rates



Notes:
(a) End-of-period figures.
(b) Period-average figures for newly approved loans.
(c) Since June 2019, the composite interest rate has been calculated based on the new local "interest rate risk in the banking book" (IRRBB) framework. As such, figures from June 2019 onwards are not strictly comparable with those of previous months.
Sources: HKMA and staff estimates.

More broadly, the overall Hong Kong dollar and US dollar funding cost for licensed banks in Hong Kong also exhibited a similar picture, as it increased by 199 basis points during the second half of 2022 (red line in Chart 5.4).

Chart 5.4
Hong Kong dollar and US dollar funding costs of licensed banks



Note: Since June 2019, licensed banks not exempted from the new local IRRBB framework report under the new framework, while exempted licensed banks continue to report under the existing interest rate risk exposure framework. The overall funding cost has been calculated as the weighted averages of the respective funding costs for these two groups of licensed banks. As such, figures from June 2019 onwards are not directly comparable with those of previous periods.

Source: HKMA.

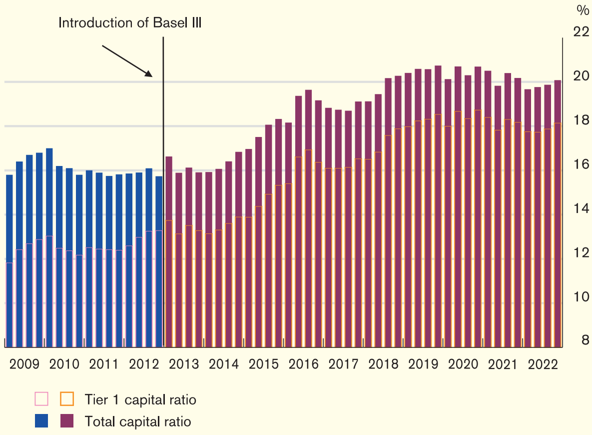
43 However, HIBORs broadly softened in January 2023 after the year-end effect dissipated.

Looking ahead, while higher interest rates alongside the relaxation of COVID-19 restrictions in Mainland China and Hong Kong would benefit banks' earnings, the external environment may continue to cloud the profitability outlook. In particular, amid the monetary tightening in major advanced economies, the tighter global financing conditions and the associated negative impacts on global growth might worsen borrowers' debt repayment abilities. This could increase banks' loan loss provisions and thus weigh on profitability.

Capitalisation

Capitalisation of the Hong Kong banking sector continued to be strong and well above minimum international standards. The consolidated total capital ratio of locally incorporated authorized institutions (AIs) stood at a high level of 20.1% at the end of 2022 (Chart 5.5), well above the international minimum requirement of 8%. The Tier 1 capital and the Common Equity Tier 1 (CET1) capital ratio were 18.1% and 16.2%, respectively. In addition, the non-risk-based Leverage Ratio[44] (LR) of locally incorporated AIs recorded a healthy level of 7.9% at the end of December 2022, exceeding the statutory minimum of 3%.

Chart 5.5
Capitalisation of locally incorporated AIs



Notes:
1. Consolidated basis.
2. With effect from 1 January 2013, a revised capital adequacy framework under Basel III was introduced for locally incorporated AIs. The capital ratios from March 2013 onwards are therefore not directly comparable with those up to December 2012.

Source: HKMA.

5.2 *Liquidity and interest rate risks*

Liquidity and funding

The liquidity positions of the banking sector, as measured by the Basel III Liquidity Coverage Ratio (LCR)[45], remained sound during the review period. The average LCR of category 1 institutions rose to 162.3% in the fourth quarter of 2022 from 154.9% in the second quarter of 2022 (Chart 5.6), staying well above the statutory minimum requirement of 100%. The average Liquidity Maintenance Ratio (LMR) of category 2 institutions was 63.2% during the same period, also well above the statutory minimum requirement of 25%.

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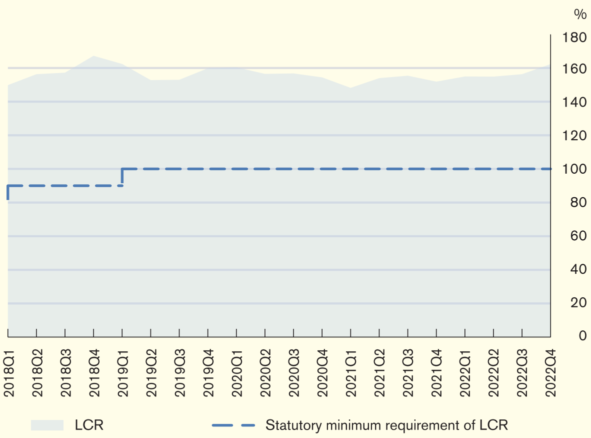
[44] The Basel III non-risk-based LR requirement acts as a "backstop" to restrict the build-up of excessive leverage in the banking sector. For details, see Banking (Capital) Rules (Cap. 155L).

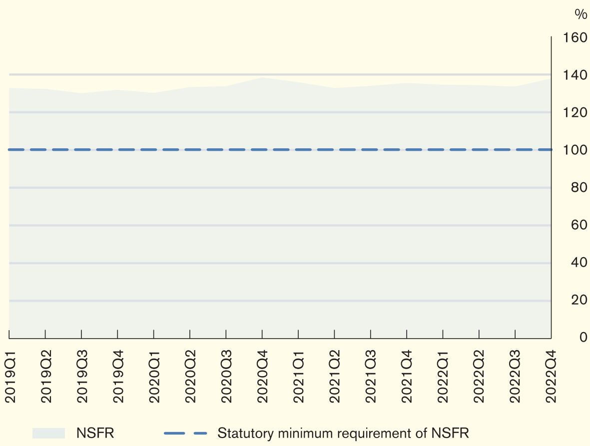
[45] The Basel III LCR requirement is designed to ensure that banks have sufficient high-quality liquid assets to survive a significant stress scenario lasting 30 calendar days. In Hong Kong, AIs designated as category 1 institutions adopt the LCR; while category 2 institutions adopt the LMR. For details, see the HKMA's Supervisory Policy Manual (SPM) LM-1, "*Regulatory Framework for Supervision of Liquidity Risk*".

Chart 5.6
Liquidity Coverage Ratio



Notes:
1. Consolidated basis.
2. Quarterly average figures.
Source: HKMA.

Chart 5.7
Net Stable Funding Ratio

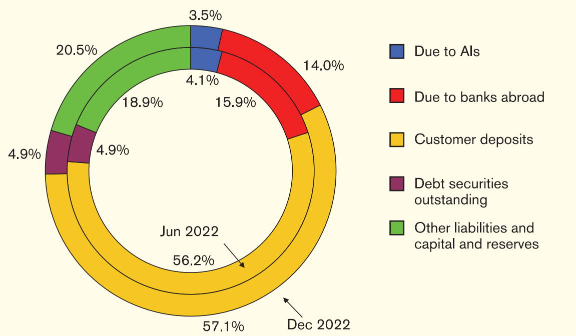


Note: Consolidated basis.
Source: HKMA.

The latest ratios of the Net Stable Funding Ratio (NSFR)[46] requirement also reflected a stable funding position of AIs. The average NSFR of category 1 institutions remained at a high level of 137.7% in the fourth quarter of 2022 (Chart 5.7), well above the statutory minimum requirement of 100%. The average Core Funding Ratio (CFR) of category 2A institutions also stayed at a high level of 155.7%, exceeding the statutory minimum requirement of 75%. The strong liquidity buffers and stable funding positions of AIs suggest that the Hong Kong banking sector is well positioned to withstand liquidity shocks.

Customer deposits continued to be the primary source of funding for AIs, underpinning a stable funding structure in the banking system. At the end of 2022, the share of customer deposits to all AIs' total liabilities increased marginally to 57.1% from 56.2% six months ago (Chart 5.8).

Chart 5.8
The liability structure of all AIs



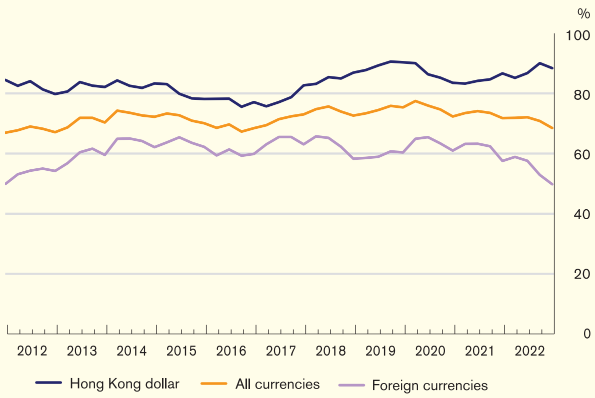
Notes:
1. Figures may not add up to total due to rounding.
2. Figures refer to the percentage of total liabilities, including capital and reserves.
3. Debt securities comprise negotiable certificates of deposit and all other negotiable debt instruments.
Source: HKMA.

The average all-currency loan-to-deposit (LTD) ratio of all AIs declined slightly to 68.5% from 72.1% six months ago (Chart 5.9). The decrease was mainly driven by a drop in foreign currency LTD ratio, as foreign currency deposits increased while the foreign currency loan and advances declined notably during the review period. By

46 The Basel III NSFR requires banks to maintain a stable funding profile in relation to the composition of their assets and off-balance-sheet activities. In Hong Kong, category 1 institutions are required to comply with the NSFR; while category 2 institutions designated as category 2A institutions must comply with the requirements relating to the local CFR. For details, see Banking (Liquidity) Rules (Cap. 155Q).

contrast, the Hong Kong dollar LTD ratio increased to 88.4% at the end of 2022 from 86.8% six months ago.

Chart 5.9
Average loan-to-deposit ratios of all AIs



Note: End-of-quarter figures.
Source: HKMA.

Interest rate risk

The interest rate risk exposure of locally incorporated licensed banks remained at a relatively low level in the fourth quarter of 2022. Under a hypothetical shock of an across-the-board 200-basis-point increase in Hong Kong dollar and US dollar interest rates[47], the economic value of locally incorporated licensed banks' interest rate positions is estimated to decline by an amount equivalent to 2.30% of their total capital base at the end of December 2022.[48]

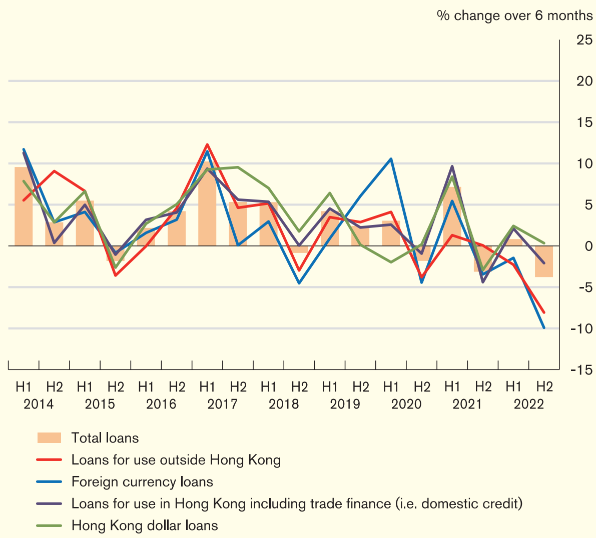
5.3 Credit risk

Overview

Partly reflecting subdued credit demand amid higher borrowing costs and soft domestic economic activities, total loans and advances decreased by 3.8% in the second half of 2022, after increasing by 0.8% in the first half (Chart 5.10).[49]

The decline in total loans and advances was driven by a contraction in both domestic loans (comprising loans for use in Hong Kong and trade financing) and loans for use outside Hong Kong. Domestic loans declined by 2.1% in the second half of 2022 after registering an increase of 2.1% in the first half, while loans for use outside Hong Kong decreased by 8.1% during the second half further to a decline of 2.3% in the first half.

Chart 5.10
Loan growth



Note: Since December 2018, figures for loans for use in or outside Hong Kong have been restated to reflect AIs' reclassification of working capital loans. The reported percentage changes over six months for 2019 and onwards are calculated based on the reclassified loan data, while the historical percentage changes until the second half of 2018 are calculated based on the data without such reclassification.
Source: HKMA.

Banks' assessment on credit demand outlook in the near term improved slightly. According to the results of the HKMA Opinion Survey on Credit Condition Outlook in December 2022, the share of surveyed AIs expecting loan demand to be higher in the following three months increased to 27% compared to the results conducted six months ago (Table 5.A).

47 The impact of the interest rate shock refers to its impact on the economic value of the banking and trading book, expressed as a percentage of the total capital bases of banks.

48 This estimation does not take into account the effect of any mitigating action by banks in response to the shock. The impact will be smaller if mitigating action is taken.

49 For 2022 as a whole, total loans and advances declined by 3.0%, after increasing by 3.8% in 2021.

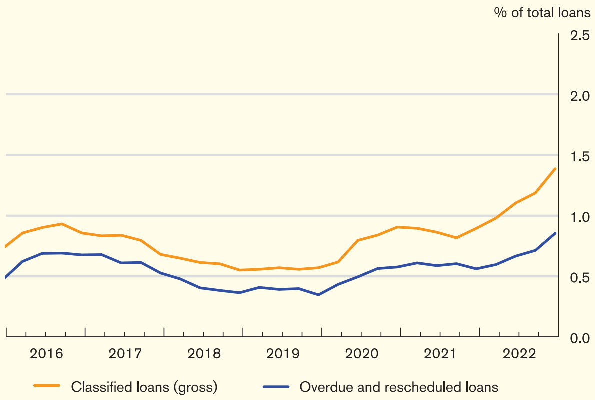
Table 5.A
Expectations of loan demand in the next three months

% of total respondents	Mar-22	Jun-22	Sep-22	Dec-22
Considerably higher	0	0	0	0
Somewhat higher	20	20	20	27
Same	60	70	70	60
Somewhat lower	20	10	10	10
Considerably lower	0	0	0	3
Total	100	100	100	100

Note: Figures may not add up to total due to rounding.
Source: HKMA.

Due to the challenging external and domestic economic environment, the asset quality of banks' loan portfolios deteriorated modestly. The gross classified loan ratio (CLR) of all AIs rose to 1.38% in the end of 2022 from 1.10% six months ago, while the ratio of overdue and rescheduled loans of all AIs also rose to 0.85% at the end of December 2022 from 0.66% at the end of June 2022 (Chart 5.11). Despite the deterioration, the asset quality of the Hong Kong banking sector remained at a healthy level.

Chart 5.11
Asset quality of all AIs



Note: Classified loans are those loans graded as "sub-standard", "doubtful" or "loss".
Source: HKMA.

Household exposure[50]

Household debt grew by 0.7% in both the first and second half of 2022, visibly slower than the 4.4% increase in the second half of 2021 (Table 5.B). A breakdown of the data shows that the growth of residential mortgage loan moderated further to 1.9% in the second half of 2022, given the lower number of residential property transactions. Personal loans declined further by 2.2%.

Table 5.B
Half-yearly growth of loans to households of all AIs

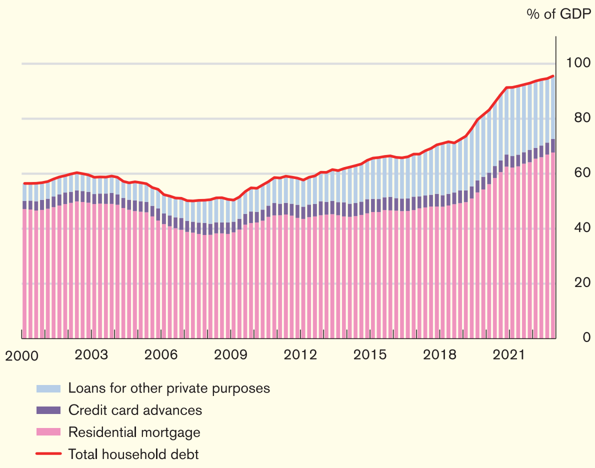
	2019		2020		2021		2022	
(%)	H1	H2	H1	H2	H1	H2	H1	H2
Residential mortgages	4.7	5.5	3.5	4.7	4.0	5.7	2.1	1.9
Personal loans	11.2	5.9	-2.4	2.2	5.3	1.6	-2.5	-2.2
of which:								
Credit card advances	-3.8	4.1	-9.0	0.0	-0.4	8.1	-5.3	14.4
Loans for other private purposes	14.9	6.2	-1.1	2.6	6.4	0.4	-2.0	-5.1
Total loans to households	6.8	5.6	1.5	3.9	4.4	4.4	0.7	0.7

Source: HKMA.

The household debt-to-GDP ratio rose to 95.5% in the second half of 2022 (Chart 5.12), from 94.2% in the first half of 2022. During this period, the growth in household debt contributed 0.6 percentage points of the 1.3-percentage-point increase in the household debt-to-GDP ratio. The decrease in Hong Kong's nominal gross domestic product (GDP) contributed 0.7 percentage points of the increase in the ratio.

[50] Loans to households constitute lending to professional and private individuals, excluding lending for other business purposes. Mortgages account for a major proportion of household loans, while the remainder comprises mainly loans to private banking and wealth management customers secured by financial assets, credit card advances, and unsecured personal loans. At the end of December 2022, loans to households accounted for 35.0% of domestic lending.

Chart 5.12
Household debt-to-GDP ratio and its components



Notes:
1. Only borrowings from AIs are covered.
2. GDP refers to the annualised GDP, which is the sum of the quarterly GDP in the trailing four quarters.
3. Since December 2018, the figure for household debt has been restated to reflect AIs' reclassification of working capital loans.

Source: HKMA.

It is noteworthy that the household debt-to-GDP ratio is a widely-used measure for gauging the financial soundness of households due to its simplicity. When interpreting this ratio, it is important to take into account that: (i) the denominator of the ratio uses nominal GDP as a proxy for the household income for ease of comparison across economies, and is thus not the actual income of the households with borrowings. Therefore, the household debt-to-GDP ratio does not reflect the actual debt servicing burden of households in the economy; and (ii) the numerator takes into account only the gross debts of households (instead of the net debts which take into account household assets).

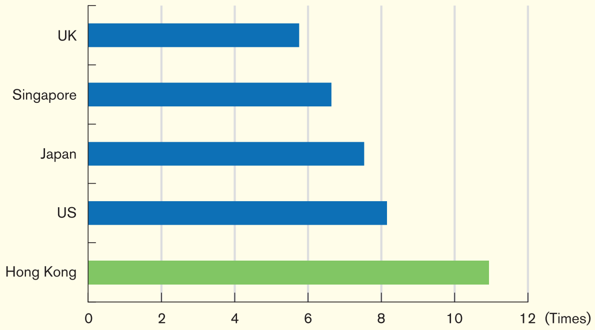
As such, a full and objective assessment of the risks associated with household debt requires the consideration of other factors, including the actual debt servicing ratio and the asset side of the household balance sheet. In fact, the average debt servicing ratio of new mortgages remained at a healthy level of 37% on average in 2022. Household net worth has also stayed at a high level. Specifically, both the net worth-to-liabilities ratio and the safe asset-to-liabilities ratio of Hong Kong's household sector remained high at 10.9 times and 2.91 times respectively in 2021 (Charts 5.13 and 5.14), which are much higher than those of most other developed economies. This suggests that Hong Kong's households, on aggregate, are financially sound and have a strong buffer to cushion potential financial and economic shocks.

The HKMA has been closely monitoring household indebtedness and regularly collects data from the banks. The majority of the household debts are residential mortgage loans, which are governed by the macroprudential policy framework, as well as collateralised loans to wealth management customers against financial assets. Coupled with the fact that household net worth has stayed at a high level, the HKMA considers that the household balance sheet remains healthy and the associated credit risk is manageable.

For residential mortgages, the average loan-to-value (LTV) ratio and average debt servicing ratio of newly approved mortgage loans have stayed at healthy levels following several rounds of countercyclical macro-prudential measures introduced by the HKMA since 2009. For personal loans to wealth management customers secured by financial assets, the HKMA requires banks to adopt prudent and effective credit risk management measures on this type of business. Such measures include imposing a cap on LTV ratios for financial assets pledged as collateral, issuing prompt margin calls, and adopting forced liquidation mechanisms.

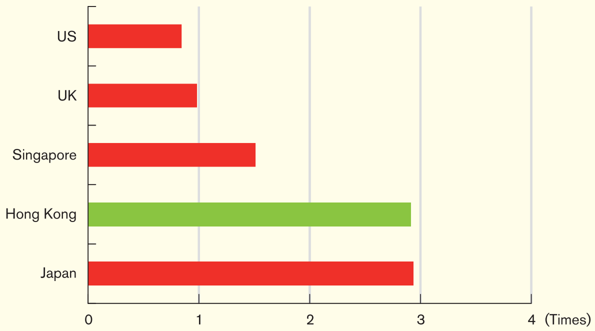
The HKMA also requires banks to adopt prudent underwriting standards for credit card advance and unsecured personal loan businesses. In reviewing credit applications, banks should understand borrowers' credit and financial conditions and carefully assess their repayment ability. As for post-lending, banks should implement effective monitoring that includes regular assessment of the asset quality of the loan portfolios.

Chart 5.13
Household net worth-to-liabilities ratio for selected economies



Note: Figure for Japan refers to that at end-2020, while figures for other economies (including Hong Kong) refer to those at end-2021.
Sources: Statistical agencies or central banks of selected economies, and HKMA staff estimates.

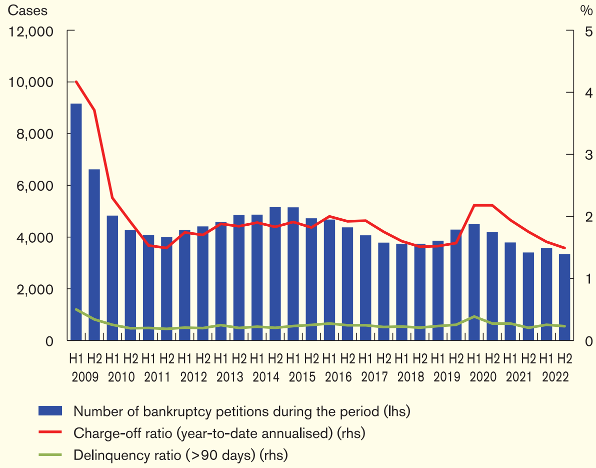
Chart 5.14
Safe assets-to-liabilities ratio for selected economies



Note: Safe assets comprise deposits, as well as currencies if data is available. In the case of Hong Kong, safe assets refer to deposits only. Figure for Japan refers to that at end-2020, while figures for other economies (including Hong Kong) refer to those at end-2021.
Sources: Statistical agencies or central banks of selected economies, and HKMA staff estimates.

For unsecured household exposure, the associated credit risk remained contained during the review period. The number of bankruptcy petitions decreased in the second half of 2022 compared with the preceding six months. The year-to-date annualised credit card charge-off ratio decreased from 1.59% in the second quarter to 1.49% in the fourth quarter of 2022, while the delinquency ratio dropped to 0.23% in December 2022 (Chart 5.15).

Chart 5.15
Charge-off ratio and delinquency ratio for credit card lending and bankruptcy petitions

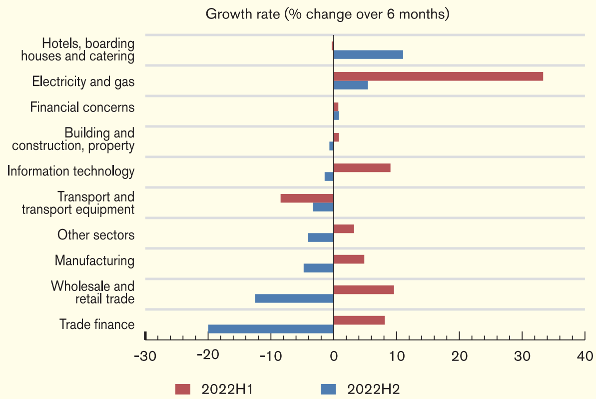


Sources: Official Receiver's Office and HKMA.

Corporate exposure[51]

Domestic corporate loans contracted in the second half of 2022 by 3.5%, after recording a solid growth of 2.9% during the first half. Except for lending to the hotels and catering sector, lending to most economic sectors recorded weak loan growth or decline in loan volume during the second half (Chart 5.16).

Chart 5.16
Growth in domestic corporate loans by selected sector



Source: HKMA.

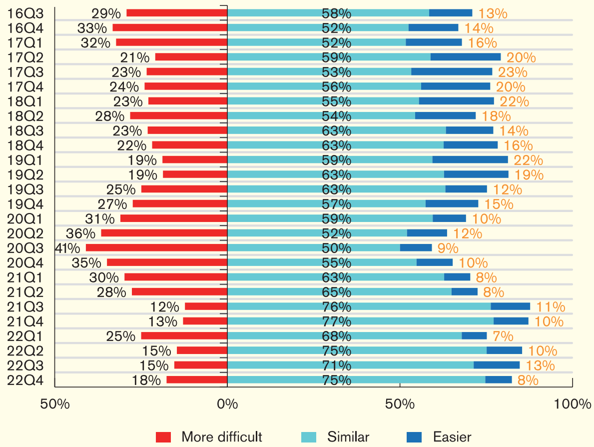
[51] Excluding interbank exposure. At the end of 2022, the share of corporate loans in domestic lending was 64.9%.

The demand-side survey on the credit conditions of small and medium-sized enterprises (SMEs) showed that SMEs' perception of banks' credit approval stance weakened in the fourth quarter of 2022, with 18% of the respondents perceiving credit approval as "more difficult" relative to six months ago, up from 15% registered in the previous quarter (Chart 5.17). That said, the perception of a more difficult credit approval stance may not necessarily reflect actual difficulties faced by SMEs in obtaining bank credit as the perception could be affected by a number of factors, such as media or news reports, business conditions, and opinions of relatives and friends.

Of the respondents with existing credit lines, 18% indicated a tighter stance by banks in the fourth quarter, up from 12% registered in the previous quarter (Chart 5.18). As a tighter stance on existing credit lines denotes a range of possible measures or arrangements (e.g. reducing unused and used credit lines, raising the interest rate, imposing additional collateral requirements, or shortening loan tenor), respondents' indication of banks' stance on existing credit lines may not directly reflect banks' supply of credit to SMEs.

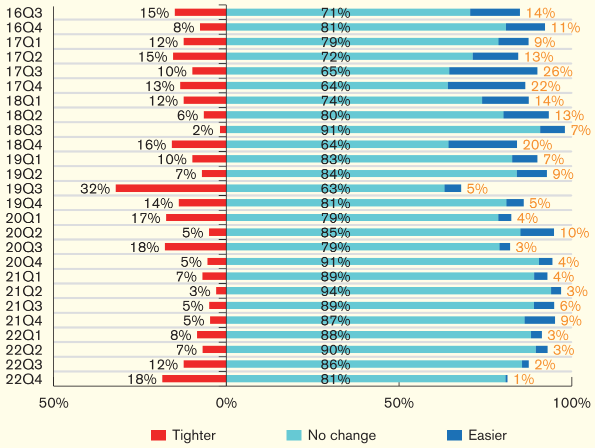
In light of the continued challenges facing SMEs, the HKMA announced in October 2022 an extension of the Pre-approved Principal Payment Holiday Scheme (the Scheme) to the end of July 2023. At the same time, the Scheme offered an additional option to corporates that are financially capable and willing to resume principal repayment gradually, to repay 50% of the original principal repayment amount over a period of two years on a voluntary basis. By the end of February 2023, over 111,000 credit relief cases had been granted to corporate customers under the Scheme and other initiatives implemented by banks during the pandemic, involving an aggregate amount of over HK$1.1 trillion. Having regard to the new arrangement by the HKMA and the banking sector to further extend the Scheme, HKMC Insurance Limited, the administrator of the SME Financing Guarantee Scheme (SFGS), has extended the application period for the principal moratorium arrangement under the SFGS to end-June 2023 as well as the maximum principal moratorium period of the SFGS to a total of 42 months. Two options for borrowers to resume partial principal repayment were provided, allowing borrowers to resume normal repayment gradually if they are willing and capable. As of 28 February 2023, over 60,000 applications involving about HK$121 billion in loans had been approved under the Special 100% Loan Guarantee. With the overarching objective of maintaining banking stability, the HKMA will from time to time review the case for further extension of the various relief measures.

Chart 5.17
SMEs' perception of banks' credit approval stance relative to six months ago



Note: Excluding respondents who answered "no idea / don't know".
Source: HKMA.

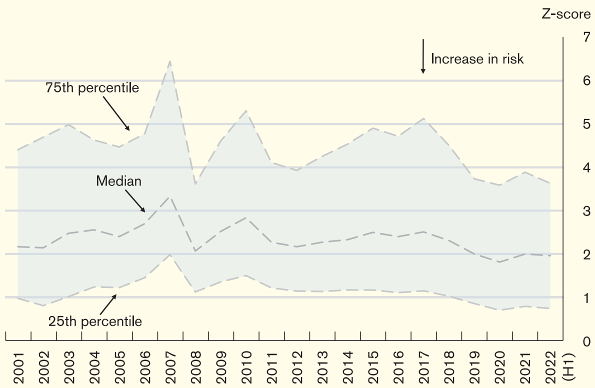
Chart 5.18
SMEs' reported change in banks' stance on existing credit lines



Note: The data covers only respondents with existing credit lines.
Source: HKMA.

Turning to the financial health of listed corporates, the Altman's Z-score (a default risk measure for non-financial corporates based on accounting data) for Hong Kong-listed non-financial corporates have remained largely stable up to the first half of 2022 (Chart 5.19). The relatively stable default risk partly reflected the continued improvement in listed corporates' financial fundamentals since 2020.

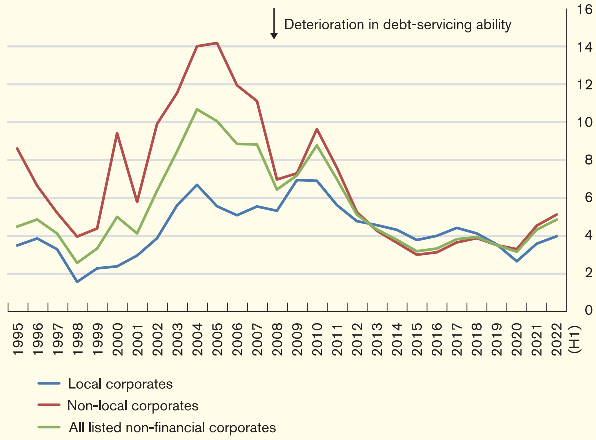
Chart 5.19
Altman's Z-score of listed non-financial corporates in Hong Kong



Notes:
1. All non-financial corporates listed on the Hong Kong Stock Exchange are selected.
2. Figures are calculated based on information up to end-February 2023.
Source: HKMA staff calculations based on estimates compiled by Bloomberg.

Specifically, listed non-financial corporates' debt servicing ability recorded a further improvement during the first half of 2022. In particular, the weighted average interest coverage ratios (ICRs) for both local and non-local corporates rose further in the first half of 2022 (the blue and red lines in Chart 5.20).

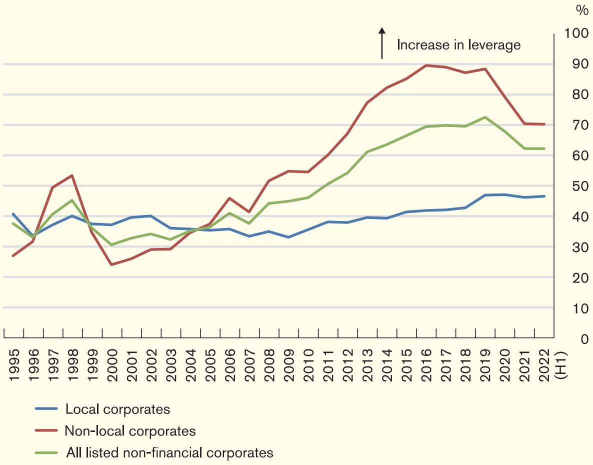
Chart 5.20
Interest coverage ratio of listed non-financial corporates in Hong Kong



Notes:
1. Weighted average figures.
2. The ICR is calculated by dividing the earnings before interest and tax (EBIT) by total interest expenses. A lower value indicates deterioration of debt servicing ability.
3. All non-financial corporates listed on the Hong Kong Stock Exchange are selected. Local and non-local corporates refer to listed firms that are domiciled in and outside Hong Kong, respectively.
4. Figures are calculated based on information up to end-February 2023.
Source: HKMA staff estimates based on data from Bloomberg.

Meanwhile, the weighted average debt-to-equity ratio, a common measure of corporate leverage, also remained stable in the first half of 2022 for both local and non-local listed non-financial corporates in Hong Kong (Chart 5.21).

Chart 5.21[52]
Leverage ratio of listed non-financial corporates in Hong Kong



Notes:
1. Weighted average figures.
2. The leverage ratio is defined as the ratio of debt to equity. A higher value indicates higher leverage.
3. All non-financial corporates listed on the Hong Kong Stock Exchange are selected. Local and non-local corporates refer to listed firms that are domiciled in and outside Hong Kong, respectively.
4. Figures are calculated based on information up to end-February 2023.

Source: HKMA staff estimates based on data from Bloomberg.

Going forward, the relaxation of COVID-19 restrictions in Mainland China and Hong Kong may help improve corporates' fundamentals. However, the uncertainty related to the future pace of monetary tightening by central banks in major advanced economies will pose headwinds to the global growth outlook. Should the interest rates stay higher and longer than expected, corporates' debt repayment abilities, and hence default risk, may be under pressure. Banks should therefore stay alert to the credit risk of their corporate exposures.

Mainland-related lending and non-bank exposures

The banking sector's total Mainland-related lending decreased by 5.9% to HK$4,522 billion (14.9% of total assets) at the end of December 2022, from HK$4,805 billion (15.7% of total assets) at the end of June 2022 (Table 5.C). Other non-bank exposures decreased by 4.9% to HK$1,841 billion (Table 5.D).

Table 5.C
Mainland-related lending

HK$ bn	Mar 2022	Jun 2022	Sep 2022	Dec 2022
Mainland-related loans	4,881	4,805	4,714	4,522
Mainland-related loans excluding trade finance	4,495	4,429	4,388	4,254
Trade finance	385	377	326	268
By type of AIs:				
Overseas incorporated AIs	1,771	1,719	1,702	1,604
Locally incorporated AIs*	2,208	2,231	2,207	2,104
Mainland banking subsidiaries of locally incorporated AIs	901	855	805	814
By type of borrowers:				
Mainland state-owned entities	1,961	1,955	1,908	1,824
Mainland private entities	1,500	1,475	1,446	1,405
Non-Mainland entities	1,419	1,375	1,360	1,293

Notes:
1. * Including loans booked in Mainland branches of locally incorporated AIs.
2. Figures may not add up to the total due to rounding.

Source: HKMA.

Table 5.D
Other non-bank exposures

HK$ bn	Mar 2022	Jun 2022	Sep 2022	Dec 2022
Negotiable debt instruments and other on-balance sheet exposures	1,481	1,424	1,344	1,337
Off-balance sheet exposures	514	512	521	504
Total	**1,995**	**1,936**	**1,865**	**1,841**

Note: Figures may not add up to the total due to rounding.
Source: HKMA.

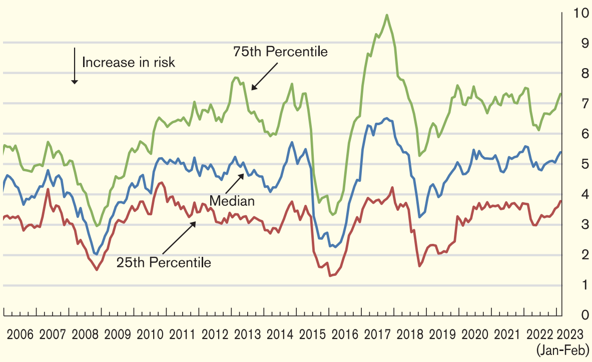
The gross CLR of Mainland-related lending of all AIs[53] increased to 2.21% at the end of 2022 from 1.50% at end-June 2022.

[52] Starting from this issue, given the availability of several years' data for conducting trend analysis, and also in accordance with the Hong Kong Financial Reporting Standard 16 effective in 2019, we have included again firms' operating lease liabilities as part of firms' debt when calculating the weighted average debt-to-equity ratio. As such, data starting from 2019 and onward will be somewhat different from those reported in previous issues.

[53] Figures cover AIs' Hong Kong offices and Mainland branches and subsidiaries.

However, the distance-to-default (DTD) index[54] (a forward-looking market-based indicator) suggested a slight improvement in the default risk of the Mainland corporate sector since late-2022 (Chart 5.22), reflecting the improved market sentiment as a result of the relaxation of COVID-19 restrictions in Mainland China.

Chart 5.22
Distance-to-default index for the Mainland corporate sector



Note: The DTD index is calculated based on the non-financial constituent companies (i.e. excluding investment companies and those engaged in banking, insurance and finance) of the Shanghai Stock Exchange 180 A-share index.
Source: HKMA staff estimates based on data from Bloomberg.

In spite of the more positive economic outlook for Mainland China due to the relaxation of COVID-19 restrictions, the pace of the economic recovery will still be subject to uncertainty, particularly with future COVID-19 development, and thus the pace of resumption of economic activities. Also, in view of the risk associated with the property market downturn, banks should stay attentive to the credit risk management of their Mainland-related exposures.

Macro stress testing of credit risk[55]

Results of the latest macro stress testing on retail banks' credit exposure suggest the Hong Kong banking sector remains resilient and should be able to withstand severe macroeconomic shocks similar to those experienced during the Asian financial crisis. Chart 5.23 presents a simulated future credit loss rate of retail banks in the fourth quarter of 2024 under four specific macroeconomic shocks[56] using information up to the fourth quarter of 2022.

In stressed scenarios, the expected average credit losses two years after different macroeconomic shocks are estimated to be moderate, ranging from 1.11% (Interest rate shock) to 1.98% (Hong Kong GDP shock).

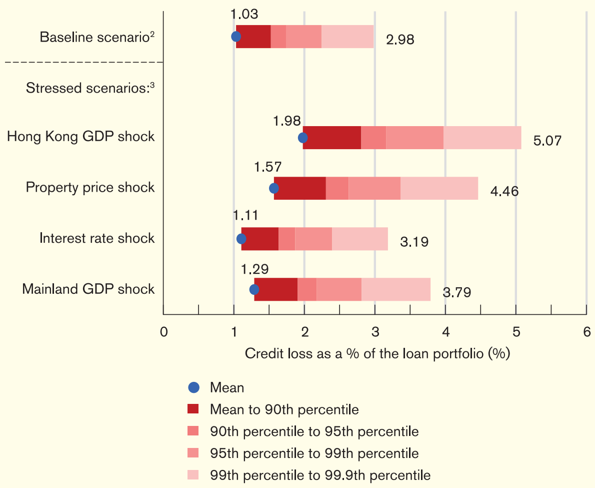
Taking into account tail risk, banks' credit losses (at the confidence level of 99.9%) under the stress scenarios range from 3.19% (Interest rate shock) to 5.07% (Hong Kong GDP shock). The probability of such extreme scenarios actually occurring, however, is very small, given that the Hong Kong economy has already registered a visible economic downturn during 2022, and the chance of a further sharp fall in GDP from such a low base is very small.

54 The DTD is a market-based default risk indicator based on the framework by R. Merton (1974), "On the pricing of corporate debt: the risk structure of interest rates", *Journal of Finance*, Vol. 29, pages 449–470, in which equity prices, equity volatility, and companies' financial liabilities are the determinants of default risk. In essence, it measures the difference between the asset value of a firm and a default threshold in terms of the firm's asset volatility.

55 Macro stress testing refers to a range of techniques used to assess the vulnerability of a financial system to "exceptional but plausible" macroeconomic shocks. The credit loss estimates presented in this report are obtained based on a revised framework from J. Wong et al. (2006), "A framework for stress testing banks' credit risk", *Journal of Risk Model Validation*, Vol. 2(1), pages 3–23. All estimates in the current report are not strictly comparable to estimates from previous reports.

56 These shocks are calibrated to be similar to those that occurred during the Asian financial crisis, except the Mainland GDP shock.

Chart 5.23
The mean and value-at-risk statistics of simulated credit loss distributions[1]



Notes:
1. The assessments assume the economic conditions in Q4 2022 as the current environment. The Monte Carlo simulation method is adopted to generate the credit loss distribution for each scenario.
2. Baseline scenario: no shock throughout the two-year period.
3. Stressed scenarios:
   Hong Kong GDP shock: reductions in Hong Kong's real GDP by 2.7%, 2.4%, 1.7% and 1.6% respectively in each of the four consecutive quarters starting from Q1 2023 to Q4 2023.
   Property price shock: Reductions in Hong Kong's real property prices by an average of 12% in each of the four consecutive quarters starting from Q1 2023 to Q4 2023.
   Interest rate shock: A rise in real interest rates (HIBORs) by 300 basis points in the first quarter (i.e. Q1 2023), followed by no changes in the second and third quarters, and another rise of 300 basis points in the fourth quarter (i.e. Q4 2023).
   Mainland GDP shock: An average year-on-year real GDP growth rate of 2% for the four consecutive quarters starting from Q1 2023.

Source: HKMA staff estimates.

5.4 Systemic risk

Although the relaxation of COVID restrictions in both Mainland China and Hong Kong should brighten the outlook for the Hong Kong economy, several downside risk factors could still pose challenges to the credit risk management for banks in Hong Kong.

First, the pace of the US interest rate rise continues to be a key factor affecting the Hong Kong banking sector. If the US inflation rate pressure persists, the "high-for-longer" interest rate environment may transmit to the region, including Hong Kong, which may exert pressure on borrowers' repayment abilities.

Second, the risk of a sharp global economic slowdown stemming from the monetary tightening by central banks in major advanced economies is another key factor to watch. A sharp reduction in global demand could hurt corporate earnings, particularly for those relying on export business. A deterioration in earnings together with higher debt servicing costs would put their debt repayment abilities to the test and present challenges to banks' credit risk management for their corporate exposures.

Geopolitical risks, such as the ongoing war in Ukraine, will continue to be one important risk factor. Any escalation in geopolitical conflicts could further increase the downside risks to the global economy.

The recent turmoil in the global banking system warrants close monitoring, although it has so far not posed any significant impact on the Hong Kong banking sector given the limited direct exposures of the local banking sector to the affected banks. In addition, the Hong Kong banking sector has remained resilient with strong capital and liquidity positions. However, given that the development remains highly uncertain, the HKMA will continue to monitor the situation closely.

Overall, the robust capital and liquidity positions of the Hong Kong banking sector should provide strong buffers to cope with the impacts of these downside risks.

The countercyclical capital buffer for Hong Kong

The countercyclical capital buffer (CCyB) is part of the internationally agreed Basel III standards and is designed to enhance the resilience of the banking sector against system-wide risks. This buffer can be reduced in times of a downturn, allowing banks to continue providing credit to support the real economy. The latest applicable jurisdictional CCyB for Hong Kong, announced on 8 February 2023, is 1.0%[57].

In setting the CCyB, the Monetary Authority considered a series of indicators (Table 5.E), including an "indicative buffer guide" (which is a metric providing a guide for the CCyB based on the gap between the ratio of credit-to-GDP and its long term trend, and between the ratio of residential property prices to rentals and its long term trend)[58]. The setting of the CCyB for Hong Kong is, however, not a mechanical exercise and the Monetary Authority will always consider a broad range of reference indicators ("Comprehensive Reference Indicators") and all relevant information available in addition to the indicative buffer guide.[59]

In the latest assessment based on the third quarter data of 2022, the indicative buffer guide signals a CCyB of 0%. The projection, based on all available data at the decision date, suggests the indicative buffer guide is likely to signal a CCyB of 0% when all relevant data for the fourth quarter of 2022 become available.

The information drawn from the series of Comprehensive Reference Indicators, along with all relevant information available at the time of the decision in January 2023, suggests that the latest economic indicators point to continued soft economic activities in Hong Kong in the fourth quarter of 2022. Uncertainties about the global and domestic economic environment remain high, but there have been initial signs of stabilisation in domestic economic activities. Therefore, the Monetary Authority considers that it is appropriate to keep the CCyB unchanged at 1.0% and continue to monitor the situation closely.

Table 5.E
Information related to the Hong Kong jurisdictional CCyB

	2-Aug-22	4-Nov-22	8-Feb-23
Announced CCyB rate	1.0%	1.0%	1.0%
Date effective	02/08/2022	04/11/2022	08/02/2023
Indicative buffer guide	0.0%	0.0%	0.0%
Basel Common Reference Guide	2.5%	2.5%	0.8%
Property Buffer Guide	0.0%	0.0%	0.0%
Composite CCyB Guide	0.0%	0.0%	0.0%
Indicative CCyB Ceiling	None	None	None
Primary gap indicators			
Credit/GDP gap	19.8%	11.4%	4.6%
Property price/rent gap	1.7%	1.2%	-5.5%
Primary stress indicators			
3-month HIBOR spread (percentage points)	0.59%	0.34%	0.43%
Quarterly change in classified loan ratio (percentage points)	0.10%	0.11%	0.12%

Note: The values of all CCyB guides, the Indicative CCyB Ceiling and their respective input variables are based on public data available prior to the corresponding review/announcement date, and may not be the most recent available as of each quarter end (refer to SPM CA-B-1 for explanations of the variables).

Source: HKMA.

Key performance indicators of the banking sector are provided in Table 5.F.

57 For details, see the Announcement of the CCyB to AIs on 8 February 2023 (https://www.hkma.gov.hk/eng/key-functions/banking/banking-legislation-policies-and-standards-implementation/countercyclical-capital-buffer-ccyb/).

58 The credit-to-GDP gap is the gap between the ratio of credit to GDP and its long-term trend, while the property price-to-rent gap is the gap between the ratio of residential property prices to rentals and its long-term trend.

59 These include measures of bank, corporate and household leverage; debt servicing capacity; profitability and funding conditions within the banking sector and macroeconomic imbalances.

Table 5.F
Key performance indicators of the banking sector[1] (%)

	Dec 2021	Sep 2022	Dec 2022
Interest rates			
1-month HIBOR fixing[2] (quarterly average)	0.11	1.63	3.67
3-month HIBOR fixing (quarterly average)	0.20	2.42	4.75
BLR[3] and 1-month HIBOR fixing spread (quarterly average)	4.89	3.38	1.65
BLR and 3-month HIBOR fixing spread (quarterly average)	4.80	2.59	0.58
Composite interest rate[4]	0.21	0.99	2.11
		All AIs	
Balance sheet developments[5]			
Total deposits	+1.2	+0.3	+1.0
Hong Kong dollar	-0.9	-2.7	+1.2
Foreign currency	+3.3	+3.3	+0.9
Total loans	-1.2	-1.5	-2.4
Domestic lending[6]	-0.8	-0.8	-1.3
Loans for use outside Hong Kong[7]	-2.1	-3.0	-5.2
Negotiable instruments			
Negotiable certificates of deposit (NCDs) issued	+1.1	-3.4	+9.2
Negotiable debt instruments held (excluding NCDs)	+3.7	-2.8	+3.7
Asset quality			
As a percentage of total loans[8]			
Pass loans	97.56	97.08	96.59
Special mention loans	1.55	1.73	2.03
Classified loans[9] (gross)	0.89	1.19	1.38
Classified loans (net)[10]	0.50	0.68	0.79
Overdue > 3 months and rescheduled loans	0.56	0.71	0.85
Classified loan ratio (gross) of Mainland related lending[11]	0.89	1.80	2.21
Liquidity ratios (consolidated)			
Liquidity Coverage Ratio — applicable to category 1 institutions (quarterly average)	151.9	156.3	162.3
Liquidity Maintenance Ratio — applicable to category 2 institutions (quarterly average)	59.0	60.5	63.2
Net Stable Funding Ratio — applicable to category 1 institutions	135.3	133.4	137.7
Core Funding Ratio — applicable to category 2A institutions	150.3	150.3	155.7
		Retail banks	
Profitability			
Loan impairment charges as a percentage of average total assets (year-to-date annualised)	0.08	0.16	0.20
Net interest margin (year-to-date annualised)	0.98	1.17	1.31
Cost-to-income ratio (year-to-date)	54.7	50.9	48.0
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.04	0.04	0.06
Credit card lending			
Delinquency ratio	0.20	0.24	0.23
Charge-off ratio — quarterly annualised	1.53	1.68	1.50
— year-to-date annualised	1.75	1.59	1.49
		All locally incorporated AIs	
Capital adequacy (consolidated)			
Common Equity Tier 1 capital ratio	16.2	15.9	16.2
Tier 1 capital ratio	18.2	17.9	18.1
Total capital ratio	20.2	19.9	20.1
Leverage ratio	7.9	7.8	7.9

Notes:
1. Figures are related to Hong Kong offices only except where otherwise stated.
2. The Hong Kong Interbank Offered Rates are released by the Hong Kong Association of Banks.
3. With reference to the rate quoted by The Hongkong and Shanghai Banking Corporation Limited.
4. The composite interest rate is a weighted average interest rate of all Hong Kong dollar interest-rate-sensitive liabilities, which include deposits from customers, amounts due to banks, negotiable certificates of deposit and other debt instruments, and all other liabilities that do not involve any formal payment of interest but the values of which are sensitive to interest rate movements (such as Hong Kong dollar non-interest bearing demand deposits) on the books of banks. Further details can be found on the HKMA website.
5. Quarterly change.
6. Loans for use in Hong Kong plus trade finance.
7. Including “others” (i.e. unallocated).
8. Figures are related to all AIs’ Hong Kong offices, as well as locally incorporated AIs’ overseas branches and major overseas subsidiaries.
9. Classified loans are those loans graded as “substandard”, “doubtful” or “loss”.
10. Net of specific provisions/individual impairment allowances.
11. Figures are related to all AIs’ Hong Kong offices, as well as locally incorporated AIs’ Mainland branches and subsidiaries.