HONG KONG MONETARY AUTHORITY
香港金融管理局

HALF-YEARLY MONETARY AND FINANCIAL STABILITY REPORT

September 2024

This Report reviews statistical information between the end of February 2024 and the end of August 2024.

Half-Yearly Monetary and Financial Stability Report
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1. Summary and overview

Global economic growth generally held up well during the review period, but the disinflation path has been slow and bumpy. This, coupled with the potential for a resurgence in trade tensions which could lead to supply chain disruptions and higher tradable goods inflation, poses a key risk to the global economic and inflation outlook. With signs of labour market cooling down, the US Federal Reserve (Fed) delivered a 50-basis-point rate cut in September, but the pace of future rate cuts remains uncertain as it has to strike a balance between maintaining growth momentum and containing upside risks to inflation.

Hong Kong's exchange rate and interbank market continued to trade in a smooth and orderly manner. Total deposits increased in the first seven months of 2024 while bank credit declined amid weak credit demand. Meanwhile, the residential property market softened after improving somewhat following the policy relaxations announced in late February. Looking ahead, uncertainties over the future path of the US policy rate and geoeconomic fragmentation will continue to pose challenges to the Hong Kong banking sector. Banks should stay vigilant against the impact of these risk factors on the asset quality of their loan portfolios and continue to maintain sufficient provisioning coverage.

The external environment

During the review period, global economic growth generally held up well. In early August, global financial markets suffered from a sell-off amid an unwinding of Japanese yen carry trades and renewed concerns over a US recession, bolstering market expectations of significant monetary easing by the US Fed in 2024. While financial markets have since stabilised and the US Fed subsequently delivered a 50-basis-point rate cut in September, its pace of future rate cuts remains uncertain, as it needs to strike a balance between sustaining growth momentum and containing upside risks to inflation emanating from the stalling of services disinflation and the increased fiscal and trade policy uncertainties in the run-up to the US presidential election in November. Meanwhile, the still-high global interest rates are likely to weigh on the global commercial real estate (CRE) markets. Box 1 assesses the risks of forced property liquidations and credit downgrades of global real estate investment trusts (REITs) amid the CRE market downturn.

In emerging Asia, global market sell-offs in early August have heightened regional currency and equity volatility. However, such volatility has been contained, and the region's financial systems have remained resilient in general. Looking ahead, the region faces risks of weakened corporate debt servicing capacity amid still-high interest rates, as well as geopolitical uncertainties that could disrupt global supply chains and cause price spikes. Over the longer term, the region faces challenges from climate change, and will need to continue its efforts in greening its global value chains (GVCs), given its high participation in GVCs and the contribution of these GVCs to carbon emissions. Box 2 explores how GVCs have the potential to serve as conduits for improving the environmental, social and governance (ESG) practices of firms engaged in them.

In Mainland China, the overall economy grew by 5% year on year in the first half of 2024, keeping pace with the official annual growth target due in part to strengthened policy support. That said, the pace of the economic recovery has remained uneven, with solid external trade on the one hand offset by weak domestic demand and property market activities on the other. The near-term economic outlook still faces multiple challenges, which include insufficient domestic demand and an increasingly complicated geo-strategic environment (e.g. higher tariffs from the US and the European Union). Over the long term, as the economy shifts to high-quality development, the country's economic growth should be supported by the promotion of new quality productive forces and deepening reforms as emphasised at the Third Plenum.

The domestic economy

In Hong Kong, the economy maintained steady growth in the first half of 2024, with real gross domestic product (GDP) posting a year-on-year growth of 2.8% and 3.3% in the first and second quarters respectively. Economic growth was mainly driven by a surge in goods exports, fuelled by an improvement in external demand and an increase in electronics orders amid the ongoing tech cycle recovery. However, imports of travel services recovered at a faster pace than their export counterparts, resulting in a negative contribution of net exports of services to GDP growth. Domestically, private consumption expenditure lost momentum in the face of sluggish consumer sentiment, while investment spending remained under pressure due to tight financial conditions.

Looking ahead, economic growth is expected to remain moderate. Merchandise exports are expected to strengthen further on the back of robust external demand, particularly for electronic goods. Meanwhile, the Government's efforts in promoting mega events, coupled with the supportive tourism policy implemented by the Mainland authorities, will continue to bolster inbound tourism. On the other hand, the retail sector is likely to continue to face headwinds due to shifts in the consumption patterns of residents and inbound tourists, while capital spending may remain subdued amid the still-high interest rate environment.

Given the actual outturn in the first half of the year, the Government has maintained its real GDP growth forecast for 2024 at 2.5%–3.5%. However, the economic outlook is subject to a number of risks and uncertainties, including those related to the US policy rate path, global economic growth prospects, the rising trade tensions, as well as the upcoming US presidential election. To cultivate new growth areas, the Government has dedicated efforts to support research and development (R&D) in recent years. Box 3 analyses how R&D investment could help drive Hong Kong's long-term economic growth.

The labour market remained resilient, with the unemployment rate having stayed low at around 3.0% over the past few months. The size of the labour force increased slightly, although it has not yet returned to its pre-pandemic level. Looking ahead, the ongoing economic recovery may continue to lend support to labour demand, while the Government's various talent attraction and labour importation schemes should help alleviate manpower shortages and rejuvenate the working population.

On the price front, the underlying inflation rate remained modest, staying within the 0.8%–1.2% range in the first eight months of this year. In the near term, local inflation is expected to remain soft as receding external price pressures may help offset the upward pressures on domestic labour costs and housing rentals.

Monetary conditions and capital flows

The Hong Kong dollar (HKD) strengthened between late April and mid-May 2024, mainly supported by dividend-related funding demand. In early August, the HKD strengthened sharply as concerns of a possible US recession and expectations of faster and deeper US Fed rate cuts triggered an unwinding of carry trades and short HKD positions, and remained stable thereafter. As the Convertibility Undertakings have not been triggered since May 2023, the Aggregate Balance of the banking system remained little changed at HK$44.9 billion at the end of August 2024, and the day-to-day and interbank operations and settlement activities among banks have continued to operate in a smooth and orderly manner.

Hong Kong's interbank market also continued to trade in a smooth and orderly manner. Hong Kong Interbank Offered Rates (HIBORs) eased in early April as the seasonal funding demand faded after the end of the first quarter, followed by some tightening amid equity-related and dividend-related funding demand since late April. HIBORs eased again in early August after the dividend peak season. On the retail front, after the US Federal Reserve (Fed) lowered its policy rate in September 2024, many local banks reduced their Best Lending Rates by 25 basis points. Meanwhile, the average lending rate for new mortgages increased slightly from 4.13 to 4.14% between January and July 2024.

Hong Kong's offshore renminbi (CNH) liquidity pool expanded during the first seven months of 2024, with the total outstanding amount of renminbi customer deposits and certificates of deposit increasing to RMB1,185.6 billion at the end of July 2024. Both the amounts of outstanding renminbi loans and renminbi trade settlement continued to grow steadily. The average daily turnover of the renminbi Real Time Gross Settlement (RTGS) system stayed high at RMB3,327.1 billion during the first seven months of 2024.

Looking ahead, the continuing development of Hong Kong's CNH ecosystem will further reinforce Hong Kong's role as the leading CNH business hub. On liquidity, the expansion of the list of eligible collateral for HKMA's renminbi liquidity facility to include onshore renminbi (CNY) bonds issued by the Ministry of Finance and policy banks on the Mainland came into effect on 26 February 2024. Market response has been positive since the implementation, with banks in Hong Kong successfully using onshore bonds to obtain liquidity from the HKMA. On products, the continuous efforts to upgrade and expand the family of Connect schemes between the Mainland and Hong Kong, which include Swap Connect, Stock Connect, Bond Connect, and Cross-boundary Wealth Management Connect, will widen the spectrum of renminbi products and tools available for asset allocation and risk management, facilitating greater two-way traffic between the two markets. As for financial infrastructure, the Central Moneymarkets Unit (CMU) is also undergoing a major overhaul to enhance its operational capacity and product offerings, with the aim of better supporting the growth of renminbi bond issuances and associated custodian services. The Multiple Central Bank Digital Currency Bridge (mBridge) project had reached the Minimum Viable Product (MVP) stage as of June 2024. Further progress has been made to expand the scope of the e-CNY pilot in Hong Kong to facilitate the set up and the use of e-CNY wallets by Hong Kong residents, as well as the top-up of e-CNY wallets through Hong Kong's Faster Payment System (FPS). This can improve cross-border payment and settlement efficiency for commercial and retail users. With these developments, Hong Kong will continue to play a unique role in supporting Mainland's capital account opening, the development of the green finance market, as well as the Guangdong-Hong Kong-Macao Greater Bay Area and the Belt and Road initiatives.

Asset markets

The Hong Kong equity market experienced a notable rebound between April and May 2024 on the back of improved market sentiment. The Hang Seng Index subsequently consolidated, before picking up again in August. The global equity market continued to rally during the review period, despite a sharp decline in early August amid renewed concerns over the US economic outlook and the unwinding of yen carry trades following the interest rate hike by the Bank of Japan (BOJ). Overall, the Hang Seng Index increased by 8.9% from the end of February 2024 to the end of August 2024, while the MSCI World Index rose by 9.7% during the same period.

Yields of the 10-year US Treasury and the Hong Kong dollar 10-year Government Bond fluctuated during the review period, with a notable drop towards the end of July amid market concerns over the US economic outlook. Despite these fluctuations in interest rates, the debt market in Hong Kong continued to exhibit stable growth in the first half of 2024, supported by steady issuances.

Looking ahead, the near-term performance of the local equity market will remain subject to the volatility fueled by uncertainties surrounding the US economic outlook and the forthcoming US presidential election, as well as the potential further unwinding of yen carry trades in global financial markets and persistent geopolitical tensions. Furthermore, market expectations on policy measures by the Mainland authorities to support the Mainland economy will remain key drivers of sentiments in the local equity market. Meanwhile, the near-term prospects of the local debt market will continue to be influenced by the interest rate paths of major advanced economies.

During the review period, several policy initiatives were introduced to foster the development of green and sustainable finance in Hong Kong. These included the extension of the Green and Sustainable Finance Grant Scheme, the publication of the Hong Kong Taxonomy for Sustainable Finance, and a new offering of green bonds under the Government Sustainable Bond Programme (previously known as the Government Green Bond Programme). The latest green bond offering also included the inaugural offering of the 20-year and 30-year renminbi bonds, which helps to extend the offshore renminbi yield curve, further enrich the offshore renminbi product offerings, and promote renminbi internationalisation in an orderly manner.

The residential property market has retreated following a period of stabilisation supported by the policy relaxations announced in late-February 2024. The average monthly housing transaction volume dropped to 3,744 units in June to August, down from its recent peak of 8,551 units in April, as market sentiment faltered from May onwards amid renewed uncertainty surrounding the US policy rate path. With weakened market sentiment and pressure arising from the competitive pricing of new launches by property developers, secondary-market housing prices dropped by 5.7% from May to August, reversing the 2.4% increase recorded in March and April.

Alongside these housing price movements, the estimated number of residential mortgage loans (RMLs) in negative equity increased to 32,073 cases at end-March 2024, followed by a slight decline to 30,288 cases at end-June 2024. These cases were related to bank staff housing loans or RMLs under the Mortgage Insurance Programme (MIP), and their delinquency ratio remained low given the MIP's strict requirements relating to applicants' repayment ability. Furthermore, the macroprudential measures introduced by the HKMA since 2009 have been effective in keeping both the average loan-to-value (LTV) ratio and the average debt-servicing ratio (DSR) for new mortgages in check. This, together with the fact that over half of the private housing units did not carry any outstanding mortgages as of end-2023, indicates that the systemic risks relating to banks' RMLs have been properly managed on various fronts.

The near-term outlook for the residential property market is affected by a number of uncertainties and risks. Specifically, tight financial conditions and the accumulated supply in the primary market are likely to pose further headwinds to the market, although the start of the US Fed's easing cycle, the resilient labour market and the Government's policies to attract businesses and talents may provide some support to housing demand. Over the longer term, the outlook for the housing market will hinge on the supply-demand gap. According to the Government's projections, private housing completions, and thus housing supply in the market, are expected to remain high in the next few years.

In the commercial real estate market, transaction volumes remained subdued, with prices falling further and rentals staying soft across all the segments. The outlook for the market remains challenging in the near term. In particular, sluggish retail sales will continue to weigh on the retail premises segment, while the high vacancy rates, due partly to higher completions in recent years, may exert further pressures on both the capital and rental values of office spaces. That said, the Government's earlier inclusion of commercial real estate as a permissible investment in its new Capital Investment Entrant Scheme (CIES) may offer some support to the market. Meanwhile, the expansion of the Mainland China's Individual Visit Scheme (IVS) and the increased duty-free shopping allowance for Mainland tourists may help stimulate tourists' spending, thereby providing support to retail sales and the retail premises segment.

Banking sector performance

The pre-tax operating profits of retail banks grew moderately by 6.2% year-on-year in the first half of 2024, which improved the return on assets to 1.18% during the review period. The improvement in profits was driven by an increase in income from investments held for trading, which more than offset a decrease in net interest income and increases in total operating expenses and loan impairment charges. Reflecting faster growth in interest expenses than in interest income, the net interest margins of retail banks narrowed mildly in the first half of 2024 compared with the same period in 2023.

Partly reflecting subdued credit demand amid the high interest rate environment, bank credit declined modestly during the review period. On a half-yearly basis, total loans and advances of all authorized institutions (AIs) declined modestly by 1.9% in the first half of 2024, driven by decreases in both domestic loans (comprising loans for use in Hong Kong and trade financing) and loans for use outside Hong Kong. Meanwhile, the classified loan ratio of all AIs increased during the first half of 2024, but remained at a manageable level.

Overall, the Hong Kong banking sector remained robust and resilient, underpinned by strong capital and liquidity positions. The total capital ratio of locally incorporated AIs stood at a high 21.1% at the end of June 2024, well above the international minimum requirement of 8%. The average Liquidity Coverage Ratio of category 1 institutions and the average Liquidity Maintenance Ratio of category 2 institutions were 183.3% and 67.9% respectively in the second quarter of 2024, well above their statutory minimum requirements.

From a medium-term perspective, recent advances in technology and the rising adoption of digital innovations in the banking industry may help enhance banks' fundamentals and performance. Based on a sample of globally listed banks and the use of textual analysis, Box 4 provides some fresh empirical evidence to support the benefits of digital innovations. Notably, banks with a higher degree of digitalisation adoption, as reflected by a textual measure derived from banks' earnings call transcripts, tend to exhibit better performance and improved market valuations than other banks. Notwithstanding the benefits, new challenges and risks will inevitably emerge as technologies continue to evolve. To harness the benefits of innovation in a safe and sustainable manner, it is essential for banks and regulators to collaborate closely to ensure that key risk management principles are upheld appropriately.

Looking ahead, uncertainties over the future path of the US policy rate and geoeconomic fragmentation will continue to pose challenges to the Hong Kong banking sector, with the classified loan ratio expected to edge closer to the long-term historical average of 2%. Banks should stay vigilant against the impacts of these risk factors on the asset quality of their loan portfolios and continue to maintain sufficient provisioning coverage, particularly in view of the impact of the high interest rate environment on the debt servicing ability of corporates.

The Half-yearly Report on Monetary and Financial Stability is prepared by the staff of the Research Department of the Hong Kong Monetary Authority

2. Global setting and outlook

During the review period, a hawkish shift in policy stance by the BoJ and renewed concerns over a US recession triggered an unwinding of Japanese yen carry trades and global financial market sell-offs in early August. While financial markets have since stabilised and the US Fed subsequently delivered a 50-basis-point rate cut in September, the future pace of US Fed rate cuts remains uncertain as it has to strike a balance between maintaining growth momentum and containing upside risks to inflation.

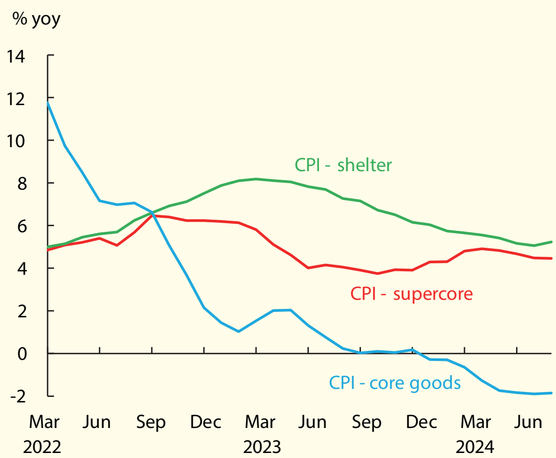
In emerging Asian economies, financial systems have demonstrated resilience despite US interest rates remaining high. Looking ahead, the still-high interest rate environment is likely to continue to pose a challenge to corporate debt-servicing capacity, while rising trade tensions may threaten the recovery of the region's exports.

In Mainland China, the overall economy grew by 5% year on year in the first half of 2024, in line with the official annual growth target, due in part to strengthened policy support. That said, the pace of the country's economic recovery has remained uneven, with solid external trade on the one hand offset by weak domestic demand and property market activities on the other. The near-term economic outlook still faces multiple challenges, such as insufficient domestic demand and an increasingly complicated geo-strategic environment (e.g. higher tariffs from the US and the European Union (EU)). Over the long term, as the economy shifts to high-quality development, the country's economic growth should be supported by the promotion of the new quality productive forces and deepening reforms, as emphasised at the Third Plenum.

2.1 External environment

Global economic growth generally held up well during the review period, although the disinflation progress in the US stalled on the back of sticky core services inflation (Chart 2.1).

Chart 2.1
US: Consumer Price Index (CPI) inflation by major component



Note: "Supercore" inflation refers to core services inflation excluding shelter.
Source: CEIC.

Since late July, uncertainties over the US Fed's monetary policy outlook have heightened further as concerns over the risk of a US recession resurfaced following the release of weaker-than-expected labour market data, and a hawkish shift in the monetary policy stance of the BoJ triggered an unwinding of Japanese yen carry trades and global financial market sell-offs.

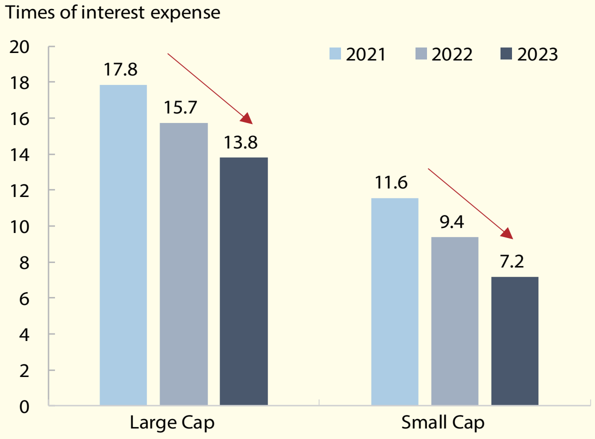
While financial market volatility has since eased, and the US Fed subsequently delivered a 50-basis-point rate cut in September, the pace of future rate cuts remains uncertain, given that the US Fed is likely to have to strike a balance between maintaining growth momentum and containing upside risks to inflation, the latter arising from the stalling of services disinflation and increased trade and fiscal policy uncertainties in the run-up to the US presidential election in November.

Moreover, the US Fed's leeway to ease monetary policy is likely to be constrained by rises in neutral interest rates in recent years in the face of structural trends such as rising levels of public debt. Still-high global interest rates are likely to pose headwinds to asset valuations, weigh on global commercial real estate (CRE) markets, and exacerbate the debt servicing burden of sovereigns and corporates. Box 1 assesses the risks of forced property liquidations and credit downgrades of global real estate investment trusts (REITs) amid the CRE market downturn.

The global financial market sell-offs in early August, driven by the unwinding of Japanese yen carry trades and concerns over a potential US recession, triggered volatility in regional currencies and equity markets. However, that volatility has been contained, and the region's financial systems have remained resilient in general. This stability has been underpinned by robust foreign exchange reserves, enhanced macro-financial policy frameworks, and strong bank capital and liquidity positions.

Looking ahead, the region faces two major risks. First, the corporate cash buffers built up during the pandemic outbreak that cushioned firms against rising financing costs, these reserves have declined over the past two years. Moreover, the interest coverage ratio of both large-cap and small-cap firms has also declined (Chart 2.2), although large-cap firms have maintained a greater debt-servicing capacity than their small-cap counterparts.

Chart 2.2
Emerging Asia: Interest coverage ratio of non-financial listed firms



Note: The bars show the median of the interest coverage ratio of each type of firms in the year. The interest coverage ratio is calculated by the formula: EBITDA/Interest Expense. Large-cap firms are defined as firms with market capitalisation exceeding US$ 1,000 million in mid-May 2024; small-cap firms are those with market capitalisation below US$ 1,000 million. The same set of firms (2,593 large cap firms and 9,396 small cap firms) from 11 APAC economies have been used in the calculation for all years.

Sources: S&P Capital IQ and HKMA staff calculation.

Second, uncertainties surrounding the upcoming US presidential election and other geopolitical events pose risks to the region's export performance. Furthermore, geopolitical conflicts may disrupt GVCs, causing sudden price spikes and complicating efforts to bring global inflation back on target. Further down the road, rising geopolitical fragmentation may lead to further reconfiguration of global trade patterns and GVCs.

Over the longer term, the region faces challenges from climate change. The region will need to continue its efforts on greening its GVCs, given its high participation in GVCs and their contribution to carbon emissions.[1] Box 2 explores how GVCs have the potential to serve as a conduit for improving the environmental, social and governance (ESG) practices of firms engaged in them.

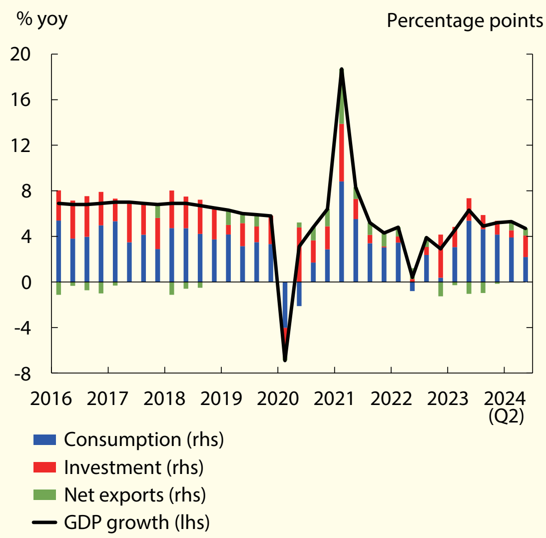
[1] See ADB (2024) "Asia Economic Integration Report".

2.2 Mainland China

Economic performance and policy responses

Bolstered by stronger fiscal support from the Central Government and better co-ordination of fiscal and monetary policies[2], the Mainland China economy grew by 5% year on year in the first half of 2024, keeping pace with the official annual growth target of around 5%. However, Mainland China's year-on-year real gross domestic product (GDP) growth moderated to 4.7% in the second quarter from 5.3% in the first quarter (Chart 2.3).[3] In addition, its economic recovery remained uneven, with solid external trade on the one hand offset by weak domestic demand and property market activities on the other.

Chart 2.3
Mainland China: Contribution to GDP growth by demand component



Sources: CEIC and HKMA staff estimates.

[2] Supportive fiscal policy includes large-scale equipment renewal, a trade-in programme for selected consumer goods, and the issuance of ultra-long-term Central Government special bonds (RMB1 trillion issuance for 2024). On the monetary front, the People's Bank of China (PBoC) cut the required reserve ratio (RRR) by 50 basis points on 5 February, and the five-year loan prime rate (LPR) was lowered by 25 basis points to 3.95% on 20 February.

[3] On a quarter-on-quarter seasonally-adjusted basis, real GDP growth also slowed from 1.6% in the first quarter to 0.7% in the second quarter.

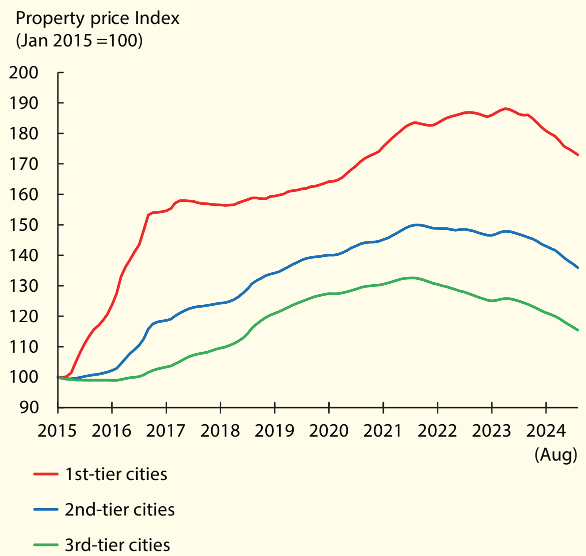
In the short run, Mainland China's economic recovery is expected to continue, helped by accommodative policies and enhanced policy frameworks.[4] That said, the near-term growth outlook still faces multiple headwinds due to insufficient domestic demand and a complicated geo-strategic environment (for example, higher tariffs from the US and the EU[5], and high trade policy uncertainty after the US presidential election). Over the long term, as the economy shifts to high-quality development, economic growth should be supported by the deepening reforms announced at the Third Plenum, which include advancing new urbanisation with *hukou* and land reforms, improving social welfare and the safety net, rebalancing central and local governments' spending responsibilities and revenue sharing, and promoting new quality productive forces.

Headline CPI inflation was positive but remained soft for most of the first eight months of 2024, with the earlier drag caused by food prices easing somewhat and non-food inflation staying moderate. Excluding food and energy, core CPI inflation averaged 0.6% from January to August. At its Monetary Policy Meeting, the People's Bank of China (PBoC) reiterated its support for a moderate pickup in prices. Meanwhile, the headline unemployment rate was largely stable at around 5%, with the rates for the 16–24 and 25–29 age groups declining between March and June before picking up in July and August due to the traditional graduation season.

Asset and credit markets

In the first eight months of 2024, the housing market remained sluggish. Residential property prices recorded continued sequential declines across all city tiers (Chart 2.4). Housing market activities also stayed weak, with notable year-on-year decreases in sales, investment and land sales revenue (Chart 2.5).

Chart 2.4
Mainland China: Residential property prices by tier of cities

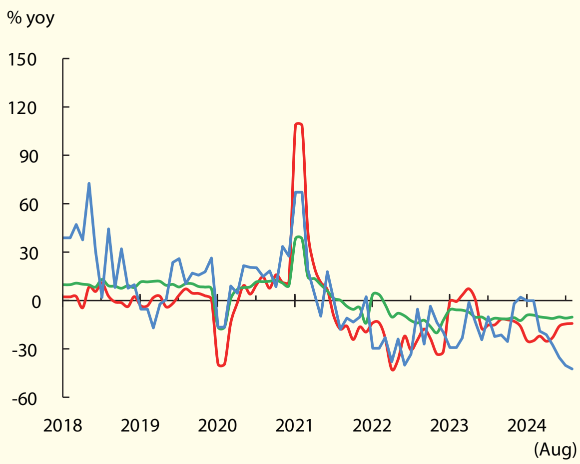


Sources: CEIC and HKMA staff estimates.

4 For example, in early July, the PBoC refined its monetary policy framework by (i) announcing its intention to borrow government bonds from some open market traders and sell them on the secondary market, and (ii) setting up new open market operation tools (i.e. overnight temporary repos at 20 basis points below the seven-day reverse repo rate and overnight temporary reverse repos at 50 basis points above the seven-day reverse repo rate) to give the PBoC greater control over short-term rates and pave the way for a narrower interest rate corridor. The seven-day reverse repo rate, one-year and five-year LPRs as well as the Standing Lending Facility rate were all lowered by 10 basis points on 22 July, while the one-year Medium-term Lending Facility (MLF) rate was reduced by 20 basis points on 25 July and another 30 basis points on 25 September. The authorities announced 20 measures to boost consumption, and will allocate RMB300 billion in ultra-long-term government bonds to support the equipment upgrades and consumer goods trade-ins. On 24 September, the PBoC announced that it will lower the RRR by 0.5 percentage points and cut the seven-day reverse repo rate by 20 basis points to 1.5% in the near term. The interest rate on LPRs is expected to decline by 20–25 basis points.

5 The direct, near-term effects of the new tariff hikes on Mainland China's merchandise exports and GDP are expected to be manageable, partly due to (i) the small share of the tariffed goods in Mainland China's total exports and (ii) potential supply chain and export market diversification.

Chart 2.5
Mainland China: Property market activities



Sources: CEIC and HKMA staff estimates.

In response, the authorities shifted the policy focus towards reducing housing inventory at the April 2024 Politburo Meeting. This was followed by a series of fresh supporting measures, which included (i) top-down guidance for local governments to purchase existing inventory for social housing; (ii) introduction of a PBoC relending facility for destocking; (iii) a cut in minimum down payment ratios to record lows; and (iv) the removal of the mortgage interest rate floor. On 24 September, the PBoC announced a support package that included an average 50-basis-point reduction on interest rates for existing mortgages and a unification of the minimum down payment ratios for first and second homes, with the nationwide ratio for second homes to be reduced from 25% to 15%. Looking ahead, driven by the changes in the development stage of the real estate sector, the housing market will shift from fast-speed, high-leverage development to steady, healthy and high-quality development.[6]

In the banking sector, overall risk remained under control, with average non-performing loan (NPL) ratios hovering at manageable low levels (Table 2.A). Moreover, the provision coverage ratio of large Mainland banks stayed well above the regulatory requirement (253.8% in June 2024). The PBoC has tightened inspections of the long-dated bond investment strategies of some smaller banks amid a bond rally, in order to contain risks relating to interest rates and duration mismatches should yields rise unexpectedly.

Table 2.A
Mainland China: Non-performing loan (NPL) ratio by bank type

NPL ratio (%)	Jun 2023	Dec 2023	Jun 2024
State-owned commercial banks	1.29	1.26	1.24
Joint-stock commercial banks	1.29	1.26	1.25
City commercial banks	1.90	1.75	1.77
Rural commercial banks	3.25	3.34	3.14

Source: CEIC.

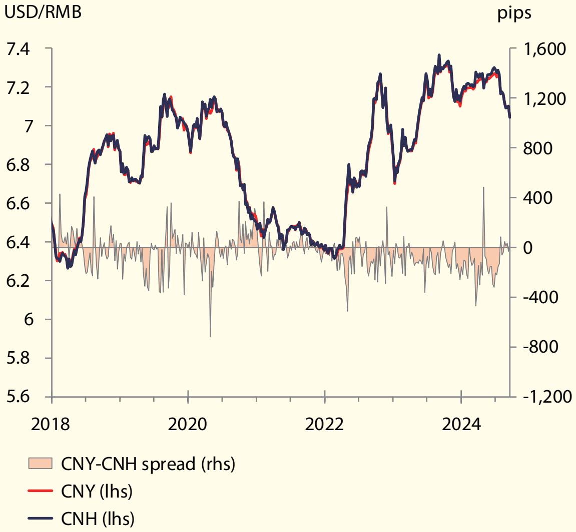
Exchange rate and fund flow indicators

In the first seven months of 2024, both the onshore (CNY) and offshore (CNH) renminbi softened against the US dollar (Chart 2.6), in part due to the "high-for-longer" US interest rate environment and the broad strengthening of the US dollar. More recently, the CNY strengthened notably, partly reflecting the unwinding of Japanese yen carry trades and the US interest rate cut. Meanwhile, the PBoC reiterated that it will maintain the basic stability of renminbi exchange rates. As to fund flows, the onshore Mainland bond market continued to record notable inflows under different schemes, with larger holdings by foreign investors (Table 2.B). The Northbound Stock Connect saw net inflows from February to May alongside a rally in the Mainland equity market[7], but reverted to net outflows in June and July.

[6] At the Third Plenum, the authorities stressed that they will (i) increase government-subsidised housing; (ii) give local governments more autonomy on housing policy; (iii) reform the property development financing and presale model; and (iv) improve the property taxation system.

[7] Equity market confidence was likely bolstered by several factors, including (i) the introduction of the new "Nine-point Guidelines" of capital market regulations in April, which strengthened initial public offering issuance supervision, boosted dividend payouts and tightened restrictions on share reductions by controlling shareholders; (ii) Exchange-Traded Fund inflows from China's state-backed funds; and (iii) foreign investors covering their underweight allocation in China or buying on cheap valuations.

Chart 2.6
Mainland China: Onshore and offshore renminbi exchange rates against the US dollar



Sources: Bloomberg and HKMA staff estimates.

Table 2.B
Mainland China: Foreign fund flow indicators

(RMB bn)	2023	H1 2024	Apr 2024	May 2024	Jun 2024	Jul 2024
Northbound Stock Connect	44	39	6	9	–44	–17
Northbound Bond Connect	388	424	42	78	58	72
CIBM Direct and QFI	1147	676	85	153	94	156
Change in foreign holdings in the interbank market	282	640	51	172	88	148

Notes: Fund flows are measured by net buying flows for the Northbound Stock Connect, the Northbound Bond Connect and the CIBM Direct and QFI. "CIBM Direct and QFI" refers to the China Interbank Bond Market Direct Scheme and the Qualified Foreign Investor Scheme.

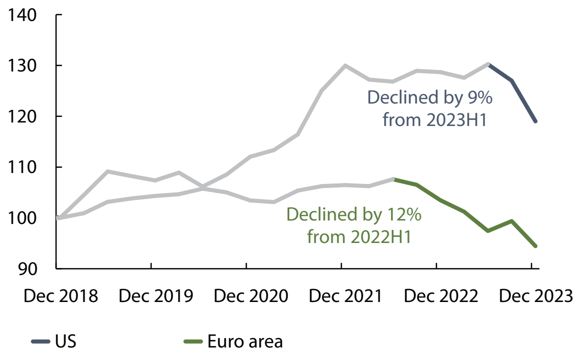
Sources: Wind, CFETS and HKMA staff estimates.

Box 1
Assessing the risks of forced property liquidations and credit downgrades of real estate investment trusts in a commercial property market downturn: A stress-testing approach

Introduction[8]

Global CRE values have faced pressures (Chart B1.1) in the face of high interest rates and structural changes such as shifts towards remote working and e-commerce, especially for office and retail spaces. This has inevitably raised concerns about the financial implications for CRE investors. One key concern is the impact on REITs, as their assets accounted for around a quarter of the global CRE held by institutional investors (MSCI, 2024).[9]

Chart B1.1
Average CRE asset values in major economies (Levels at the end of 2018 = 100)



Notes:

1. Each curve represents the level of average CRE asset values against the level at the end of 2018 (= 100) in the given region from 2018 to 2023, with the solid coloured portion indicating the declining trend from the most recent peak.
2. The text indicates the average percentage decline in CRE asset values to the end of 2023 from the most recent peak in the given region.
3. The chart covers the US and the euro area. As for Asia-Pacific (APAC), the International Monetary Fund (IMF) (2024) has indicated that CRE asset values in the region declined by around 3% in 2023.

Sources: Bank for International Settlements (BIS) (2024) and HKMA staff estimates.

REITs could also potentially amplify the downturn of the CRE market, as they are typically subject to leverage limits (usually at or below 60% of total assets) as required by debt covenants or credit rating agencies.[10] With the market downturn continuing to drive up their leverage ratios, REITs could be forced to deleverage by selling their CRE assets at steep discounts to avoid triggering the leverage limits. Such deleveraging, if realised on a large scale, could deepen the CRE market downturn, with ramifications for the wider financial system.

This box describes a stress test conducted to assess this issue. The test estimated the impacts on the property sales volume and credit ratings of global REITs if CRE market values were to fall by 10% (mild scenario) to 40% (severe scenario)[11] from the end of 2023. The stress-testing framework and results are presented in the next sections.

Stress-testing framework

Our sample, retrieved from S&P Capital IQ and Bloomberg, encompasses 600 global REITs specialising in the office, retail, industrial, or diversified sectors, which are at the epicentre of the ongoing CRE downturn.[12] We conducted the stress-testing exercise in three steps:

8 For details, see Leung et al.: "Assessing the risks of forced property liquidations and credit downgrades of real estate investment trusts in a commercial property market downturn: A stress-testing approach", *HKMA Research Memorandum* 2024/07.

9 In addition, the combined CRE transaction volume of global REITs amounted to at least an estimated 18% of the market aggregate in 2023 (CBRE, 2024).

10 For details, see Lai (2023) of S&P Global Ratings, Frankel (2014) of Moody's and Olazabal et. al. (2012) of PIMCO.

11 The severe scenario is comparable to the maximum annual decline in CRE asset values in the reporting jurisdictions from 1993 to 2023, where data are available, based on data from BIS (2024).

12 The sampled REITs accounted for about 76% of the total REIT population at the end of 2023.

i. *Projection of leverage increase:* We projected the increase in leverage measured by the debt-to-asset ratio (DAR) for each sampled REIT under scenarios in which CRE asset values declined by 10% to 40% from the end of 2023;

ii. *Estimation of the impacts of leverage increase:* We quantified the average impacts of each percentage point (ppt) increase in the DAR on the REITs' property sales volume and credit ratings using fixed effect regression models.[13] These effects were found to be more significant if the DAR exceeded the 60% threshold; and

iii. *Simulation of property sales and credit ratings:* By integrating (i) the projected changes in the DAR with (ii) the estimated effects of the DAR on property sales volume and credit ratings, we simulated the respective changes in the property sales and credit ratings of REITs in the year following the scenarios.

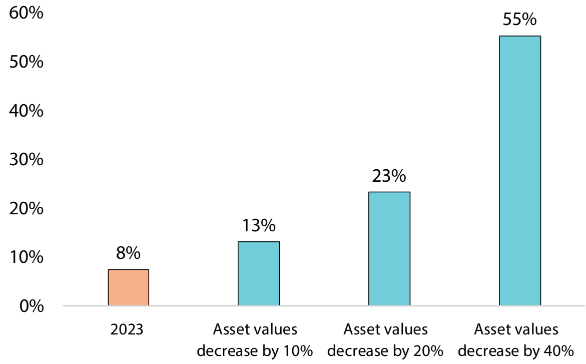
Stress-testing results

This section presents the stress-testing results on changes in (1) the DAR, (2) the property sales volume, and (3) the credit ratings of REITs under the scenarios.

1) To what extent would the DAR of REITs increase under the scenarios?

Our results projected an increase in the DAR of REITs under the scenarios, with the median DAR level ranging from 44% to 67%, compared to 40% at the end of 2023. Consequently, from 13% to 55% of the REITs would violate the usual debt covenants under the scenarios, up from 8% at the end of 2023 (Chart B1.2).

Chart B1.2
Share of REITs in breach of the leverage limits required in the usual debt covenants



Note: Each bar represents the share of the sampled REITs whose DAR crossed the 60% threshold under the given scenario, expressed as a percentage of the total number of the sampled REITs.

Sources: S&P Capital IQ and HKMA staff estimates.

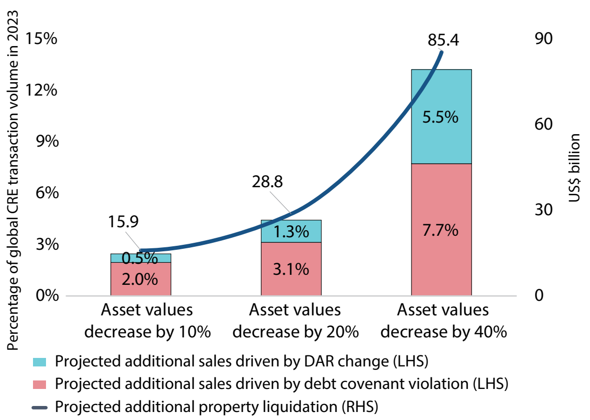
Such deviations from the usual debt covenants were relatively widespread in certain listing regions or investment sectors. Given their higher leverage levels at the end of 2023, Americas-listed, and retail and office REITs would be more prone to leverage breaches than APAC-listed REITs and industrial REITs under the scenarios. This could put REITs in these listing regions and investment sectors at greater risks of forced property liquidations and credit downgrades.

2) To what extent would REITs sell off assets under the scenarios?

Given the significant increase in the DAR and the proportion of REITs violating the usual debt covenants, our exercise simulated a notable level of additional property sales by REITs under the scenarios, equivalent to 2.5% to 13.2% of the CRE transaction volume in 2023 (Chart B1.3). Most of the additional sales were contributed by REITs violating the debt covenants (orange portions, Chart B1.3), reflecting pressures on highly-leveraged REITs to deleverage by liquidating assets.

13 For the regression models and results, see the *HKMA Research Memorandum*.

Chart B1.3
Simulated increase in REITs' property sales volume



Notes:
1. The curve represents the simulated increase in the sampled REITs' property sales (in US$ billion) over one year following the given scenario.
2. Each bar indicates the simulated increase in the sampled REITs' property sales over one year following the given scenario, expressed as a percentage of the global CRE transaction volume in 2023 (CBRE, 2024).

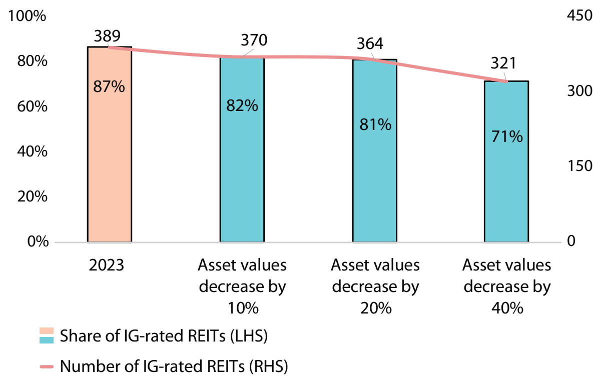
Sources: S&P Capital IQ, CBRE (2024) and HKMA staff estimates.

Additionally, the variation in DAR of REITs across listing regions and investment sectors was responsible for regional and sectorial differences in property sales. By listing region, the Americas-listed REITs were projected to be the primary contributors of property sales in any scenario, accounting for 60% to 88% of the simulated total. By investment sector, industrial REITs, the least leveraged among all REIT sectors in the sample, were estimated to sell the smallest volume of properties compared to other REIT sectors.

3) How many REITs would be downgraded under the scenarios?

Our results also projected that a significant proportion of REITs would lose their investment-grade (IG) status due to the increase in their DAR under the scenarios, with the share of IG-rated REITs declining from 87% at the end of 2023 to an estimated 71% to 82% over a year (Chart B1.4). Such credit downgrades could have profound spill-over effects. Financial institutions with a large exposure to REITs could suffer direct losses as a result of depressed security values. Banks, the largest debt holders of REITs, would face heightened default risks if REITs' credit ratings deteriorate. In case of a widespread default, the linkage between the banking and real estate sectors could trigger a credit crunch, severely impacting the financial system.

Chart B1.4
Number and share of IG-rated REITs



Notes:
1. The curve represents the number of IG-rated REITs in the sample across the given scenarios.
2. Each bar represents the share of IG-rated REITs in the sample across the given scenarios, expressed as a percentage of the total number of the sampled REITs.
3. This chart uses a subset of the sampled REITs as credit ratings are not available for the remainder.

Sources: Bloomberg and HKMA staff estimates.

Similarly, the risks of credit downgrades varied significantly across listing regions and investment sectors. By listing region, the share of IG-rated Americas-listed REITs would decline by 19 ppts to 55% in the severe scenario, down from 74% at the end of 2023. By contrast, APAC-listed REITs would experience a more modest decline of at most 8 ppts. By investment sector, industrial REITs would be the least likely to lose their IG ratings compared to other REIT sectors.

Conclusion and implications

In conclusion, the stress test showed that REITs would face elevated leverage and significant risks of forced property liquidations and credit downgrades under certain scenarios. It also pointed to significant regional and sectoral variations, with Americans-listed, retail and office REITs being more vulnerable to leverage breaches, forced liquidations and credit downgrades compared to APAC-listed and industrial REITs.

In the near future, the global CRE market may continue to face challenges given uncertain interest rate paths and weak demand for office and retail spaces. From a financial stability perspective, it is crucial to closely monitor CRE investors' responses to the development of the CRE market, particularly their potential amplification of pressure on the CRE market due to deleveraging. The spillover risks to the broader financial system, such as banks, should also be assessed, especially for those institutions exposed to the relatively vulnerable REIT segments identified in this stress-testing exercise.

Finally, as our stress test primarily focuses on the impact of REITs' leverage on financial stability, it may not capture all the factors influencing a REIT's decision to retain or sell its property portfolio or affecting its credit rating. For instance, REITs may look to mitigate pressures to deleverage by raising funding through secondary public offerings rather than asset sales. Also, some REITs may choose to sell assets in order to fund future investment opportunities rather than to repay debt. While various robustness tests have been conducted on our estimations, readers should interpret our results with caution due to these limitations.

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Box 2
Examining the ripple effect of corporate ESG performance along global value chains

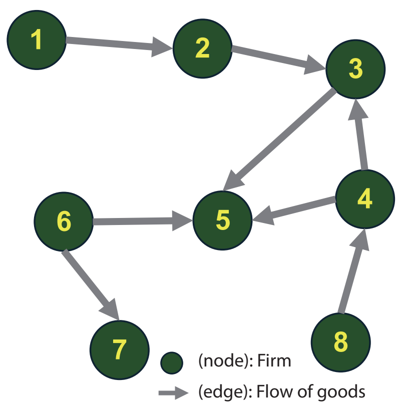
Introduction

Recent studies suggest that there exists positive spillover effects of environmental, social, and governance (ESG) practices from customers to suppliers, as well as among peer firms along global value chains (GVCs).[14] Additionally, sustainable finance has emerged as a significant catalyst for enhancing firms' ESG performance. In this box we explore the synergistic effects of GVC participation and access to sustainable finance on the ESG performance of firms, and draws some implications for green transition initiatives.

Data and Methodology

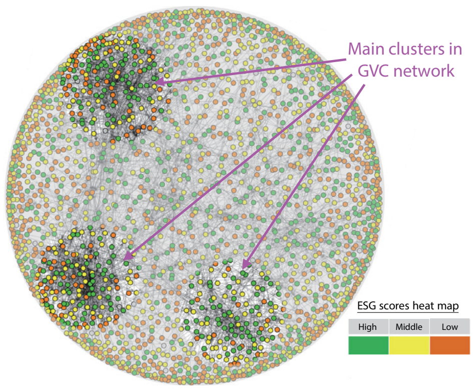
Network analysis techniques are well suited for studying GVC networks, as they offer a comprehensive overview and provide meaningful metrics for regression analysis. In a directed GVC network, each node represents a firm, and each edge with an arrow represents a trade relationship and the direction of goods flow. For example, in Chart B2.1, Firm 2 is a customer of Firm 1 and a supplier of Firm 3.

Chart B2.1
Example of a directed GVC network diagram



To visualise the relationship between firms' GVC participation and their corresponding ESG performance, Chart B2.2 presents a GVC network in 2021.[15] The nodes are coloured based on the firms' ESG score levels: high (green), middle (yellow), and low (orange). We observe that the share of green nodes in the key GVC participation clusters (i.e. the groups of nodes with a high density of edge connections, indicated by the lilac arrows) is apparently higher than across the rest of the network. This observation suggests a possible positive relationship between a firm's GVC participation and its ESG performance.

Chart B2.2
GVC networks and ESG performance in 2021



Sources: Capital IQ, Trucost and HKMA staff estimates.

Empirical findings

1. <u>ESG ripple effects along cross-border and domestic value chains</u>

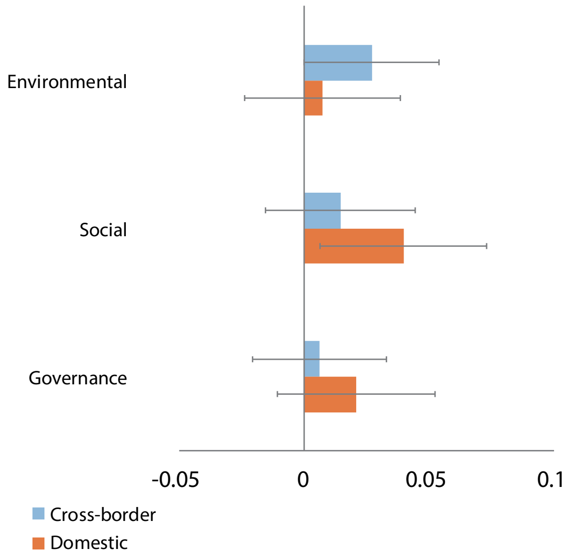
We examined the transmission of ESG practices along GVCs by conducting a firm-level panel data regression between 2020 and 2022. Specifically, we regressed changes in the sub-components of suppliers' ESG scores — environmental (E), social (S), and governance (G)

[14] See Tang et al. (2023), "The spillover effect of customers' ESG to suppliers." *Pacific-Basin Finance Journal*, 78, 101947 and Li et al. (2023), "How do ESG affect the spillover of green innovation among peer firms? Mechanism discussion and performance study" *Journal of Business Research*, 158, 113648

[15] The network chart is derived from snapshots of global customer-supplier relationships provided by S&P Capital IQ and ESG scores from Trucost.

— against changes in the average sub-component ESG score of their industry, changes in their customer's sub-component ESG score, the balance of market power in a customer-supplier relationship (represented by standardised degree centrality differentials) and a set of control variables.[16] To uncover how the ESG ripple effect differs between cross-border and domestic value chains[17] , we divided our customer-supplier pairs into two subsamples for regression. Chart B2.3 highlights the regression coefficients associated with customers' ESG sub-components for both types of value chains.

Chart B2.3
Estimated coefficients of customer's sub-component ESG scores



Note: The error bars represent a 95% confidence interval of the estimates.
Source: HKMA staff estimates.

We found that the environmental performance of suppliers was positively influenced by the cross-border environmental practices of their customers, as indicated in Chart B2.3. This aligns with the fact that environmental issues, such as raw material sourcing and carbon footprints, are important considerations in cross-border value chains. Moreover, environmental regulations vary across regions, and customer firms may need to implement the highest standard of environmental protocols across value chain borders. This creates an opportunity for suppliers, particularly those located in regions with loose regulations, to improve their environmental performance.

On the other hand, within domestic value chains, the social performance of customers tended to have a spillover effect on that of their suppliers, as indicated by the positive and significant coefficient in Chart B2.3. Many social issues, such as labour rights and work safety, are often location-specific and sensitive to cultural norms. The discrediting of social issues can damage the reputation of the firms involved in the domestic economy.

2. Impact of sustainable financing throughout a GVC network

Sustainable financing (e.g. ESG bonds) is an innovative financial instrument that incentivises firms to expedite their transition to green and sustainable practices. To bolster ESG performance, ESG bond issuers may impose a higher ESG standard on their suppliers, placing pressure on upstream firms to enhance their ESG practices[18] and thereby generating a positive ripple effect throughout the GVC network.

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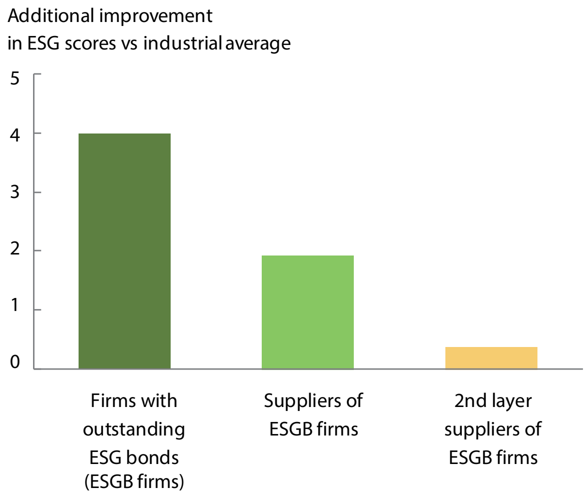
[16] Details of the methodology and estimation results can be found in Yip and Wong (2024), "Examining the ripple effect of corporates' ESG performance along the global supply chain", *HKMA Research Memorandum 06/2024*.

[17] Specifically, a value chain relationship is considered as domestic when the headquarters of both supplier and customer are within the same jurisdiction; otherwise, it is considered a cross-border value chain relationship.

[18] We extended the baseline model by introducing a dummy variable of ESG bond outstanding issuance. The result showed that customers with ESG bond financing have an additional positive influence on suppliers' ESG practices. Details of the result can be found in Yip and Wong (2024), "Examining the ripple effect of corporates' ESG performance along the global supply chain", *HKMA Research Memorandum 06/2024*.

To show the positive ripple effect of sustainable finance, Chart B2.4 tracks the changes in ESG scores for ESG bond issuers, their suppliers and a second layer of suppliers. Compared with the industrial average, GVC-linked firms exposed to ESG bond financing, on average, show greater improvements in ESG performance. This provides evidence that ESG bond financing can extensively enhance other firms' ESG practices, particularly those of GVC-linked firms that are unable to access sustainable finance.

Chart B2.4
Improvement in ESG performance of firms with ESG bond financing exposure



Source: HKMA staff estimates.

Implications for central banks

Our findings suggest that expanding the availability of sustainable finance to include downstream firms within GVCs (i.e. customers) could amplify the positive ESG ripple effects. Central banks could foster these ESG ripple effects by taking initiatives to promote more inclusive sustainable finance being made available for firms participating in GVCs. In particular, policymakers could encourage large corporates to issue ESG bonds and broadening the reach of sustainable financing.[19] As small and medium-sized enterprises (SMEs) usually face greater challenges in accessing sustainable finance, central banks can also facilitate the efforts of financial institutions to set up data platforms for seamlessly accessing SMEs' customer information.[20] Financial institutions can leverage such customer information (e.g. company names, sales revenue and ESG scores) as complementary information for sustainability assessment, and design suitable financial products (e.g. loans or credit lines) for eligible SMEs.

[19] In Hong Kong, the Government has launched the Green and Sustainable Finance Grant Scheme in 2021, designed to facilitate eligible firms to issue ESG bonds in Hong Kong.

[20] An example is the Commercial Data Interchange launched by the HKMA in 2022.

3. Domestic economy

The Hong Kong economy continued to register moderate growth in the first half of 2024, underpinned by stronger merchandise exports alongside the revival of external demand and the ongoing global tech cycle recovery. Looking ahead, merchandise exports and inbound tourism are expected to continue supporting economic growth, although the retail sector is likely to remain under pressure. The outlook is subject to various external risks and uncertainties, particularly those stemming from the US policy rate path, global growth prospects and rising trade tensions. Meanwhile, the unemployment rate remained low amidst a tight labour market, with various talent attraction and labour importation schemes continuing to meet manpower demand across industries. Inflation is expected to remain mild in the near term despite some upward pressures from domestic labour costs and rising housing rentals.

3.1 Real activities

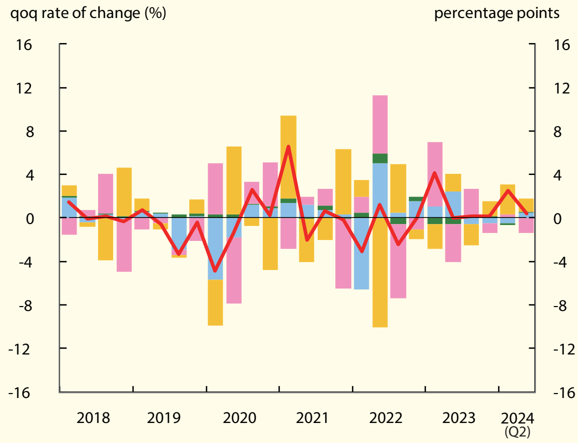
The Hong Kong economy continued to grow steadily in the first half of 2024, with its real GDP increasing by 2.8% and 3.3% year on year in the first and second quarters respectively (Table 3.A). On a seasonally adjusted basis, real GDP registered a modest quarter-on-quarter growth of 0.4% in the second quarter after increasing by 2.5% in the first quarter, marking the fourth consecutive quarter of sequential growth (Chart 3.1).

Table 3.A
Real GDP growth

		Year-on-year growth rate (%)	Seasonally adjusted quarter-on-quarter growth rate (%)
2023	Q1	+2.8	+4.1
	Q2	+1.6	–0.0
	Q3	+4.2	+0.2
	Q4	+4.3	+0.2
2024	Q1	+2.8	+2.5
	Q2	+3.3	+0.4

Source: Census and Statistics Department (C&SD).

Chart 3.1
Real GDP growth and contributions by major expenditure components

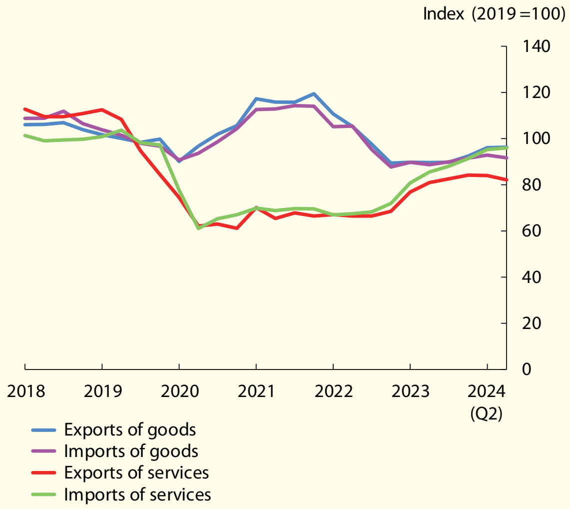


Note: Growth rates are seasonally adjusted.
Sources: C&SD and HKMA staff estimates.

Net exports were the major drivers of economic growth in the first half of the year. Exports of goods registered a notable upsurge during the review period (Chart 3.2), thanks to the improvement in external demand and the surge in electronics orders, mainly from Mainland

China and ASEAN economies, as part of the ongoing tech cycle recovery. Exports of services increased further on the back of the steady recovery of inbound tourism, but their positive effect on economic growth was more than offset by the surge in imports of services amid the continued increase in outbound tourism.[21] On the domestic front, private consumption expenditure lost steam, reflecting changing consumption patterns among local residents. Investment spending also softened sequentially in the second quarter, partly due to weakened business sentiment[22] amid tight financial conditions.

Chart 3.2
Export and import volume



Note: The data are seasonally adjusted.
Source: C&SD.

For the remainder of 2024, the economy is expected to grow at a moderate pace, driven primarily by external trade and inbound tourism. In particular, Hong Kong's merchandise exports are likely to be supported by robust external demand and the ongoing recovery of the global tech cycle.[23] Inbound tourism may also improve further amid the Government's strenuous efforts to promote mega events, as well as the policy support from the Mainland authorities[24]. That said, the relative strength of the Hong Kong dollar, coupled with changes in the consumption patterns of residents and inbound tourists, may continue to pose challenges to the local retail and catering sectors. Moreover, the still-high interest rate environment may continue to dampen business confidence and reduce capital spending.

Taking into account the actual outturn in the first half of the year and the latest economic situations, the Government maintained its real GDP growth forecast for 2024 at 2.5%–3.5%.[25] This cautiously optimistic outlook is fraught with a myriad of risks and uncertainties as discussed in the previous chapters, especially those stemming from the US policy rate path, global growth prospects, rising trade tensions, and the upcoming US presidential election. To provide impetus for economic growth in the long run,

21 Visitor arrivals into Hong Kong reached about 29.5 million persons in the first eight months of 2024, equivalent to 68% of the level in the same period of 2019. Over the same period, Hong Kong's resident departures reached about 67.6 million persons, exceeding the corresponding pre-pandemic numbers in 2019 by 5.5%.

22 The Purchasing Managers' Index (PMI) fell below 50 in May and stayed in the contractionary zone in the following months through August 2024.

23 Reflecting the overall upturn in external demand and the more positive global trade outlook, the Hong Kong Trade and Development Council (HKTDC) revised its 2024 trade growth forecast upward to 9%–11% (from 4%–6% made in December 2023).

24 In early 2024, the Central Government further expanded the IVS to include ten additional cities, namely Xi'an, Qingdao, Taiyuan, Hohhot, Harbin, Lhasa, Lanzhou, Xining, Yinchuan and Urumqi. With the expansion, the number of Mainland cities covered by the IVS has increased to 59. In addition, the Central Government also increased the duty-free allowance for luggage articles brought into the Mainland from Hong Kong by Mainland visitors to RMB12,000 from RMB5,000. The Government estimated that the new arrangements having been implemented by batches on 1 July and 1 August would bring additional shopping expenditure of around HK$8.8–17.6 billion to Hong Kong, generating value-added of around HK$2.7–5.4 billion.

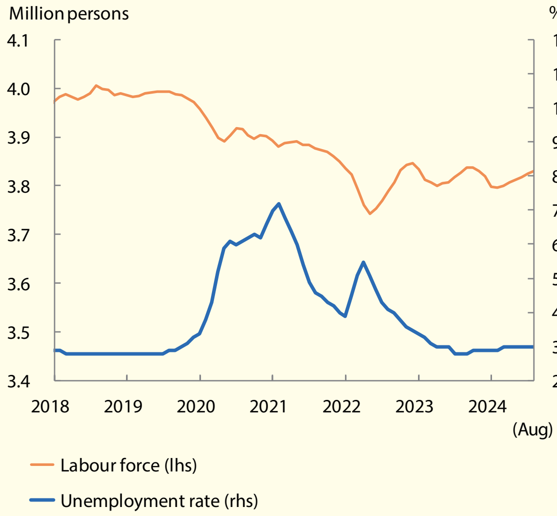
25 The latest private-sector analysts' consensus forecast on Hong Kong's real GDP growth for 2024 averaged at 2.9%.

the Government has in recent years stepped up efforts to support R&D in Hong Kong. Box 3 analyses the impact of R&D investment on Hong Kong's long-term economic growth.

3.2 Labour market conditions

The labour market remained resilient, with the unemployment rate staying within the low range of 2.9%–3.0% over the past few months. The size of the labour force has grown slightly since March, but still remained below its pre-pandemic level (Chart 3.3). Looking ahead, labour demand is expected to be supported by the ongoing economy recovery. Meanwhile, the Government's various talent attraction initiatives and labour importation schemes[26] will continue to help address manpower demand from different sectors,[27] and rejuvenate the population by increasing the number of younger people.[28]

Chart 3.3
Labour market conditions



Source: C&SD.

3.3 Inflation

Consumer price inflation has remained modest over the past few months. On a year-on-year comparison, the underlying composite consumer price index (CCPI) increased mildly by 1.0% in both the first and second quarters of 2024 respectively, and by 1.2% in August 2024 (Chart 3.4).[29] Analysed by component, prices of meals out and takeaway food continued to trend upward, while those of basic food stayed broadly in check. The housing rental component also exhibited a slight uptick given the gradual feed-through from rising fresh-letting private residential rentals (Chart 3.5). Meanwhile, labour cost pressures persisted in recent quarters amid a tight labour market, whereas imported inflation moderated in line with the broad disinflation trend in other major economies (Chart 3.6).

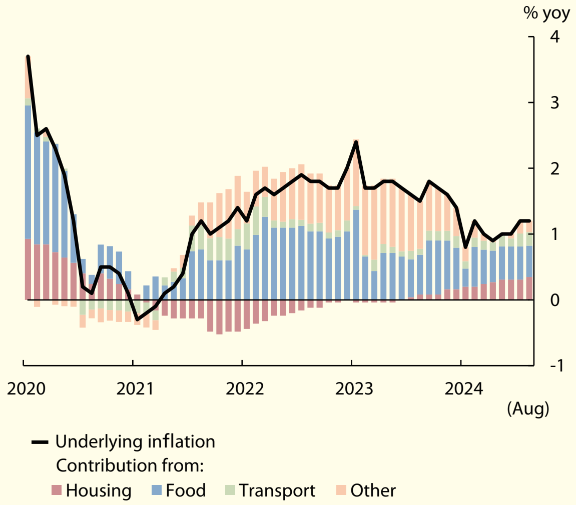
26 Recent measures for talent attraction and labour importation have included: (i) launching and continuously expanding the Top Talent Pass Scheme (TTPS), (ii) piloting the Vocational Professionals Admission Scheme (VPAS), (iii) enhancing existing talent admission schemes, (iv) introducing sector-specific labour importation schemes for residential care homes, construction, and transport sectors, and (v) launching the Enhanced Supplementary Labour Scheme (ESLS).

27 As of end-June 2024, over 320,000 applications has been received under the enhanced talent admission regime implemented in December 2022. Around 200,000 of these have been approved, and over 130,000 of the approved applicants have arrived in Hong Kong, exceeding the Government's initial target of attracting 105,000 talents in three years. According to a survey conducted in November 2023 by the Labour and Welfare Bureau (LWB), 54% of talents who had arrived via the TTPS were in employment in key industries such as financial services, innovation, communication technology services, and commerce and trade.

28 According to the Government, the median age of talents approved under the TTPS was 35, significantly younger than the median age of 48 of the overall Hong Kong population. Furthermore, the individuals admitted via the various talent attraction schemes in the first 10 months of 2023 were accompanied by over 47,000 dependents under the age of 18.

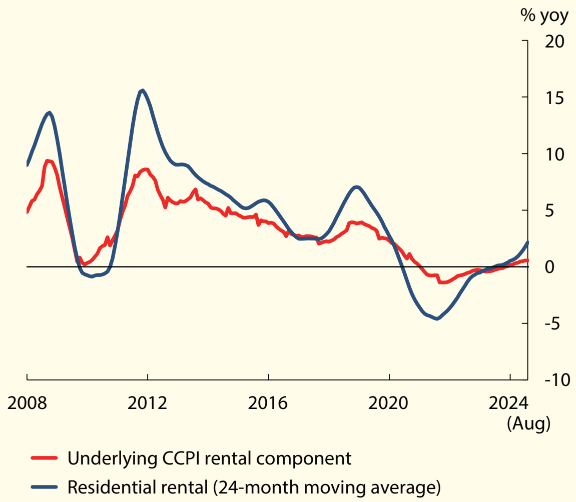
29 Inclusive of the effects of the Government's relevant one-off relief measures, the year-on-year headline inflation rate was 1.9% and 1.2% in the first and second quarters of 2024 respectively, and 2.5% in August 2024.

Chart 3.4
Underlying consumer price inflation and its drivers



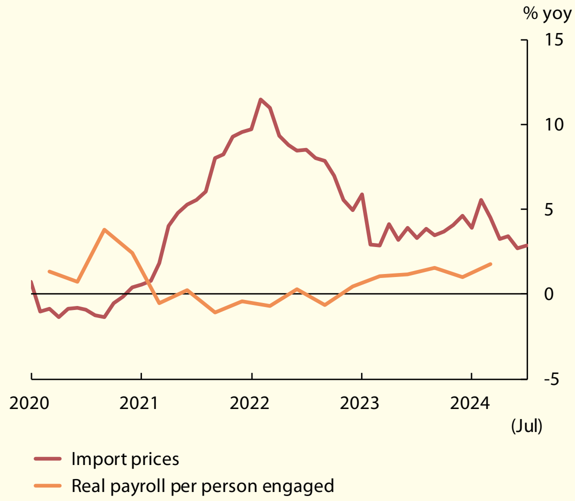
Sources: C&SD and HKMA staff estimates.

Chart 3.5
CCPI rental component and housing rentals



Sources: C&SD and Rating and Valuation Department (R&VD).

Chart 3.6
Labour cost and import prices



Sources: C&SD and HKMA staff estimates.

In the near term, overall inflation is expected to remain soft for the rest of 2024. Domestic labour costs may continue to face some upward pressures alongside the continued growth momentum, while rising housing rentals will also gradually pass through to the consumer price inflation. On the other hand, external price pressures are likely to remain contained, although geopolitical tensions could pose uncertainties. The Government projects the underlying and headline inflation rate to be 1.3% and 1.9% respectively in 2024.[30]

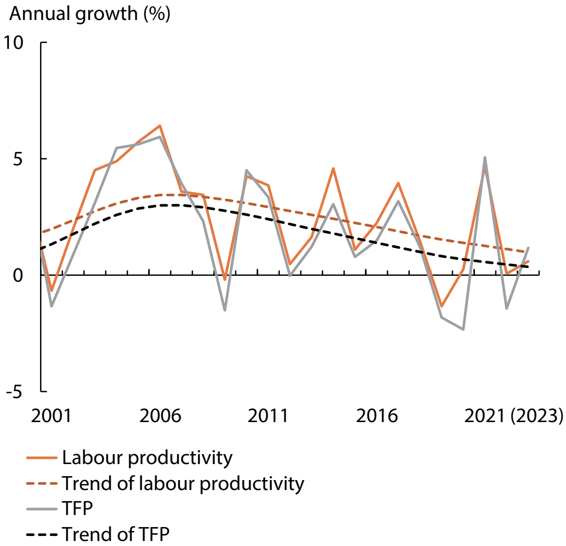
[30] The market consensus forecasts for the headline inflation rate for 2024 is 1.8%.

Box 3
Assessing the impact of R&D investment on Hong Kong's long-term economic growth

Introduction

Hong Kong's trend economic growth has moderated over the past two decades alongside a deceleration in its labour productivity growth, as measured by the growth in real output per worker, over the same period. This mainly reflects a slowdown in the growth of Hong Kong's total factor productivity (TFP), which is a major component of labour productivity and represents the efficiency with which capital and labour inputs are utilised in production. Specifically, the average annual growth rate of TFP decelerated to 1.4% in the ten years following the Global Financial Crisis (GFC) from 3.3% prior to that, and fell further to only slightly above zero during the pandemic (Chart B3.1).

Chart B3.1
Hong Kong's labour productivity and TFP growth



Notes:
1. The trend growth is estimated using the Hodrick-Prescott filter.
2. The labour input takes into account both the number of persons engaged and the working hours.
3. All nominal variables are adjusted for price changes.

Sources: C&SD, Penn World Table 10.01, and HKMA staff estimates.

With R&D and innovation being key drivers of TFP growth, the Government has targeted to increase Hong Kong's gross domestic expenditure on R&D and the commercialisation of R&D outcomes. Against this backdrop, this box examines the key drivers contributing to the slowdown in TFP growth and assesses the impact of increased R&D expenditure on Hong Kong's TFP and its long-term economic growth.

A decomposition of Hong Kong's TFP growth

Using the Data Envelopment Analysis (DEA) method, Chart B3.2 provides a breakdown of Hong Kong's overall TFP growth in terms of the contributions by business sectors in two different periods.[45] The results reveal a moderation in TFP growth across a number of sectors post-GFC.[46] The major contributor to the TFP deceleration was the import/export trade sector, in part due to a slowdown in global trade growth over the period. Within the financial sector, the performance of the banking sector was relatively resilient, while the contribution of the non-bank financial sector declined in the fallout from the GFC. Most of the other industries (e.g. transportation and storage, professional and business services, wholesale and retail sales, accommodation and food services) also experienced varying degrees of deceleration in their TFP growth.

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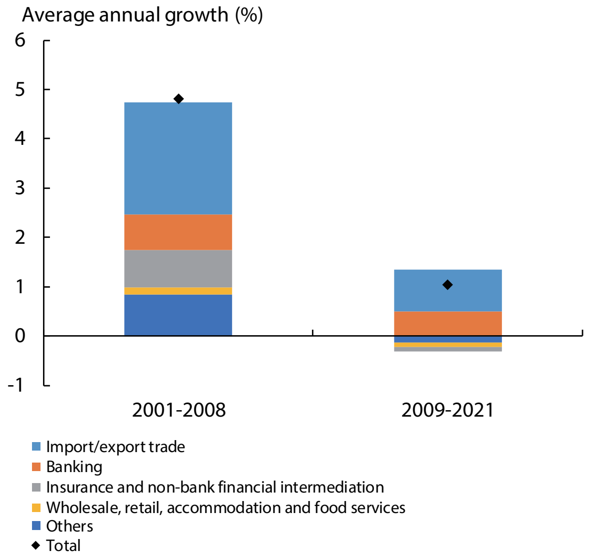
45 For the technical details, see Leung, Han and Chow (2009), "Financial services sector as a driver of productivity growth in Hong Kong", *HKMA Working Paper 14/2009*, and Ng, Wong and Yuen (2016), "Productivity growth in Hong Kong: Sectoral patterns and drivers", *HKMA Research Note 02/2016*.

46 There are discrepancies between the TFP growth estimated using aggregate-level data and the TFP growth calculated by aggregating the estimated sectoral TFP growth of individual business sectors. There are two main reasons for these discrepancies. First, this box covers only twelve business sectors that are crucial to Hong Kong's R&D activities. Other sectors, such as public administration, social and personal services, and ownership of premises, are excluded due to data limitations. Second, the estimation of capital stock by individual sectors is derived from gross additions to fixed assets in individual industries reported by the C&SD, as well as from banking data from the HKMA. Hence, this may not be the same as the aggregate capital stock constructed using the gross domestic fixed capital formation. Despite these discrepancies, the overall estimated trends of aggregate TFP growth using the two approaches are broadly similar.

Chart B3.2
Hong Kong's TFP growth and contributions by major business sectors

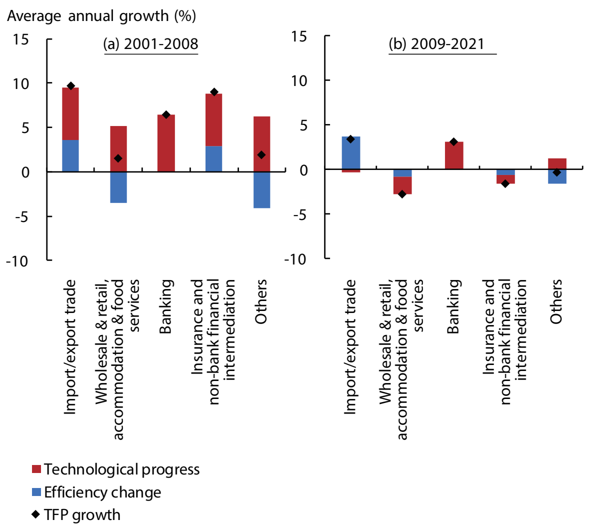


Notes:

1. The estimation of TFP by business sector is only available up until 2021, constrained by the availability of data for estimating the capital stock of individual sectors.
2. The contribution of each sector to TFP growth is weighed by its respective contribution to the total value added.
3. Other industries include manufacturing, construction, transportation and storage, information technology and communication, real estate, and professional and business services.

Sources: C&SD and HKMA staff estimates.

Chart B3.3
TFP growth, with contributions by efficiency change and technological progress in major business sectors



Sources: C&SD and HKMA staff estimates.

In addition to the sectoral breakdown, the DEA method also enables the decomposition of TFP growth into two distinct components: (i) technological progress, which measures the shift of production frontier using the same level of inputs; and (ii) efficiency change, which measures the change in the gap between the realised output and the production frontier. Chart B3.3 illustrates that the rapid TFP growth prior to the GFC mainly benefited from the technological progress across various sectors, while this pattern became more mixed afterwards. Among the sectors, the banking sector has exhibited a relatively steadier pace of technological advancement compared to other sectors, possibly suggesting a relatively high adoption of the best available production technologies by the sector over the sample period.

Empirical analysis of the impact of R&D on TFP and major findings

As part of its initiatives to boost Hong Kong's R&D activities, the Government has targeted to increase the gross domestic R&D expenditure-to-GDP ratio to 1.3% in 2025 and further to 2.0% in 2030.[47] To assess the potential effect of this planned increase in R&D expenditure on the economy, we first employed a panel regression model to estimate the impact of R&D expenditure on Hong Kong's TFP growth at sectoral level. In addition to including R&D expenditure as an explanatory variable, we followed Leung et al. (2009)[48] in including the other control variables listed in Table B3.1, in order to take into account the fact that Hong Kong's TFP growth is affected by both supply- and demand-side factors given its status as an international trade and financial centre.

[47] Innovation, Technology and Industry Bureau of the HKSAR Government (2022), "Hong Kong Innovation and Technology Development Blueprint".

[48] Leung, Han and Chow (2009), "Financial services sector as a driver of productivity growth in Hong Kong", *HKMA Working Paper 14/2009*.

Two models were developed using different measures of R&D expenditure. In the first model, we used R&D expenditure at sectoral level[49]. However, this measure includes only the R&D expenditure of the business sector and omits the contribution by higher education institutes and the Government, which indeed together accounts for a larger portion of the gross domestic R&D expenditure in Hong Kong.[50] Therefore, in our second model, we used the growth rate of gross domestic R&D expenditure for all the business sectors included in the model.

The data used to estimate the two models covers the period from 2001 to 2021, and are mainly collected from the C&SD.[51] Table B3.1 summarises the estimation results. For both models, all the estimated coefficients carry the expected signs, and most of them are significant except for human capital by sector (Table B3.1). Such finding is consistent with Leung et al. (2009), and one possible explanation is that the education level of labour represents only one of the key attributes of human capital, while other important attributes, such as working experience, might be difficult to measure and include in the model.

Table B3.1
Regression results

Dependent variable:	Sectoral TFP	
	Model 1	Model 2
R&D expenditure by sector	0.087**	
Gross domestic R&D expenditure		0.183**
Human capital (i.e. education level of labour) by sector	–0.014	–0.012
Mainland China GDP	0.264*	0.272*
Global GDP (ex-Mainland)	1.367***	0.698*
R^2	0.36	0.13

Notes:
1. Human capital is measured by the proportion of employees with tertiary education and is expressed in terms of first-order difference. Other variables are expressed in terms of annual growth rates.
2. Industry dummies are included for both models.
3. * denotes significance at the 10% level, ** at the 5% level, *** at the 1% level.

Source: HKMA staff estimates.

Using the estimation results, we conducted a scenario analysis to illustrate the long-run implications for Hong Kong's real GDP growth under different growth rates of gross domestic R&D expenditure. In the baseline, gross domestic R&D expenditure is assumed to follow its trend real growth of approximately 5% per year, reaching 1.3% of GDP by 2030. By contrast, the upside scenario assumes that the Government would raise gross domestic R&D expenditure to 2.0% of GDP by 2030 as planned, implying an annual growth rate of approximately 11%. According to our estimate, Hong Kong's TFP growth and thereby its annual real GDP growth under the upside scenario would be 0.6–1.1 ppts higher per year than that under the baseline scenario over the period from 2024 to 2030.[52]

49 The R&D data reported in the C&SD's Report on Annual Survey of Innovation Activities in the Business Sector groups industries into: (i) manufacturing; (ii) import/export, wholesale and retail sales, and accommodation and food services; (iii) information technology and communication; (iv) financing and insurance, real estate, professional and business services; and (v) others.

50 In 2022, 41% of the total R&D expenditure of Hong Kong was performed by the business sector.

51 The raw data are drawn from the following statistical reports compiled by the C&SD: (i) the production-based GDP and value added of the Four Key Industries of Hong Kong; (ii) Key Statistics on Business Performance and Operating Characteristics; (iii) Annual Survey of Economic Activities; (iv) Hong Kong Innovation Activities Statistics; (v) Report on Annual Survey of Innovation Activities in the Business Sector; and (vi) General Household Survey.

52 The assumptions for the other input factors are the same in both scenarios.

Concluding remarks

To conclude, Hong Kong has experienced a decline in its TFP growth across various sectors over the past two decades, due in part to a deceleration in technological progress. To enhance Hong Kong's TFP growth and thereby its labour productivity, the Government has targeted to raise the city's total R&D spending to 2.0% of GDP by 2030. Our estimation suggested that this could boost annual GDP growth by an additional 0.6–1.1 ppts per year from 2024 through to 2030. To achieve this target, the Government has already launched a number of initiatives, such as reducing the tax rate for assessable profits deriving from patents, introducing the Research, Academic and Industry Sectors One-plus (RAISe+) scheme to promote the commercialisation of R&D outcomes, and forming partnerships with strategic firms through the Hong Kong Investment Corporation. These initiatives are on the right track in stimulating the city's R&D activities and will help provide impetus for economic growth in the long run.

A few caveats to our analysis are in order. First, data constraints have restrained us from extending our analysis to 2022 and 2023. Second, the scenario analysis focuses solely on the impact of the planned increase in gross domestic R&D expenditure on TFP growth. The potential synergy effects of other policy initiatives are beyond the scope of this study.

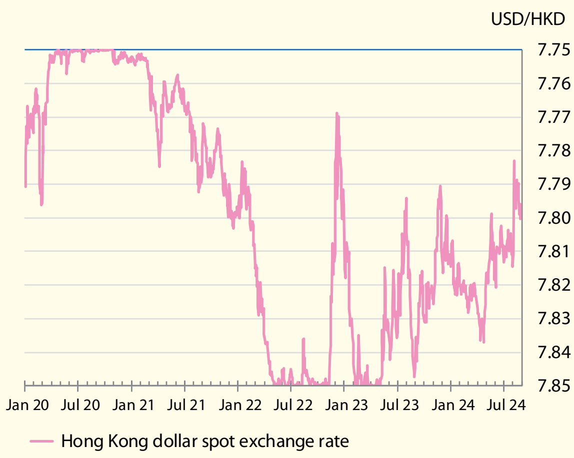
4. Monetary and financial conditions

The Hong Kong dollar (HKD) strengthened between late April and mid-May, mainly supported by dividend-related funding demand. In early August, the HKD strengthened sharply as concerns of a possible US recession and expectations of faster and deeper US Fed rate cuts triggered an unwinding of carry trades and short HKD positions, and remained stable thereafter. Hong Kong Interbank Offered Rates (HIBORs) generally tracked their US dollar (USD) counterparts while also being affected by local supply and demand. HIBORs eased in early April after the March quarter-end, followed by some tightening amid equity-related and dividend-related funding demand since late April. HIBORs eased again in early August after the dividend peak season. Total deposits increased in the first seven months of 2024, while bank credit declined, reflecting subdued credit demand driven in part by the high interest rate environment. Overall, the HKD exchange and money markets continued to trade in a smooth and orderly manner. Looking ahead, uncertainties surrounding the global interest rate outlook and geoeconomic fragmentation may heighten fund flow volatility. Nonetheless, with its ample foreign reserves position and a robust financial system, Hong Kong is well able to withstand the volatilities in fund flows without compromising its financial stability.

4.1 Exchange rate and capital flows

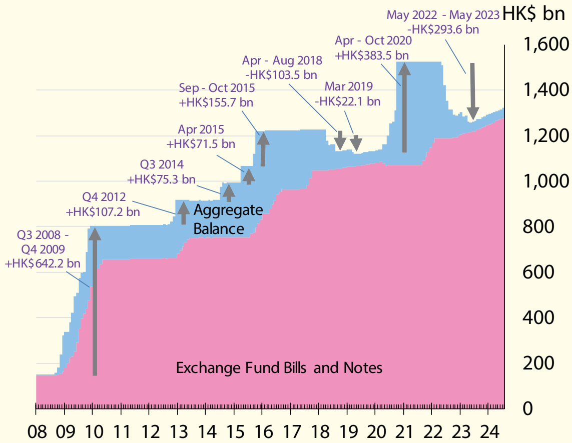
The HKD strengthened between late April and mid-May, mainly supported by dividend-related funding demand. In early August, the HKD strengthened sharply as concerns of a possible US recession and expectations of faster and deeper US Fed rate cuts triggered an unwinding of carry trades and short HKD positions, and remained stable thereafter. During the review period, the HKD traded within a range between 7.7829 and 7.8369 against the USD (Chart 4.1). As the CUs have not been triggered since May 2023, the Aggregate Balance of the banking system remained little changed at HK$44.9 billion at the end of August 2024, and the day-to-day interbank operations and settlement activities among banks continued to operate in a smooth and orderly manner (Chart 4.2).

Chart 4.1
Hong Kong dollar exchange rate



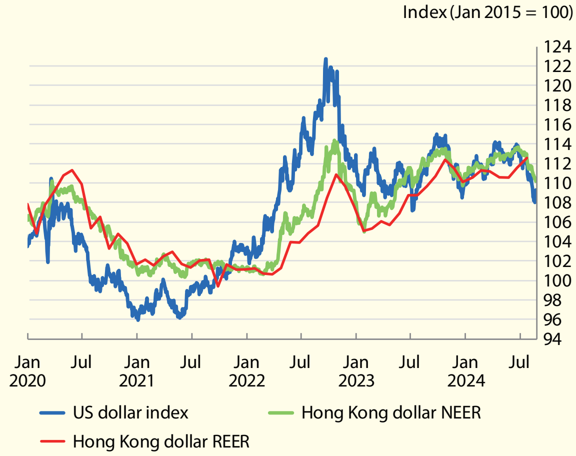
Source: HKMA.

Chart 4.2
Aggregate Balance and Exchange Fund Bills and Notes (EFBNs)



Source: HKMA.

Chart 4.3
Nominal effective exchange rate index (NEER) and real effective exchange rate index (REER)



Note: The REER is seasonally adjusted and available only on a monthly basis.
Sources: CEIC, C&SD and HKMA staff estimates.

Broadly tracking the movements of the US dollar, the Hong Kong dollar nominal effective exchange rate index (NEER) strengthened from mid-March till early July, before softening thereafter (Chart 4.3). Meanwhile, the Hong Kong dollar real effective exchange rate index (REER) generally followed the movement of the NEER.

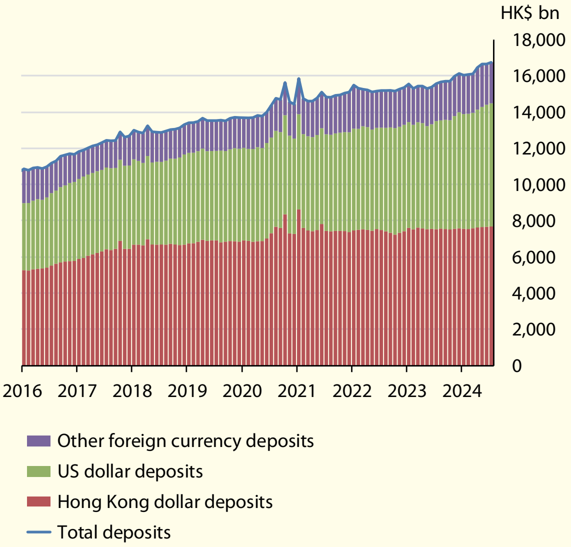
Going forward, fund flows are likely to remain influenced by uncertainties surrounding the global interest rate outlook and geoeconomic fragmentation. However, with its ample foreign reserves position and robust financial system, Hong Kong is able to withstand the volatilities in fund flows without compromising its financial stability.

4.2 Monetary environment and interest rates

Hong Kong's monetary environment stayed accommodative during the review period. The HKD Monetary Base remained sizeable and broadly stable, at HK$1,934.7 billion as at the end of August 2024.

In the first seven months of 2024, total deposits with authorized institutions (AIs) increased by 3.8%. Among the total, HKD and foreign currency deposits increased by 1.3% and 6.1% respectively (Chart 4.4). It should be noted that monetary statistics are subject to volatility due to a wide range of transient factors, such as seasonal and initial public offering (IPO) related funding demand as well as business and investment related activities. Therefore, it is more appropriate to observe the longer-term trends.

Chart 4.4
Deposits with authorized institutions (AIs) by currency

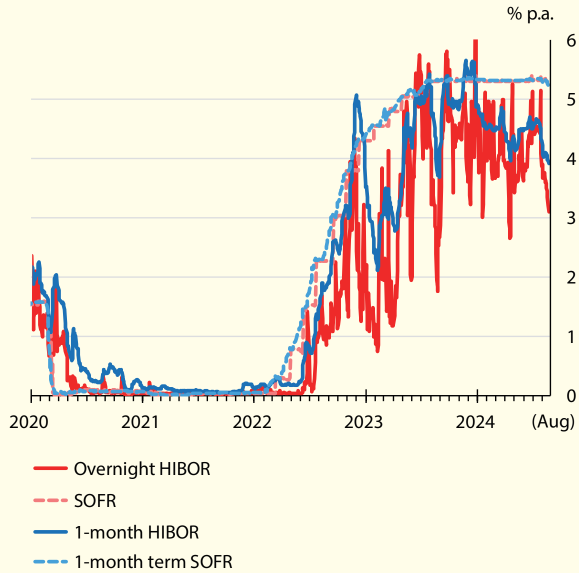


Source: HKMA.

Overall, Hong Kong's interbank market continued to trade in a smooth and orderly manner during the review period. In accordance with the expectation and the design of the Linked Exchange Rate System, HKD interbank interest rates generally tracked their USD counterparts[31] while also being affected by local supply and demand. HIBORs eased in early April as the seasonal funding demand faded after the end of the first quarter, followed by some tightening amid equity-related and dividend-related funding demand since late April. HIBORs eased again in early August after the dividend peak season (Chart 4.5).

[31] The USD London Interbank Offered Rate (LIBOR) has been discontinued since 1 July 2023 and replaced by the Secured Overnight Financing Rate (SOFR) as its alternative reference rate.

Chart 4.5
Hong Kong Interbank Offered Rates (HIBORs) and US dollar Secured Overnight Financing Rates (SOFRs)



Sources: Bloomberg and HKMA.

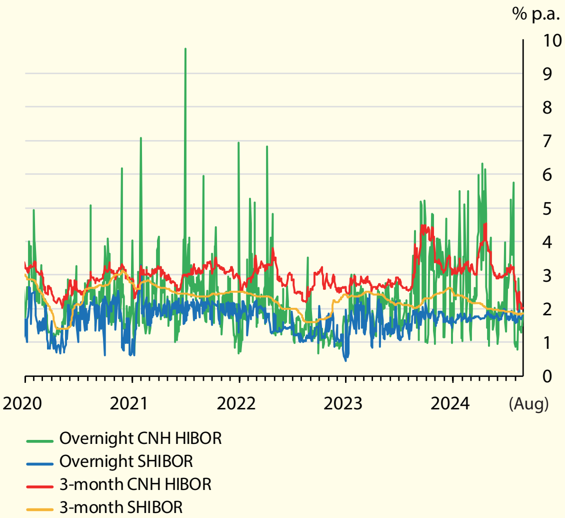
On the retail front, after the US Fed lowered its policy rate in September 2024, many local banks reduced their Best Lending Rates by 25 basis points. Meanwhile, the average lending rate for new mortgages increased slightly from 4.13% to 4.14% between January and July 2024.

In the near term, HKD interest rates may stay at relatively high levels. The HKMA continues to closely engage with banks, reminding them to properly manage their liquidity, including keeping in close contact with their large clients to understand their HKD funding plans and arrangements. This helps banks to plan and avoid any hoarding of HKD. The HKMA has also reminded banks not to be concerned about the perceived "stigma effect" of tapping into its liquidity facilities. Indeed, banks should feel free to use the HKMA's various liquidity facilities whenever required. The recent use of the Discount Window shows that banks are adapting to changing market developments and are willing to make good use of these liquidity facilities.

Offshore RMB banking business

The offshore renminbi (CNH) interbank market continued to function normally during the review period.[32] The three-month CNH HIBOR rose above 4% during April 2024 due to occasional tightness in liquidity, before easing to 3% at the end of May 2024 as demand softened, followed by further softening towards the end of July. While the overnight CNH HIBOR witnessed some fluctuations, it mostly traded below 6% (Chart 4.6). Liquidity conditions in the CNH interbank market remained broadly stable over the review period.

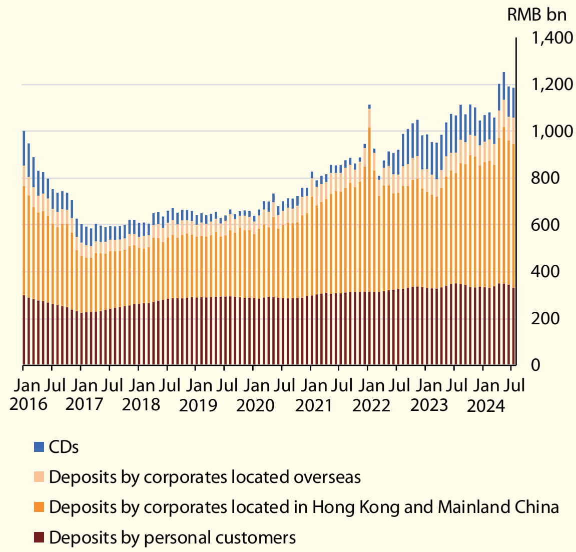
Chart 4.6
Overnight and 3-month offshore renminbi (CNH) HIBOR fixings



Source: CEIC and Treasury Markets Association.

Hong Kong's CNH liquidity pool expanded during the first seven months of 2024. The total outstanding amount of renminbi (RMB) customer deposits and certificates of deposit (CDs) increased by 13.4% to RMB1,185.6 billion at the end of July 2024 (Chart 4.7 and Table 4.A). Among the total, RMB customer deposits grew by 12.6%, mainly led by corporate customers' deposits. With the continued increase in the issuance of RMB CDs, outstanding CDs expanded by 20.7% during the same period.

Chart 4.7
Renminbi customer deposits and certificates of deposits (CDs) in Hong Kong



Source: HKMA.

Table 4.A
Offshore renminbi banking statistics

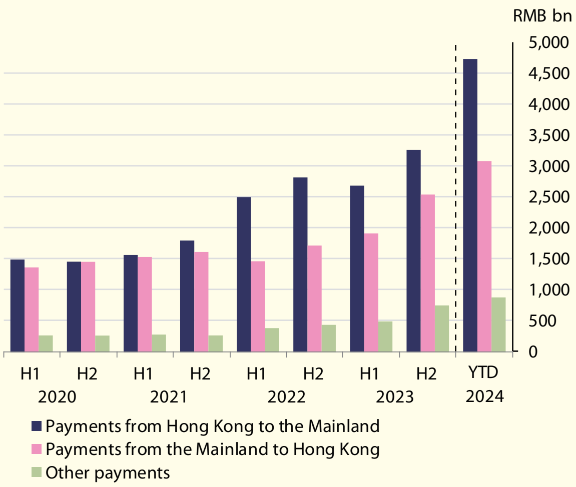
	Dec 2023	Jul 2024
Renminbi deposits & CDs (RMB bn)	1,045.3	1,185.6
Of which:		
Renminbi deposits (RMB bn)	939.2	1,057.5
Share of renminbi deposits in total deposits (%)	6.3	6.8
Renminbi CDs (RMB bn)	106.1	128.1
Renminbi outstanding loans (RMB bn)	441.2	584.6
Number of participating banks in Hong Kong's renminbi clearing platform	208	207
Amount due to overseas banks (RMB bn)	121.7	122.7
Amount due from overseas banks (RMB bn)	114.5	148.4
	Jan–Jul 2024	
Renminbi trade settlement in Hong Kong (RMB bn)	8,696.2	
Of which:		
Inward remittances to Hong Kong (RMB bn)	3,082.0	
Outward remittances to Mainland China (RMB bn)	4,728.9	
Turnover in Hong Kong's RMB real time gross settlement (RTGS) system (Daily average during the period; RMB bn)	3,327.1	

Source: HKMA.

[32] See Chapter 2.2 for the development of offshore and onshore renminbi exchange rates.

Other CNH business continued to grow. The outstanding aggregate amount of RMB loans expanded by 32.5% in the first seven months of 2024. Hong Kong's RMB trade settlement also continued to pick up. Transactions handled by banks in Hong Kong amounted to RMB8,696.2 billion in the first seven months of 2024 (Chart 4.8), up by 41.9% compared with RMB6,126.4 billion during the same period last year, with outward trade remittances to the Mainland increasing more than inward trade remittances to Hong Kong. The deep RMB liquidity pool in Hong Kong and the capability and extensive network of Hong Kong banks continued to support a large volume of RMB payments and financing transactions. During the first seven months of 2024, the average daily turnover of the RMB RTGS system stayed high at RMB3,327.1 billion, compared with RMB1,704.0 billion recorded in the same period in 2023.

Chart 4.8
Flows of renminbi trade settlement payments



Source: HKMA.

Moving forward, the continuing development of Hong Kong's CNH ecosystem will further reinforce Hong Kong's role as the leading CNH business hub. On liquidity, the expansion of the list of eligible collateral for HKMA's RMB liquidity facility to include onshore renminbi (CNY) bonds issued by the Ministry of Finance and policy banks on the Mainland came into effect on 26 February 2024. Market response has been positive since the implementation, with banks in Hong Kong successfully using onshore bonds to obtain liquidity from the HKMA. On products, the continuous efforts to upgrade and expand the family of Connect schemes between the Mainland and Hong Kong[33], which include Swap Connect, Stock Connect, Bond Connect, and Cross-boundary Wealth Management Connect, will widen the spectrum of RMB products and tools available for asset allocation and risk management, facilitating greater two-way traffic between the two markets. As for financial infrastructure, the Central Moneymarkets Unit is also undergoing a major overhaul to enhance its operational capacity and product offerings, to better support the growth of RMB bond issuances and associated custodian services. The Multiple Central Bank Digital Currency Bridge (mBridge) project had reached the Minimum Viable Product (MVP) stage as of June 2024. Further progress has been made to expand the scope of the e-CNY pilot in Hong Kong to facilitate the set up and the use of e-CNY wallets by Hong Kong residents, as well as the top-up of e-CNY wallets through Hong Kong's Faster Payment System (FPS). This can improve cross-border payment and settlement efficiency for commercial and retail users. With these developments, Hong Kong will continue to play a unique role in supporting Mainland's capital account opening, the development of the green finance market, as well as the Guangdong-Hong Kong-Macao Greater Bay Area and the Belt and Road initiatives.

[33] The HKMA and the PBoC announced six policy measures to deepen financial cooperation early this year. Some of them have already been implemented. For more details, see the inSight article "Recent developments in financial cooperation between Hong Kong and the Mainland" on 28 June 2024 (https://www.hkma.gov.hk/eng/news-and-media/insight/2024/06/20240628/).

Asset markets

The Hong Kong equity market rose during the review period on the back of improved market sentiment, despite a sharp decline in the global equity market in early August. Supported by steady issuances, the local debt market continued to exhibit stable growth in the first half of 2024. After some stabilisation due to policy relaxations, the residential property market has softened since May as market sentiment weakened amid renewed uncertainty surrounding the US policy rate path.

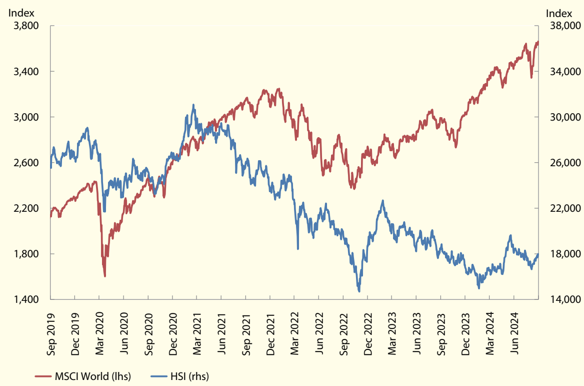
4.3 Equity market

The Hong Kong equity market experienced a notable rebound between April and May 2024 on the back of improved market sentiment (Chart 4.9). The Hang Seng Index subsequently consolidated, before picking up again in August. The global equity market continued to rally during the review period, despite a sharp decline in early August amid renewed concerns over the US economic outlook and the unwinding of yen carry trades following the interest rate hike by the BOJ. Overall, the Hang Seng Index increased by 8.9% from the end of February 2024 to the end of August 2024, while the MSCI World Index rose by 9.7% during the same period.

The sharp global stock market decline in early August was accompanied by an escalation in market volatility as measured by the option-implied volatilities of the S&P 500 Index (VIX Index), before stabilising quickly (Chart 4.10). The SKEW Index remained elevated amid the volatile market conditions.[34] Notwithstanding the surge in global market volatility, volatility in the local equity market remained contained throughout the review period.

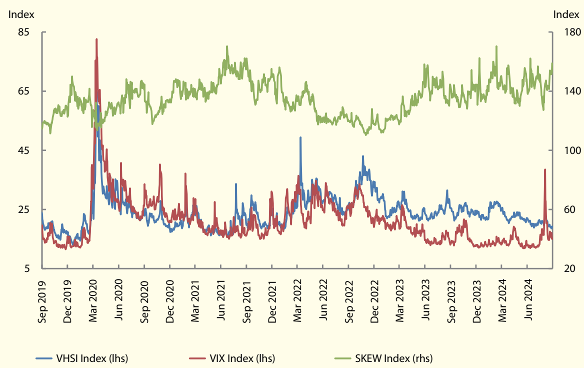
[34] The SKEW Index is calculated by the Chicago Board Options Exchange from the prices of the S&P 500 out-of-the-money options. A SKEW value of 100 means that the probability of outlier negative returns on a 30-day horizon is negligible. As the SKEW rises above 100, the left tail of the S&P 500 returns distribution acquires more weight, suggesting that the probability of outlier negative returns has become more significant. For details, see https://www.cboe.com/products/vix-index-volatility/volatility-indicators/skew.

Chart 4.9
The Hang Seng Index and the MSCI World Index



Source: Bloomberg.

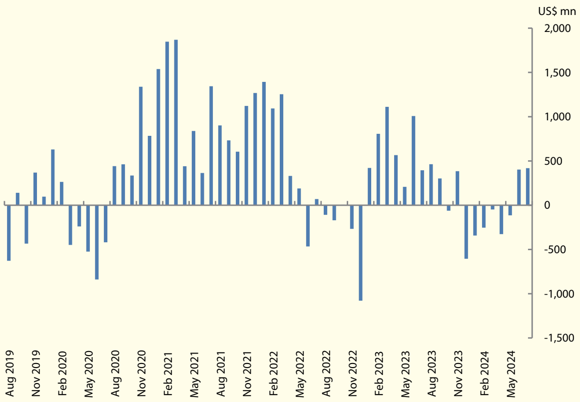
Chart 4.10
Option-implied volatilities of the Hang Seng Index and the S&P 500 Index, and the SKEW Index



Source: Bloomberg.

The local equity market registered net inflows through equity market funds between February and July 2024 (Chart 4.11).

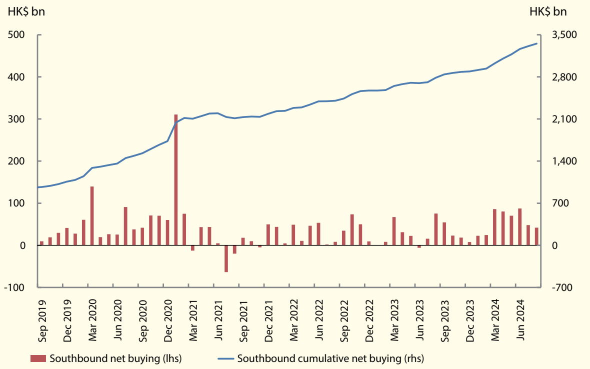
Chart 4.11
Equity market fund flows into Hong Kong



Source: EPFR Global.

There were steady net inflows into the local equity market through the Southbound Stock Connect, with the net buying by Mainland investors amounting to HK$414.1 billion from the end of February to end of August 2024 (Chart 4.12). The cumulative net buying amount increased by 14.1% to HK$3,352.0 billion during the review period.

Chart 4.12
Net buying through Southbound Stock Connect over time



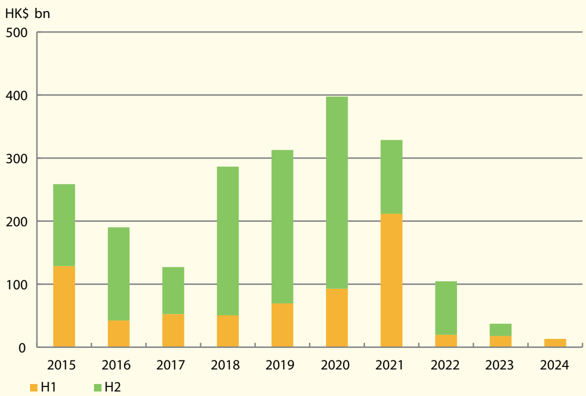
Note: Southbound net buying is the sum of such buying on the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect.
Sources: CEIC and HKMA staff estimates.

Global IPO activities have been clouded by political uncertainties arising from elections in various economies and lingering geopolitical tensions. The amount of capital raised through IPOs in reporting stock exchanges worldwide in the first half of 2024 fell by 17% year on year according to the World Federation of Exchanges. In Hong Kong, the total amount raised through IPOs amounted to HK$13.2 billion during the same period, dropping by 26.2% compared with the first half of 2023 (Chart 4.13).

In April 2024, the China Securities Regulatory Commission announced a series of measures to further expand the mutual access between the capital markets of the Mainland and Hong Kong. The measures include encouraging leading enterprises of industries in the Mainland to list in Hong Kong. The Mainland authorities' support for its leading enterprises of industries to list in Hong Kong is expected to benefit Hong Kong's IPO market.

During the review period, a milestone was reached for the Chapter 18C listing regime for Specialist Technology Companies, with the completion of the first company listing in June 2024.

Chart 4.13
Initial public offering market in Hong Kong



Source: Hong Kong Exchanges and Clearing Limited.

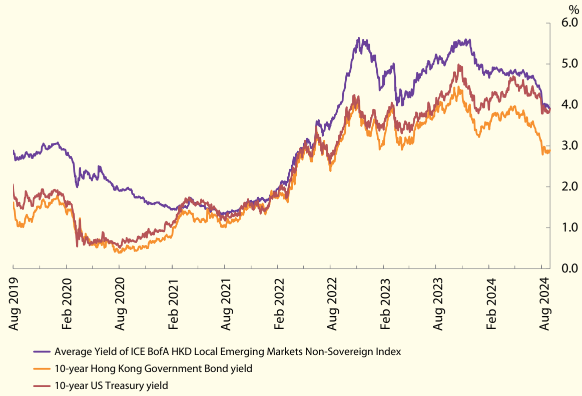
The near-term outlook for the local equity market is expected to be influenced by a wide range of factors. On the global front, the uncertainties surrounding the US economic outlook and the forthcoming US presidential election, coupled with the potential further unwinding of yen carry trades and persistent geopolitical tensions, are likely to fuel volatility in global financial markets, including Hong Kong's equity market.

Furthermore, the economic performance of the Mainland, as well as market expectations on policy measures by the Mainland authorities to support the Mainland economy, will remain key drivers of sentiments in the local equity market.

4.4 Debt market[35]

The yield of the US 10-year Treasury fluctuated during the review period, with a notable drop towards the end of July amid market concerns over the US economic outlook (Chart 4.14). The yield of the Hong Kong dollar 10-year Government Bond followed a similar pattern, while the yield of Hong Kong dollar corporate bonds also declined.

Chart 4.14
Yields of 10-year US Treasury, 10-year Hong Kong Government Bond, and Hong Kong dollar corporate bonds

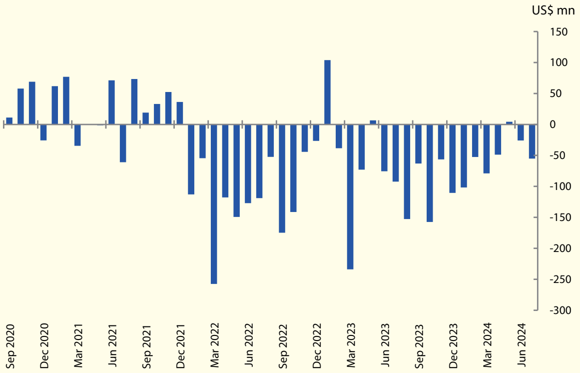


Note: The ICE BofA HKD Local Emerging Market Non-Sovereign Index, which covers Hong Kong dollar bonds issued by corporates and quasi government entities, captures the movement in yields of Hong Kong dollar corporate bonds.
Sources: ICE Data Indices, Bloomberg and HKMA.

Bond market funds recorded net outflows from Hong Kong between February and July 2024 (Chart 4.15).

[35] Debt securities statistics reported in this section include bills, bonds, notes, negotiable certificates of deposit, commercial paper, debentures, asset-backed securities, and similar instruments normally traded in the financial markets that serve as evidence of a debt. Figures of outstanding amounts of debt securities are estimated based on the maturity date of individual debt securities issued. The estimations take into account early redemptions if sufficient information is available. Figures of outstanding amounts of debt securities may be subject to overestimation. All debt securities figures are subject to revisions.

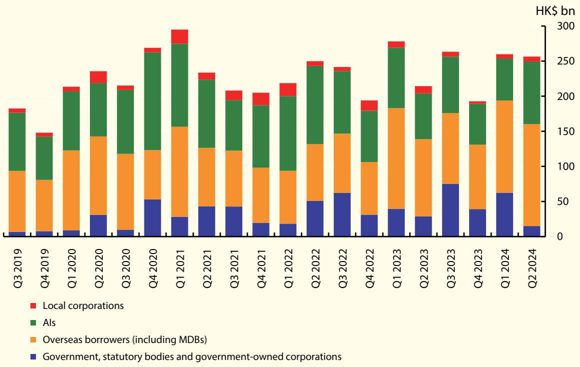
Chart 4.15
Bond market fund flows into Hong Kong



Source: EPFR Global.

The total issuance of Hong Kong dollar debt grew by 2.9% year on year to HK$2,538.1 billion in the first half of 2024 (Chart 4.16). Non-Exchange Fund Bills and Notes (EFBN) Hong Kong dollar debt securities increased by 4.9% year on year to HK$516.3 billion.

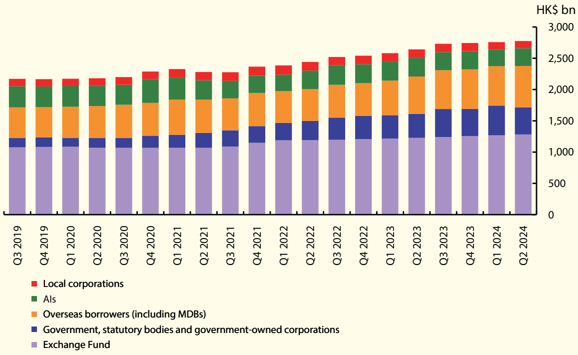
Chart 4.16
New issuance of non-Exchange Fund Bills and Notes Hong Kong dollar debt securities



Source: HKMA staff estimates based on data from Bloomberg, CMU, Dealogic and Reuters.

As a result, the outstanding amount of Hong Kong dollar debt securities increased by 5% year on year to HK$2,774.9 billion at the end of June 2024 (Chart 4.17). This amount was equivalent to 33.2% of Hong Kong dollar M3, and 27.6% of the Hong Kong dollar-denominated assets of the banking sector. Meanwhile, the outstanding amount of non-EFBN Hong Kong dollar debt securities increased by 5.6% year on year to HK$1,493.2 billion at the end of June 2024.

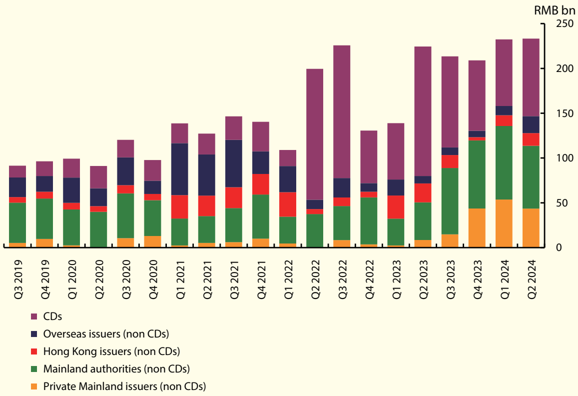
Chart 4.17
Outstanding Hong Kong dollar debt securities by issuer



Source: HKMA staff estimates based on data from Bloomberg, CMU, Dealogic and Reuters.

The issuance of CNH debt securities in Hong Kong rose by 28.2% year on year to RMB465.7 billion in the first half of 2024 (Chart 4.18). This was mainly driven by non-CDs issuance, which recorded a year on year increase of 95.6% to RMB304.8 billion.

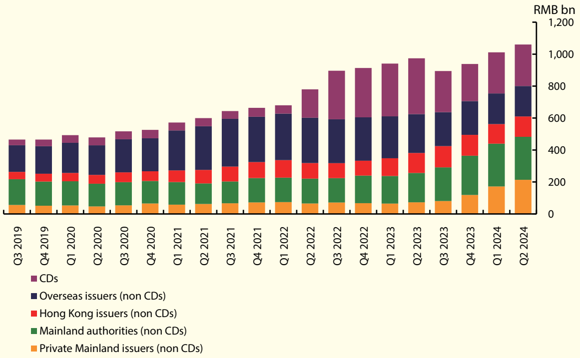
Chart 4.18
New issuance of CNH debt securities in Hong Kong



Sources: HKMA staff estimates based on data from Bloomberg, CMU, Dealogic and Reuters.

With the increase in issuance, the outstanding amount of non-CDs CNH debt securities increased by 28.1% year on year to RMB800.5 billion at the end of June 2024. Overall, the total outstanding amount of CNH debt securities issued in Hong Kong grew by 8.9% year on year to RMB1,060.4 billion at the end of June 2024 (Chart 4.19).

Chart 4.19
Outstanding CNH debt securities in Hong Kong



Sources: HKMA staff estimates based on data from Bloomberg, CMU, Dealogic and Reuters.

The near-term prospects of the local debt market will continue to be influenced by the interest rate paths of major advanced economies. Offshore renminbi debt market activities in Hong Kong will also depend on the economic performance of the Mainland, as well as movements in the renminbi interest and exchange rates.

During the review period, several policy initiatives were introduced to foster the development of green and sustainable finance in Hong Kong. On 3 May 2024, the HKMA released details of the extension of the Green and Sustainable Finance Grant Scheme (GSF Grant Scheme) as announced in the 2024–25 Budget. The GSF Grant Scheme has been extended by three years to 2027 to help foster the adoption of sustainable finance, enrich the local ecosystem, and promote good market practice. The scope of subsidies has also been expanded to cover transition bonds and loans, with a view to encouraging relevant industries in the region to make use of Hong Kong's transition financing platform as they move towards decarbonisation.

On 3 May 2024, the HKMA also published the Hong Kong Taxonomy for Sustainable Finance (Hong Kong Taxonomy) to enable informed decision making on green and sustainable finance and facilitate relevant finance flows. The Hong Kong Taxonomy currently encompasses 12 economic activities under four sectors namely power generation, transportation, construction, and water and waste management. It will serve as a pivotal tool to raise awareness about green finance, promote common understanding of green activities, facilitate green finance flows, and provide a foundation for further applications. The Hong Kong Taxonomy is a living document, where the HKMA will seek to expand the coverage of the taxonomy to include more sectors and activities, including transition activities.

Furthermore, on 18 July 2024, the Government announced the successful offering of approximately HK$25 billion worth of green bonds, denominated in renminbi, US dollar and euro, under the Government Sustainable Bond Programme (previously known as the Government Green Bond Programme). The offering attracted participation from a wide spectrum of investors globally, with more than HK$120 billion equivalent in orders. In particular, the 20-year and 30-year renminbi Green Bonds were offered for the first time by the Hong Kong Special Administrative Region (HKSAR) Government, with 30-year bond also being the longest tenor renminbi bond offered by the HKSAR Government so far. The inaugural offering of the 20-year and 30-year renminbi bonds helps to extend the offshore renminbi yield curve, further enrich offshore renminbi product offerings, and promote renminbi internationalisation in an orderly manner.

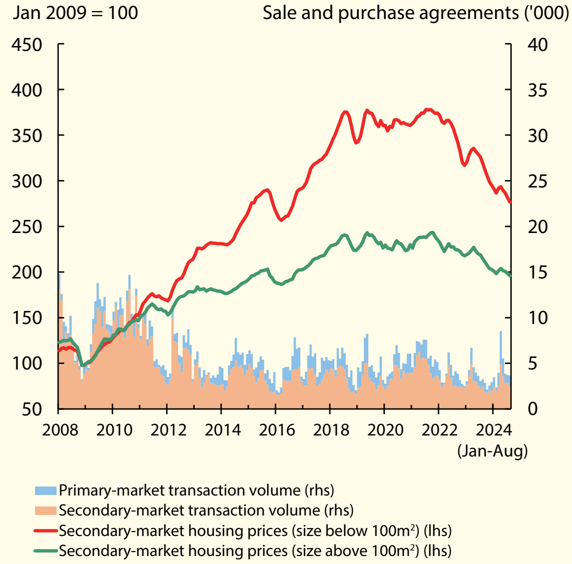
4.5 Property markets

Residential property market

The residential property market has softened after improving somewhat alongside the policy relaxations announced in late-February 2024.[36] Secondary-market flat-viewing activities increased notably in March and April, while property developers accelerated their new project launches by adopting competitive pricing strategies. Despite this, market sentiment has faltered since May, partly due to the massive absorption of purchasing power in the market and renewed uncertainties surrounding the US policy rate path.[37] As a result, the average monthly housing transaction volume moderated to 3,744 units in June to August, after reaching the recent peak of 8,551 units in April following a surge in primary-market activity (Chart 4.20).

In the face of intense competition from developers' new launches and weakened market sentiment, secondary-market housing prices retreated by 5.7% from May to August after having picked up by 2.4% in March and April. Specifically, the prices for small and medium-sized flats (with a saleable area of less than 100m^2) saw a slightly sharper decline than those for large flats (with a saleable area of at least 100m^2) (Chart 4.20). Latest real estate agencies' data indicated that housing prices remained subdued in early September.

Chart 4.20
Residential property prices and transaction volumes



Sources: Rating and Valuation Department (R&VD) and Land Registry.

Housing affordability remained stretched in the first half of 2024. The housing price-to-income ratio was still close to the high level in 1997 despite subsiding to 13.4 on the back of the adjustment in housing prices and an increase in household income. Likewise, the income gearing ratio decreased to 68.9%, but remained well above the long-term average (Chart 4.21).[38] On the other hand, housing rentals saw a notable increase of 6.5% from February to August 2024 (Chart 4.22). In tandem, the residential rental yield edged up to 3.1% in July 2024 from 2.9% in January 2024.

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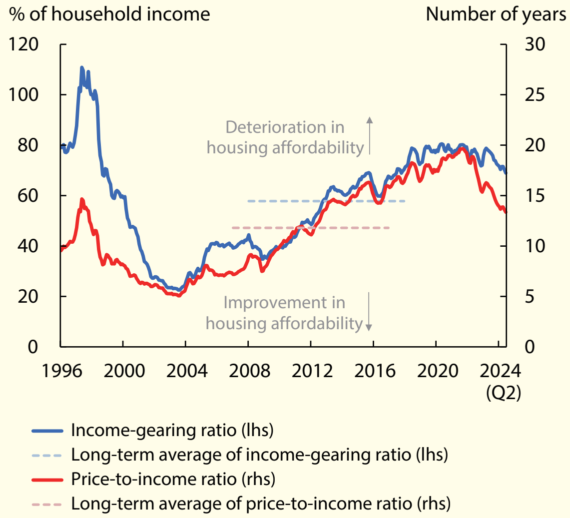
36 These policy relaxations include the cancellation of all the demand-side management measures for residential properties, and adjustments to the countercyclical macroprudential measures for property mortgage loans and other related supervisory requirements on property loans. For details, see "The 2024–25 Budget" and the circular "Prudential Measures for Property Mortgage Loans and Other Related Supervisory Requirements" issued by the HKMA on 28 February 2024.

37 It was also reported in May 2024 that some banks had lowered their cash rebates and tightened their approval of RMLs in order to manage their loan portfolio risk amid the high interest rate environment. More recently, some banks have reportedly resumed their cash rebates in view of the expected start of US Fed's interest rate easing cycle in September.

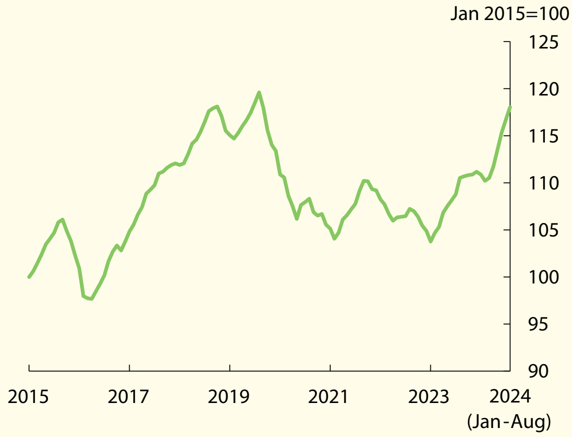
38 The price-to-income ratio measures the average price of a typical 50m^2 flat relative to the median income of households living in private housing. The income-gearing ratio compares the mortgage payment for a typical 50m^2 flat (under a 20-year mortgage scheme with a 70% LTV ratio) to the median income of households living in private housing. The income-gearing ratio is not the same as a borrower's actual DSR, which is subject to a maximum cap under HKMA macroprudential measures.

Chart 4.21
Indicators of housing affordability



Sources: R&VD, C&SD and HKMA staff estimates.

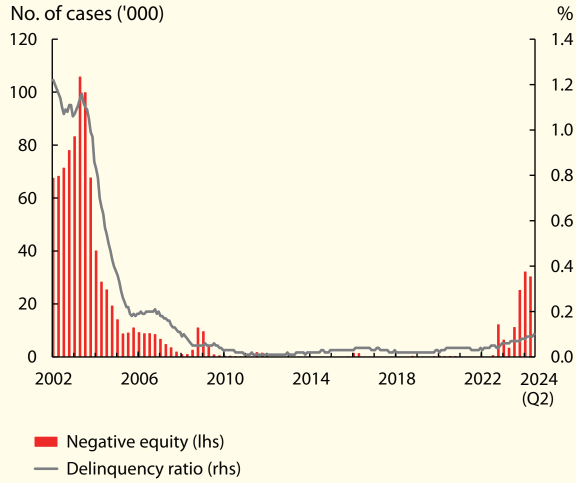
Chart 4.22
Residential property rental index



Source: R&VD.

Reflecting the movement in housing prices, the estimated number of RMLs in negative equity increased from 25,163 cases at end-December 2023 to 32,073 cases at end-March 2024, before decreasing slightly to 30,288 cases at end-June 2024 (Chart 4.23). These cases were related to bank staff housing loans or RMLs under the MIP, which generally have a higher LTV ratio. The delinquency ratio of these mortgages remained low at 0.11% at end-June 2024, partly reflecting the high mortgage loan quality under the MIP due to its strict requirements regarding applicants' repayment ability. Looking ahead, the tight labour market is anticipated to underpin households' mortgage payment capability, helping curb the upward pressure on the delinquency ratio of RMLs.

Chart 4.23
Residential mortgage delinquency ratio and loans in negative equity



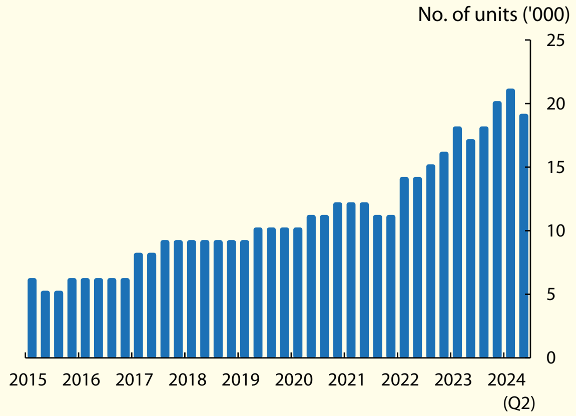
Source: HKMA.

The macroprudential measures introduced by the HKMA since 2009 have helped contain household leverage levels and strengthen banks' risk management for mortgage loans, thereby improving their resilience to interest rate and property market shocks. In particular, the average LTV ratio for new mortgages was about 61% in July 2024, below the ratio of 64% before the measures were first introduced in 2009. The average DSR also stayed at around 40%. In addition, over half of the private housing units did not carry any outstanding mortgages as of end-2023. As such, the systemic risks relating to banks' RMLs are being properly managed on various fronts.

Having prudently considered market trends and developments, the HKMA announced technical adjustments to the countercyclical macroprudential measures for property mortgage loans and other related supervisory requirements in June 2024 to assist certain buyers in genuine hardship to take out mortgage loans at a higher LTV ratio, while continuing to maintain effective risk management of banks' property mortgage lending business.[39] The HKMA will continue to monitor market developments closely and introduce measures to safeguard banking stability as conditions in the property market evolve.

The residential property market outlook is subject to multiple uncertainties and risks. On the one hand, tight financial conditions and the accumulated inventory of the completed projects' unsold units may continue to weigh on market sentiment (Chart 4.24). On the other hand, market sentiment may improve as the US Fed kick-started the easing cycle, while the resilient labour market and the Government's policies to attract businesses and talents may provide some support for housing demand. Over the longer term, the outlook for the housing market will depend on the supply-demand gap. The Government projects that private housing completions, and thus supply in the market, will remain high in the coming years.[40]

Chart 4.24
Unsold units in completed projects



Source: Housing Bureau.

Commercial real estate market[41]

The commercial real estate market remained weak in the first seven months of 2024. The average monthly transaction volume stayed at a low level of 264 units during the period, and speculative activities continued to be weak (Chart 4.25). Along with the still-low transaction volume, prices for office spaces, retail premises and flatted factories eased further by 15.9%[42], 10.8% and 9.7% respectively in the year up to July (Chart 4.26). In the leasing market, rentals in all three segments remained soft (Chart 4.27). Overall, rental yields across segments edged up to 3.1%–3.6% in July 2024.

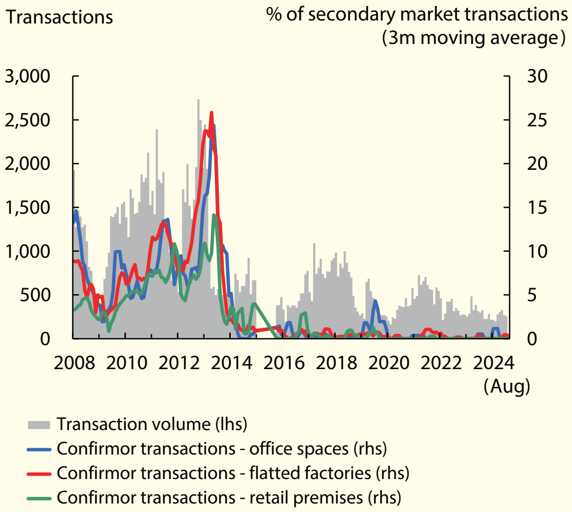
[39] The adjustments effective from 14 June 2024 include: (i) broadening the applicability of the macroprudential measures for property mortgage loans that were announced on 28 February 2024 to include mortgage applications for residential properties under construction for self-occupation where the provisional sale and purchase agreements were signed before 28 February 2024 and the properties are scheduled for completion on or after 28 February 2024; (ii) simplifying the calculation of borrowing capacity under net worth-based lending; and (iii) reverting back haircuts on rental income of at least 30% to an indicative level of at least 20% when calculating the DSR of borrowers with investment property. For details, please refer to the circular "Technical adjustments to the countercyclical macroprudential measures for property mortgage loans" issued by the HKMA on 14 June 2024. In tandem, the HKMC Insurance Limited (HKMCI) also announced on the same day the adjustments to the MIP under which the applicability of the eligibility criteria of the MIP would be broadened to cover all mortgage insurance applications for owner-occupied residential properties in the primary market, irrespective of the execution dates of the relevant provisional sale and purchase agreements. For details, please refer to the press release "Technical Adjustment to the Mortgage Insurance Programme" issued by the HKMCI on 14 June 2024.

[40] As estimated by the Housing Bureau at end-June 2024, the total supply of private first-hand flats in the coming three to four years is projected to remain at a high level of 109,000 units.

[41] Commercial real estate refers to office spaces, retail premises and flatted factories.

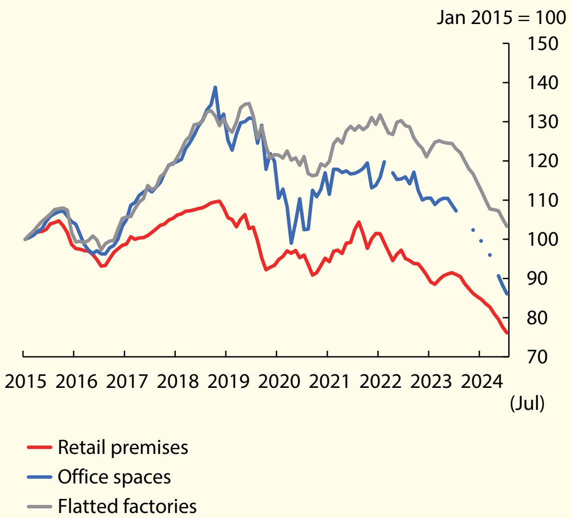
[42] The year-to-date change in the price for office spaces is compared to the price in November 2023, as the corresponding data for December 2023 is not available.

Chart 4.25
Transactions in commercial real estates



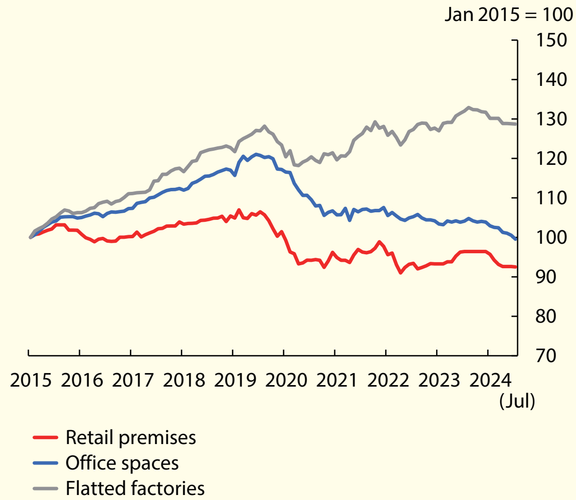
Note: The data on transaction volume is up to July 2024.
Sources: R&VD and Centaline Property Agency Limited.

Chart 4.26
Commercial real estate price indices



Note: The price index of office spaces could not be compiled in certain months due to insufficient transaction data for analysis.
Source: R&VD.

Chart 4.27
Commercial real estate rental indices



Source: R&VD.

The outlook for the commercial real estate market remains challenging in the near term. The subdued performance of the retail sector may continue to weigh on the retail premises segment, although the expansion of the IVS and the increase in duty free shopping allowance for Mainland tourists may lend some support to tourist spending. Meanwhile, both the capital and rental values of office spaces are likely to remain under pressure given high vacancy rates[43] amid ample supply following higher completions in recent years. That said, the Government's new CIES[44], which includes commercial real estate as a permissible investment, is expected to render some support to the market.

43 Market data from surveyor firms indicates that Grade A office vacancy rates increased to 13.4% in August 2024 from 12.8% in December 2023.

44 Under the Scheme, an applicant must demonstrate that he/she has net assets of not less than HK$30 million to which he/she is absolutely beneficially entitled throughout the two years preceding the application. An applicant must make an investment of a minimum of HK$30 million in the permissible investment assets, including investing a minimum of HK$27 million in the permissible financial assets and commercial real estate (subject to a cap of HK$10 million), and placing HK$3 million into a new CIES Investment Portfolio. The Scheme opened for applications from 1 March 2024 and had attracted over 500 applications as of 13 September. Of these applications, 448 were verified as having fulfilled the net asset requirement, and 47 applications were verified as having fulfilled the investment requirements (i.e. having made the investment of HK$30 million in Hong Kong within the six-month time limit).

5. Banking sector performance

The profitability of retail banks improved moderately in the first half of 2024 compared with the same period in 2023 due to higher income from investments held for trading. However, bank credit declined modestly during the review period, partly reflecting subdued credit demand amid the high interest rate environment. The classified loan ratio increased during the first half of 2024, but remained at a manageable level. Overall, the Hong Kong banking sector remained robust and resilient, underpinned by strong capital and liquidity buffers. Looking ahead, uncertainties over the future path of the US policy rate and geoeconomic fragmentation will continue to pose challenges to the Hong Kong banking sector, with the classified loan ratio expected to edge closer to the long-term historical average of 2%. Banks should stay vigilant against the impacts of these risk factors on the asset quality of their loan portfolios and continue to maintain sufficient provisioning coverage, particularly in view of the impact of the high interest rate environment on the debt servicing ability of corporates.

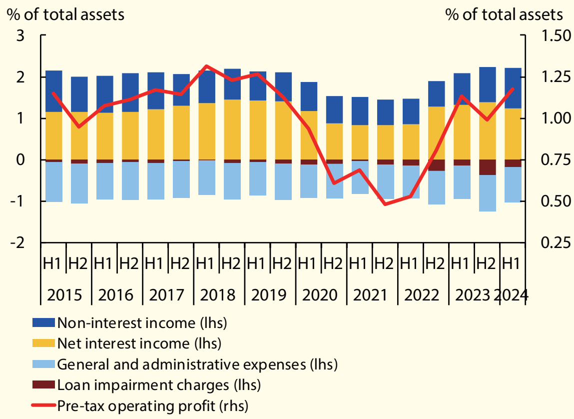
5.1 Profitability and capitalisation

Profitability

The aggregate pre-tax operating profit of retail banks[53] grew moderately by 6.2% in the first half of 2024 compared with the same period in 2023. The improvement in profit was driven by an increase in income from investments held for trading, which more than offset the decline in net interest income and increases in total operating expenses and loan impairment charges. As a result, the return on assets increased slightly to 1.18% from 1.13% (Chart 5.1).

Reflecting faster growth in interest expenses than in interest income, the net interest margin (NIM) of retail banks narrowed to 1.51% in the first half of the year compared with 1.62% for the same period last year (Chart 5.2).

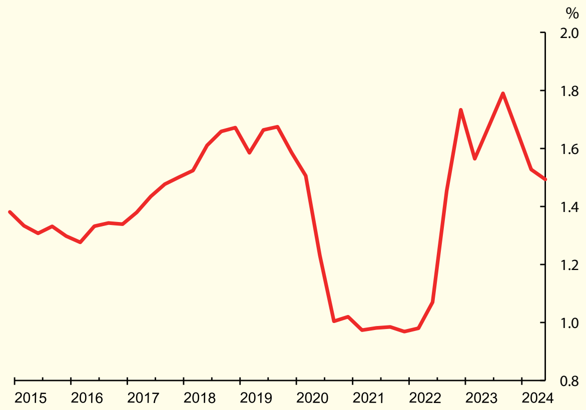
Chart 5.1
Profitability of retail banks



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

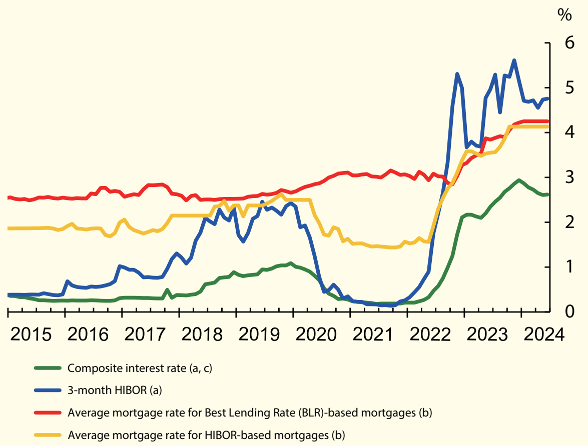
[53] Throughout this chapter, figures for the banking sector relate to Hong Kong offices only, unless otherwise stated.

Chart 5.2
Net interest margin of retail banks



Note: Annualised quarterly figures.
Source: HKMA.

Chart 5.3
Interest rates



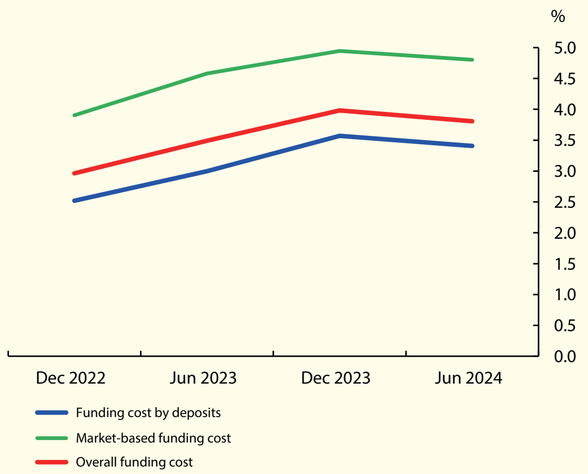
Notes:
(a) End-of-period figures.
(b) Period-average figures for newly approved loans.
(c) Since June 2019, the composite interest rate has been calculated based on the new local "interest rate risk in the banking book" (IRRBB) framework. As such, figures from June 2019 onwards are not strictly comparable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

The Hong Kong dollar (HKD) interbank interest rates retreated moderately in the first half of 2024, but still stood at relatively elevated levels. For instance, the three-month Hong Kong Interbank Offered Rate (HIBOR) declined by 40 bps in the first half of 2024 to stand at 4.75% at the end June 2024 (blue line in Chart 5.3).

On the retail front, HKD deposit funding costs also decreased, in part reflecting that banks adjusted their HKD time deposits rates alongside declines in HIBORs. Reflecting a decline in both wholesale and retail funding costs, the composite interest rate (a measure of the average cost of HKD funds for retail banks) decreased by 32 bps in the first half to 2.62% at the end of June 2024 (green line in Chart 5.3).

More broadly, the overall HKD and US dollar funding cost for licensed banks in Hong Kong edged down by 17 bps in the first half of 2024 (red line in Chart 5.4).

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

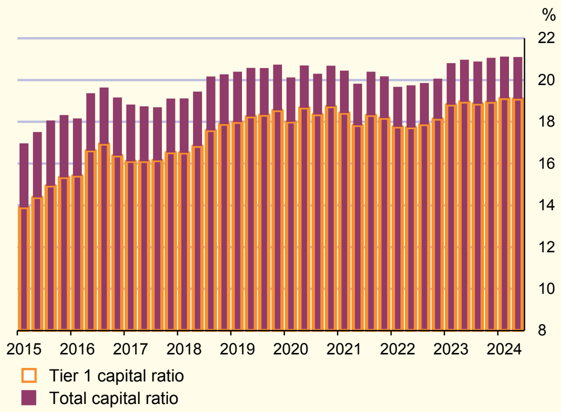


Note: Since June 2019, licensed banks not exempted from the new local IRRBB framework report under the new framework, while exempted licensed banks continue to report under the existing interest rate risk exposure framework. The overall funding cost has been calculated as the weighted averages of the 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.

Capitalisation

Capitalisation of the Hong Kong banking sector continued to be strong and well above international minimum standards. The consolidated total capital ratio of locally incorporated authorized institutions (AIs) stood at a high level of 21.1% at the end of June 2024 (Chart 5.5), well above the international minimum requirement of 8%. The Tier 1 capital ratio and the Common Equity Tier 1 (CET1) capital ratio were 19.1% and 17.5% respectively. In addition, the non-risk-based Leverage Ratio[54] of locally incorporated AIs stood a healthy level of 7.9% at the end of June 2024, exceeding the statutory minimum of 3%.

Chart 5.5
Capitalisation of locally incorporated authorized institutions



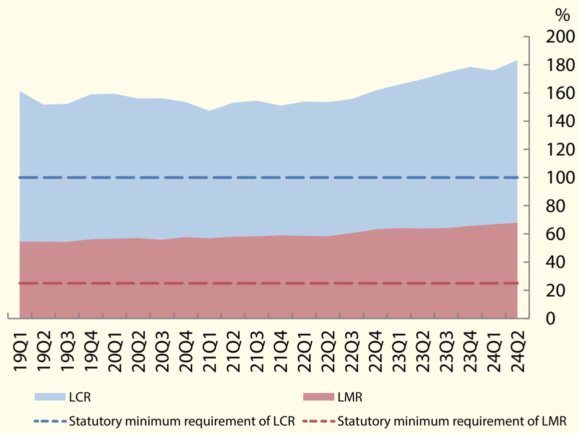
Note: Consolidated basis.
Source: HKMA.

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),[55] remained sound during the review period. The average LCR of category 1 institutions and the average Liquidity Maintenance Ratio (LMR) of category 2 institutions were 183.3% and 67.9% in the second quarter of 2024 respectively (Chart 5.6), staying well above their corresponding statutory minimum requirement of 100% and 25%.

Chart 5.6
Liquidity Coverage Ratio and Liquidity Maintenance Ratio



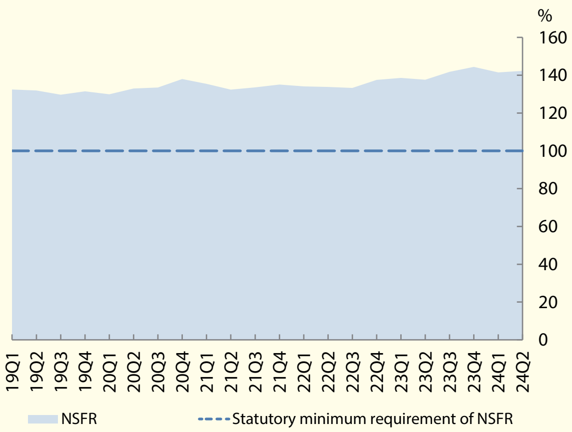
Notes:
1. Consolidated basis.
2 Quarterly average figures.
Source: HKMA.

54 The Basel III non-risk-based leverage ratio 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).

55 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*".

Funding positions of AIs remained stable. The average Net Stable Funding Ratio (NSFR) of category 1 institutions remained at a high level of 142.3% in the second quarter of 2024 (Chart 5.7), well above the statutory minimum requirement of 100%. The average Core Funding Ratio of category 2A institutions also stayed at a high level of 174.7%, 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.

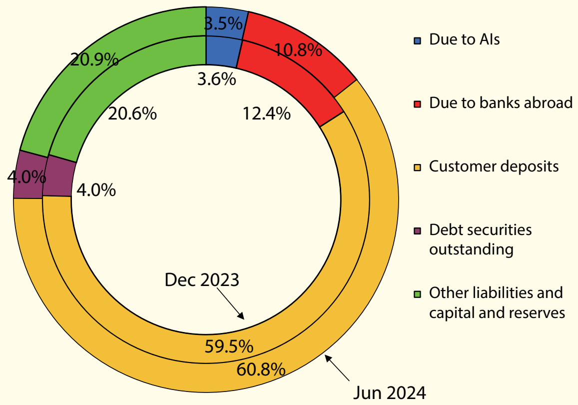
Chart 5.7
Net Stable Funding Ratio



Note: Consolidated basis.
Source: HKMA.

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 June 2024, the share of customer deposits to all AIs' total liabilities had increased slightly to 60.8% compared to 59.5% six months earlier (Chart 5.8).

Chart 5.8
The liability structure of all authorized institutions

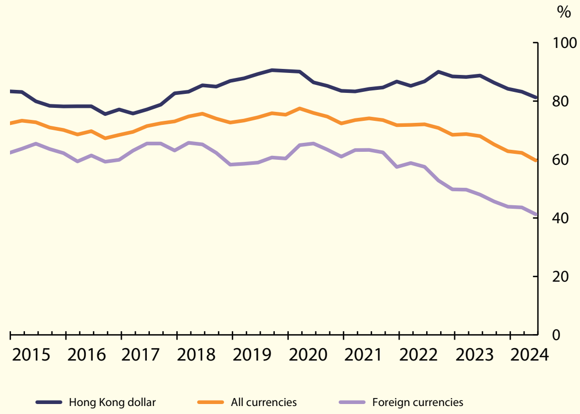


Notes:
1. Figures may not add up to total due to rounding.
2. Figures refer to the percentage of total liabilities, including capital and reserves.
3. Debt securities comprise negotiable certificates of deposit and all other negotiable debt instruments.

Source: HKMA.

The average all-currency loan-to-deposit (LTD) ratio of all AIs lowered to 59.7% at the end of June 2024 from 62.8% at the end of December 2023 (Chart 5.9). The decrease in the ratio was attributable to a decrease in total lending while total deposits increased during the same period. The HKD and foreign-currency LTD ratios declined to 81.3% and 41.3% at the end of June 2024 respectively, compared with 84.2% and 43.9% six months ago.

Chart 5.9
Average loan-to-deposit ratios of all authorized institutions



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

Interest rate risk

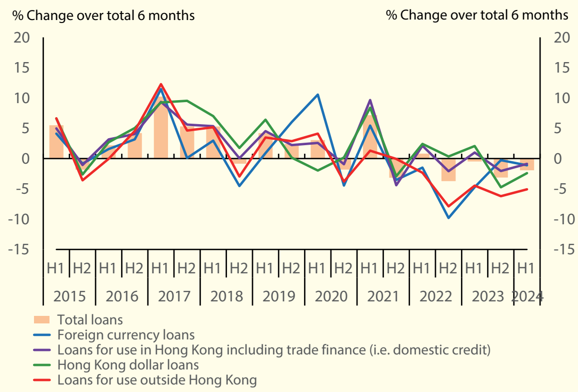
The interest rate risk exposure of banks in Hong Kong remained at a relatively low level in the second quarter of 2024. Under a hypothetical shock of an across-the-board 200-basis-point increase in HKD and US dollar interest rates,[56] the economic value of locally incorporated licensed banks' interest rate positions is estimated to decrease by an amount equivalent to 2.33% of their total capital base at the end of June 2024.[57] This relatively moderate impact suggests that banks in Hong Kong should be well positioned to withstand interest rate shocks.

5.3 Credit risk

Overview

With borrowing costs remaining high, demand for bank credit continued to be weak in the first half of 2024. On a half-yearly basis, the total loans and advances of all AIs declined by 1.9% in the first half of 2024 (Chart 5.10), driven by decreases in both domestic loans (comprising loans for use in Hong Kong and trade financing) and loans for use outside Hong Kong. Specifically, domestic loans and loans for use outside Hong Kong decreased further by 0.9% and 5.1% during the first half of 2024, after recording 2.0% and 6.2% declines respectively in the second half of 2023.

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.

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56 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.

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

Credit demand is expected to remain subdued in the near term. According to the results of the HKMA Opinion Survey on Credit Condition Outlook in June 2024, 77% of the surveyed AIs expect loan demand to be the same in the coming three months (Table 5.A), while 17% respondents expect weaker loan demand.

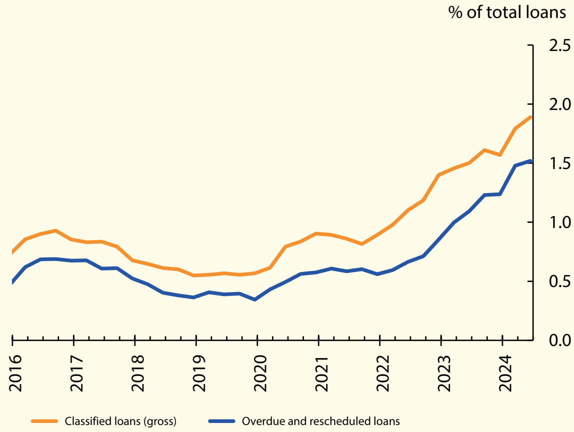
Table 5.A
Expectations of loan demand in the next three months

% of total respondents	Sep-23	Dec-23	Mar-24	Jun-24
Considerably higher	0	0	0	0
Somewhat higher	20	17	10	7
Same	57	70	77	77
Somewhat lower	20	10	13	17
Considerably lower	3	3	0	0
Total	100	100	100	100

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

The asset quality of banks' loan portfolios deteriorated in the first half of 2024. The gross classified loan ratio (CLR) of all AIs rose to 1.89% at the end of June 2024 from 1.57% at the end of 2023. Similarly, the ratio of overdue and rescheduled loans of all AIs rose from 1.24% at the end of 2023 to 1.52% at the end of June 2024 (Chart 5.11). Despite this deterioration, the asset quality of the Hong Kong banking sector remained healthy.

Chart 5.11
Asset quality of all authorized institutions



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

Household exposure[58]

Household debt remained virtually unchanged in the first half of 2024, after growing by 0.5% in the second half of 2023 (Table 5.B). A breakdown of the data shows that the growth of residential mortgage loans remained steady at 0.8% in the first half of 2024, compared to the second half of 2023. Over the same period, personal loans contracted further by 1.7%, after decreasing by 0.3% in the second half of 2023.

[58] Loans to households constitute lending to professional and private individuals, excluding lending for other business purposes. Mortgages account for the 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 June 2024, household lending accounted for 36.7% of domestic lending. In this section, household debt is also referred to as loans to households.

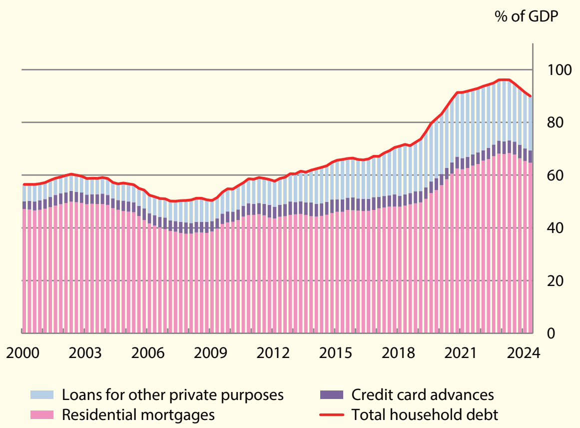
Table 5.B
Half-yearly growth of loans to households by all authorized institutions

(%)	2021 H1	2021 H2	2022 H1	2022 H2	2023 H1	2023 H2	2024 H1
Residential mortgages	4.0	5.7	2.1	1.9	2.6	0.8	0.8
Personal loans	5.3	1.6	−2.5	−2.2	1.4	−0.3	−1.7
of which:							
Credit card advances	−0.4	8.1	−5.3	14.4	0.2	10.5	-5.3
Loans for other private purposes	6.4	0.4	−2.0	−5.1	1.6	−2.6	−0.9
Total loans to households	4.4	4.4	0.7	0.7	2.2	0.5	0.0

Source: HKMA.

The household debt-to-GDP ratio decreased to 90.0% in the first half of 2024 (Chart 5.12), from 93.0% in the second half of 2023. This 3.0-percentage-point decrease in the household debt-to-GDP ratio was driven primarily by the expansion of Hong Kong's nominal gross domestic product (GDP) during the period, while household debt remained virtually unchanged and made a negligible contribution to the ratio.

Chart 5.12
Household debt-to-GDP 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 their working capital loans.

Source: HKMA.

Due to its simplicity, the household debt-to-GDP ratio is a widely-used measure for gauging the financial soundness of households. 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 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 (rather than the net debts, which also reflect household assets).

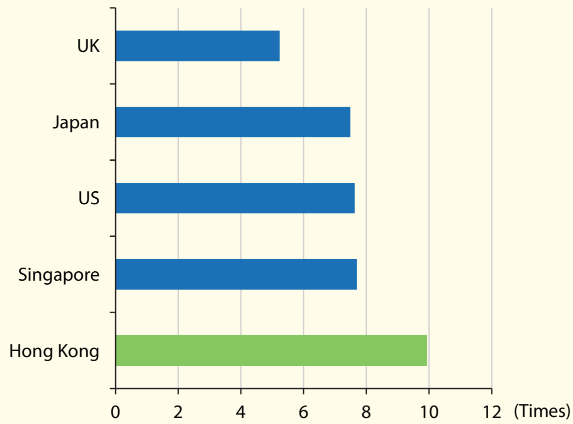
Consequently, a full and objective assessment of the risks associated with household debt requires other factors to be considered, including the actual debt servicing ratio and the asset side of the household balance sheet. In fact, the average debt servicing ratio of new mortgages remained at a healthy level of 40.5% in July 2024. 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 9.9 times and 2.9 times respectively in 2022 (Charts 5.13 and 5.14), 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 against potential financial and economic shocks.

The HKMA has been closely monitoring household indebtedness and regularly collects relevant data from the banks. The majority of 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 being healthy and the associated credit risk manageable.

For residential mortgages, the average loan-to-value (LTV) ratio and the average debt servicing ratio of newly approved mortgage loans have stayed at healthy levels following several rounds of countercyclical macroprudential measures introduced by the HKMA since 2009.[59] For personal loans to wealth management customers secured by financial assets, the HKMA requires banks to adopt prudent and effective credit risk management measures for 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 where necessary.

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 their loan portfolios.

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

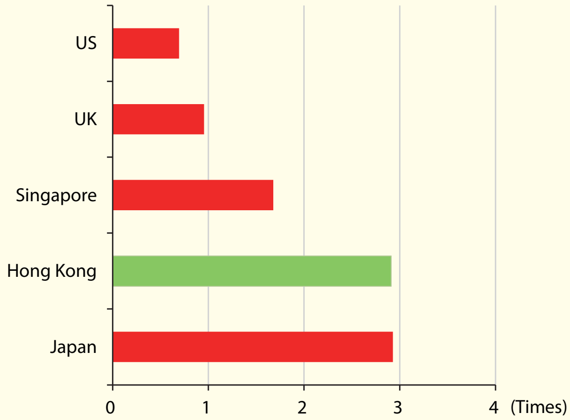


Note: Figures for Singapore, the UK and the US refer to end-2023, while figures for other economies (including Hong Kong) refer to end-2022.

Sources: Statistical agencies or central banks of selected economies, and HKMA staff estimates.

59 After taking into account a range of factors including recent changes in market conditions, the HKMA adjusted the countercyclical macroprudential measures and other related supervisory requirements in February 2024, which included increasing the maximum LTV ratios for both residential and non-residential properties, and suspending the interest rate stress testing requirement for mortgage loans. For details, see the press release "Countercyclical Macroprudential Measures for Property Mortgage Loans" on 28 February 2024 (https://www.hkma.gov.hk/eng/news-and-media/press-releases/2024/02/20240228-3/). Further technical adjustments to the countercyclical macroprudential measures were made in June 2024, which broadened the applicability of the measures to include mortgage applications for residential properties under construction for self-occupation where the provisional sale and purchase agreements were signed before 28 February 2024 and the properties are scheduled for completion on or after 28 February 2024. For details, see the press release "Countercyclical Macroprudential Measures for Property Mortgage Loans" on 14 June 2024 (https://www.hkma.gov.hk/eng/news-and-media/press-releases/2024/06/20240614-4/).

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

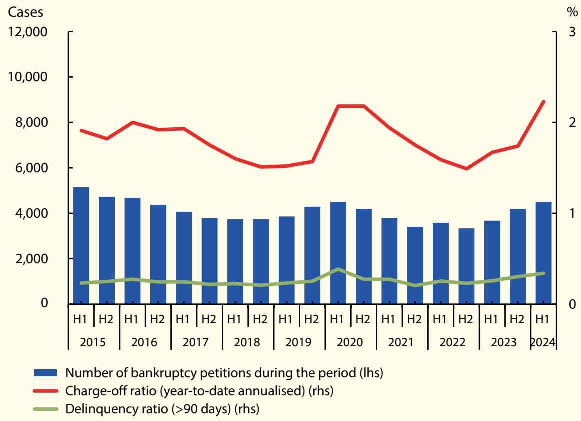


Note: Safe assets comprise deposits, as well as currencies if data is available. In the case of Hong Kong, safe assets refers to deposits only. Figures for Singapore, the UK and the US refer to end-2023, while figures for other economies (including Hong Kong) refer to end-2022.

Sources: Statistical agencies or central banks of selected economies, and HKMA staff estimates.

For unsecured household exposure, credit risk remained contained during the review period despite signs of deterioration. The number of bankruptcy petitions presented increased by around 7.4% in the first half of 2024 compared with the preceding six months. The year-to-date annualised credit card charge-off ratio rose from 1.74% in the fourth quarter of 2023 to 2.23% in the second quarter of 2024, and the delinquency ratio also increased slightly to 0.34% in June 2024 (Chart 5.15).

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



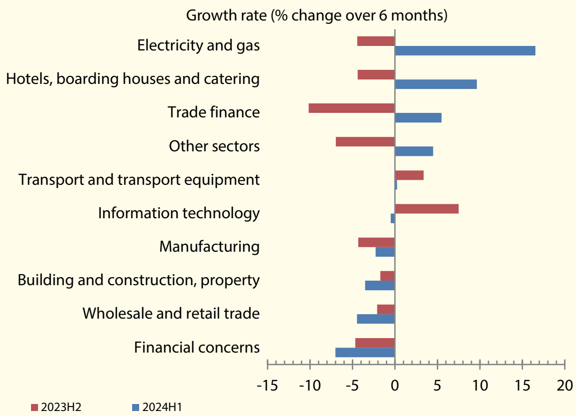
Sources: Official Receiver's Office and HKMA.

Corporate exposure[60]

Domestic corporate loans continued to contract by 1.4% during the first half of 2024, following a decline of 3.4% in the second half of 2023. Although there was growth in lending to some sectors in the first half of 2024, such as the electricity and gas and the hotels and catering sectors, loans to some other sectors, such as the wholesale and retail trade, building and construction, and property sectors, continued to decline (Chart 5.16).

[60] Excluding interbank exposure. At the end of June 2024, the share of corporate loans in domestic lending was 63.2%.

Chart 5.16
Growth in domestic corporate loans by selected sectors



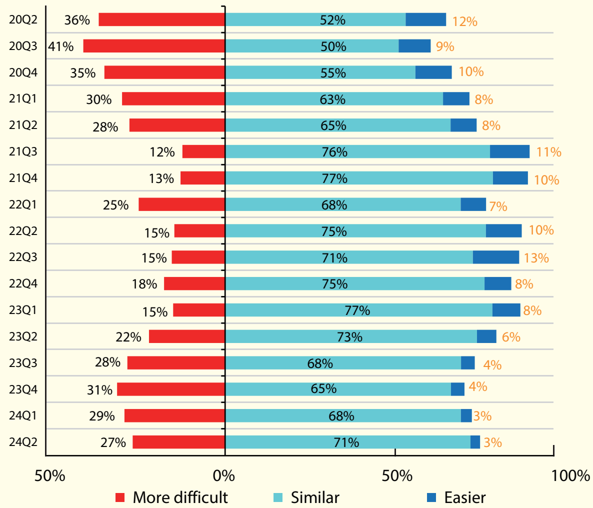
Source: HKMA.

The demand-side survey on the credit conditions of small and medium-sized enterprises (SMEs) showed that SMEs' credit conditions remained stable. The SMEs' perception of banks' credit approval stance improved in the second quarter of 2024, with 27% of respondents perceiving more difficult credit approval (Chart 5.17).

Of respondents with existing credit lines, 2% reported a "tighter" stance by banks in the second quarter of 2024, significantly down from 12% 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 the loan tenor), respondents' indication of banks' stance on existing credit lines may not directly reflect banks' actual supply of credit to SMEs.

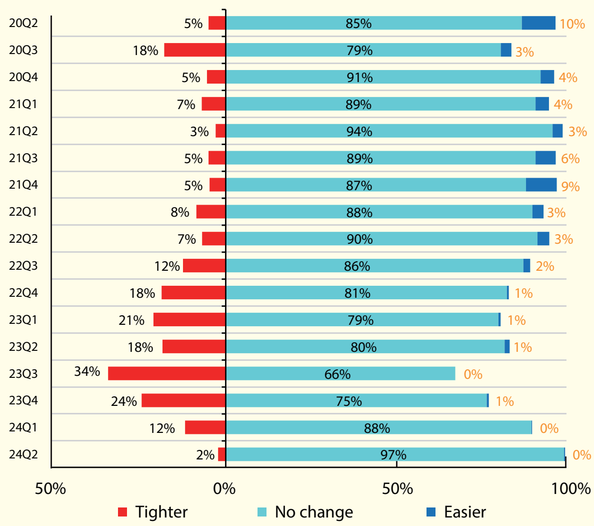
The HKMA has encouraged banks to be sympathetic in supporting the financing needs of corporates which are facing cash flow pressure, subject to prudent risk-management principles. In March 2024, the HKMA, together with the Banking Sector SME Lending Coordination Mechanism, announced nine support measures to assist SMEs in obtaining bank financing and to support their expansion, upgrade and transformation. In August 2024, the HKMA and the Hong Kong Association of Banks established a joint Taskforce on SME Lending to further strengthen the related work at both the individual case and the industry levels.

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.

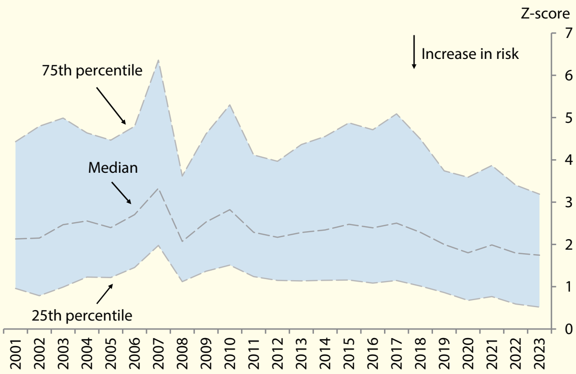
Chart 5.18
SMEs' reported change in banks' stance on existing credit lines



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

The latest available financial information indicates some signs of deterioration in the financial health of listed corporates. Based on accounting data for all non-financial corporates listed in Hong Kong up to the end of 2023, the Altman's Z-score (a default risk measure for non-financial corporates based on accounting data) declined slightly (Chart 5.19).

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

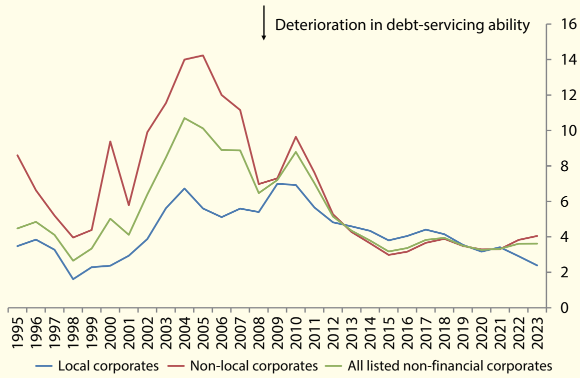


Notes:
1. All non-financial corporates listed on the Hong Kong Stock Exchange have been selected.
2. Figures are calculated based on information up to mid-August 2024.

Source: HKMA staff calculations based on estimates compiled by Bloomberg.

Although the debt servicing ability of listed non-financial corporates, as indicated by the weighted average interest coverage ratio (ICR), remained stable overall, the ICR of local corporates continued to fall amid the high interest rate environment (Chart 5.20). Meanwhile, corporate leverage, as indicated by the weighted average debt-to-equity ratio, remained largely stable in 2023 (Chart 5.21).

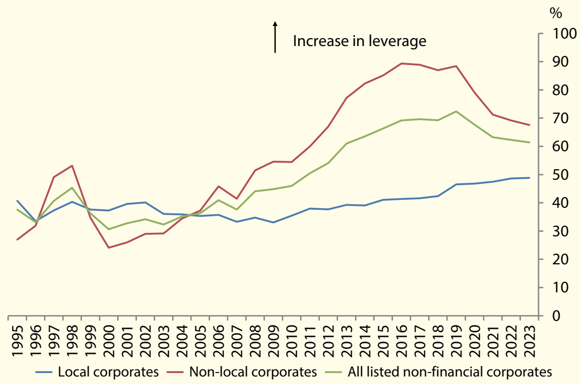
Chart 5.20
Interest coverage ratio of listed non-financial corporates in Hong Kong



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 a deterioration in 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 mid-August 2024.

Source: HKMA staff estimates based on data from Bloomberg.

Chart 5.21
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 mid-August 2024.

Source: HKMA staff estimates based on data from Bloomberg.

Mainland-related lending and non-bank exposures

The banking sector's total Mainland-related lending decreased by 4.4% to HK$4,042 billion (13.0% of total assets) at the end of June 2024, from HK$4,226 billion (13.7% of total assets) at the end of 2023 (Table 5.C). Other non-bank exposures decreased by 0.5% to HK$2,000 billion (Table 5.D). The gross CLR of Mainland-related lending of all AIs[61] increased to 2.78% at the end of June 2024 from 2.58% at the end of 2023.

Table 5.C
Mainland-related lending

HK$bn	Sep 2023	Dec 2023	Mar 2024	Jun 2024
Mainland-related loans	4,291	4,226	4,140	4,042
Mainland-related loans excluding trade finance	4,025	3,978	3,891	3,797
Trade finance	266	247	249	245
By type of AIs:				
Overseas incorporated AIs	1,516	1,490	1,399	1,373
Locally incorporated AIs*	2,010	1,964	1,968	1,886
Mainland banking subsidiaries of locally incorporated AIs	765	771	773	783
By type of borrowers:				
Mainland state-owned entities	1,822	1,841	1,798	1,779
Mainland private entities	1,300	1,256	1,248	1,199
Non-Mainland entities	1,169	1,128	1,093	1,063

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	Sep 2023	Dec 2023	Mar 2024	Jun 2024
Negotiable debt instruments and other on-balance sheet exposures	1,409	1,468	1,452	1,466
Off-balance sheet exposures	532	542	508	534
Total	**1,941**	**2,011**	**1,959**	**2,000**

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

Macro stress testing of credit risk[62]

Results from 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. Table 5.E presents a simulated future credit loss rate of retail banks in the second quarter of 2026 under four specific macroeconomic shocks[63] and one corporate sector shock using information up to the second quarter of 2024.

In stressed scenarios, the average expected credit losses two years after different macroeconomic shocks are estimated to be moderate, ranging from 1.07% (Interest rate shock and Property price shock) to 1.55% (Hong Kong GDP shock).

Taking into account tail risk, the Value-at-risk (VaR) at 99% confidence level (CL) of bank credit loss would increase in all four scenarios, ranging from 2.82% (Property price shock) to 3.88% (Hong Kong GDP shock).

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

[62] 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 presented in Box 4 of the *Half-Yearly Monetary and Financial Stability Report* published in September 2023. All estimates in the current report are not strictly comparable to estimates from previous reports.

[63] These shocks are calibrated by referencing to the extreme episodes observed in the past. For instance, the Hong Kong GDP shock scenario replicates the severe economic downturn recorded between the third quarter of 2019 and the second quarter of 2020.

Table 5.E
The mean and value-at-risk statistics of simulated credit loss distributions[1]

Scenario	Estimated credit loss (% of the loan portfolio) Mean	VaR at 99% CL
Baseline[2]	0.82	2.17
Stressed scenarios[3]		
Hong Kong GDP shock	1.55	3.88
Property price shock	1.07	2.82
Interest rate shock	1.07	2.83
Mainland GDP shock	1.33	3.29
Corporate Shock	1.46	3.54

Notes:

1. The assessments assume the economic conditions in 2024 Q2 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 3.2%, 3.6%, 9.3% and 9.4% respectively in each of the four consecutive quarters starting from 2024 Q3.
   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 2024 Q3.
   Interest rate shock: A rise in real interest rates by 0.1, 0.9, 1.8 and 3.2 percentage points respectively each of the four consecutive quarters starting from 2024 Q3.
   Mainland GDP shock: An average year-on-year real GDP growth rate of 2% for the four consecutive quarters starting from 2024 Q3.
   Corporate shock: Liquidity and earning shocks on listed corporates in Hong Kong are assumed such that all short-term debts of the corporates could not be rolled over together with a reduction in revenue for the corporates by 50% year-on-year in the first year of the stressed period. The impact of these shocks on the median default probability of corporates is estimated to serve as an input for the stress-testing exercise.

Source: HKMA staff estimates.

5.4 *Risks and resilience*

As shown in the previous sections, the Hong Kong banking sector remained resilient during the review period. Nonetheless, a number of downside risk factors could present challenges for the Hong Kong banking sector on multiple fronts going forward.

First, uncertainty over the future path of the US policy rate remains a significant risk factor. While the US Federal Reserve has begun lowering US policy interest rate in September 2024, the timing and size of any future subsequent changes, as well as their impact on domestic interest rates, remain uncertain. Uncertainties surrounding future US and domestic interest rates could pose pressures on banks' management of funding costs, which in turn could weigh on their profitability.

Banks should also stay alert in their credit risk management and closely monitor the financial fundamentals of corporate borrowers, particularly in the scenario where interest rates remain high for longer. While the additional cash buffers accumulated by corporates in Asia during the pandemic have helped them to absorb the impact of higher funding costs, these cash buffers have been depleting alongside a general declining trend in firms' interest rate coverage ratios. Thus, corporate borrowers could face debt servicing challenges if the current high interest rate environment persisted.

Rising geoeconomic fragmentation, including escalating trade disputes in multiple jurisdictions, is another important risk factor that warrants close monitoring. Any intensification of these disputes could increase economic fragmentations, thereby weakening the outlook for global growth.

That said, the robust capital and liquidity positions of the Hong Kong banking sector should provide strong buffers to withstand shocks arising from these risk factors.

From a medium-term perspective, recent advances in technology and the rising adoption of digital innovations in the banking industry may help enhance banks' fundamentals and performance. Based on a sample of globally listed banks and the use of textual analysis, Box 4 provides some fresh empirical evidence to support the benefits of digital innovations. Notably, banks with a higher degree of digitalisation adoption, as reflected by a textual measure derived from banks' earnings call transcripts, tend to exhibit better performance and improved market valuations than other banks.

Notwithstanding the benefits, new challenges and risks (such as cyber-security threats) will inevitably emerge as technologies continue to evolve. To harness the benefits of innovation in a safe and sustainable manner, it is essential for banks and regulators to collaborate closely to ensure that key risk management principles are upheld appropriately.

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 is 1.0%.[64]

In setting the CCyB, the Monetary Authority considered a series of indicators (Table 5.F), including an "indicative buffer guide" produced by the Initial Reference Calculator (IRC). The IRC is a metric that provides a guide for the CCyB by combining information from the gap between the ratio of credit-to-GDP and its long term trend, the gap between the ratio of residential property prices to rentals and its long term trend[65], and the Positive Neutral CCyB[66]. The setting of the CCyB for Hong Kong is, however, not a mechanical exercise and the Monetary Authority will consider a broad range of reference indicators ("Comprehensive Reference Indicators") and all relevant information available in addition to the indicative buffer guide produced by the IRC.[67]

64 For details, see the section of "Historical CCyB for Hong Kong". (https://www.hkma.gov.hk/eng/key-functions/banking/banking-legislation-policies-and-standards-implementation/countercyclical-capital-buffer-ccyb/).

65 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.

66 The Positive Neutral CCyB, currently at 1% in Hong Kong effective from 1 April 2024, is a floor for the IRC and helps ensure the availability of sufficient buffer against possible exogenous system-wide shocks. Under the Positive Neutral CCyB approach, authorities aim for a positive CCyB when risks are judged to be neither subdued nor elevated. See https://www.bis.org/publ/bcbs_nl30.htm for more information.

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

In the latest assessment based on the first quarter data of 2024 and the Positive Neutral CCyB according to the revised IRC formula[68], the IRC signalled a CCyB of 1%. The projection based on all available data at the decision date suggests that the IRC would likely signal a CCyB of 1% when all relevant data for the second quarter of 2024 become available.

When the information drawn from the series of Comprehensive Reference Indicators and all relevant information available at the time of the decision in the third quarter of 2024 is also taken into account, the quantitative indicators suggest that overheating risks in Hong Kong are well contained. Under the framework that has incorporated the Positive Neutral CCyB, the Monetary Authority considers that it is appropriate to keep the CCyB ratio at the current level for the time being and continue to monitor the situation closely.

Table 5.F
Information related to the Hong Kong jurisdictional countercyclical capital buffer

	03-May-24	Q3-2024
Announced CCyB	1.0%	
Date effective	03-May-24	
Initial Reference Calculator	1.00%	1.00%
Basel Common Reference Guide	0.00%	0.00%
Property Buffer Guide	0.00%	0.00%
Composite CCyB Guide	0.00%	0.00%
Positive Neutral CCyB	1.00%	1.00%
Primary gap indicators		
Credit/GDP gap	–24.3%	–32.8%
Property price/rent gap	–21.5%	–21.5%

Notes:
1. The values of all CCyB guides and their respective input variables are based on public data available prior to the corresponding review/announcement date, and may not be the most recently available as of each quarter end (refer to SPM CA-B-1 for explanations of the variables). If there is a CCyB announcement, the date of the announcement is shown at the left of the respective row. Otherwise, the quarter in which a CCyB review takes place (normally close to quarter end) is shown at the left of the row.
2. Following the revised CCyB framework effective from 1 April 2024, the 2.5% cap is applied on the Composite CCyB Guide instead of the Basel Common Reference Guide and Property Buffer Guide (refer to SPM CA-B-1 for details of the formula and explanation).

Source: HKMA.

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

68 Under the new CCyB framework effective from 1 April 2024, the IRC will be the higher of two constituent components: a Composite CCyB Guide based on the credit-to-GDP gap and the property price-to-rent gap, and a Positive Neutral CCyB that sets a floor for the IRC.

Table 5.G
Key Performance Indicators of the Banking Sector[1] (%)

	Jun 2023	Mar 2024	Jun 2024
Interest rates			
1-month HIBOR fixing[2] (quarterly average)	3.98	4.63	4.39
3-month HIBOR fixing (quarterly average)	4.28	4.73	4.65
BLR[3] and 1-month HIBOR fixing spread (quarterly average)	1.72	1.25	1.49
BLR and 3-month HIBOR fixing spread (quarterly average)	1.42	1.15	1.23
Composite interest rate[4]	2.35	2.73	2.62
		All AIs	
Balance sheet developments[5]			
Total deposits	–0.3	–0.2	3.4
Hong Kong dollar	–0.9	0.1	1.0
Foreign currency	0.2	–0.4	5.5
Total loans	–1.3	–1.0	–0.9
Domestic lending[6]	–0.4	–1.2	0.3
Loans for use outside Hong Kong[7]	–4.1	–0.5	–4.6
Negotiable instruments			
Negotiable certificates of deposit (NCDs) issued	–5.4	–0.9	5.2
Negotiable debt instruments held (excluding NCDs)	0.8	2.7	2.1
Asset quality			
As a percentage of total loans[8]			
Pass loans	96.57	96.16	96.18
Special mention loans	1.93	2.05	1.93
Classified loans[9] (gross)	1.50	1.79	1.89
Classified loans (net)[10]	0.84	1.02	1.09
Overdue > 3 months and rescheduled loans	1.09	1.48	1.52
Classified loan ratio (gross) of Mainland related lending[11]	2.41	2.77	2.78
Liquidity ratios (consolidated)			
Liquidity Coverage Ratio — applicable to category 1 institutions (quarterly average)	169.8	176.1	183.3
Liquidity Maintenance Ratio — applicable to category 2 institutions (quarterly average)	63.8	66.8	67.9
Net Stable Funding Ratio — applicable to category 1 institutions	137.6	141.5	142.3
Core Funding Ratio — applicable to category 2A institutions	154.0	169.0	174.7
		Retail banks	
Profitability			
Loan impairment charges as a percentage of average total assets (year-to-date annualised)	0.14	0.11	0.18
Net interest margin (year-to-date annualised)	1.62	1.53	1.51
Cost-to-income ratio (year-to-date)	38.8	38.1	38.3
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.07	0.09	0.10
Credit card lending			
Delinquency ratio	0.26	0.33	0.34
Charge-off ratio — quarterly annualised	1.76	2.20	2.33
— year-to-date annualised	1.67	2.20	2.23
		All locally incorporated AIs	
Capital adequacy (consolidated)			
Common Equity Tier 1 capital ratio	17.0	17.4	17.5
Tier 1 capital ratio	19.0	19.1	19.1
Total capital ratio	21.0	21.1	21.1
Leverage ratio	8.0	8.0	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.

Box 4
Assessing the impact of digitalisation adoption on banks' financial performance: New evidence based on textual analysis

Introduction[69]

The pace of digitalisation in the banking industry has accelerated over the last decade. In particular, with the emergence of fintech and other digital technologies (e.g. artificial intelligence), banks have been increasingly adopting various digital innovations in their business operations with the aim of improving their operating efficiency, enhancing customer experience and creating new business opportunities. In Hong Kong, banks are also actively adopting digital innovations in their services, as reflected by the rising proportions of banking services (such as mortgage applications and time deposit placements) now being conducted via digital channels.[70]

As digital innovations offer immense potential to enhance operational efficiency and productivity, their adoption is likely to remain a key strategy for banks. To better understand the implications of this trend, it is essential to evaluate the impact of digital innovation adoption on the performance of banks to date. Despite the significance of this issue, empirical evidence remains relatively limited.[71] One major challenge is the absence of readily available metrics for quantifying the degree of digitalisation adoption among banks, as such metrics are not typically captured by conventional financial data.[72]

Against this background, this box employs textual analysis on banks' earnings call transcripts to construct a measure of their digitalisation adoption.[73] The constructed textual measure has also been used to shed light on the potential impacts of digitalisation adoption on the performance indicators of a large sample of global listed commercial banks.[74]

Textual measure of banks' digitalisation adoption based on earnings call transcripts

We first briefly describe how the measure of banks' digitalisation adoption was constructed.

Recent literature has shown that a bank's earnings call transcripts provide timely and rich qualitative information about its current and future corporate strategy, including its management's stance on digitalisation adoption. Therefore, a greater extent of discussion on topics related to digital innovations within these transcripts may indicate that the bank management is more actively embracing digitalisation. To extract this information, a novel topic modelling algorithm *Top2Vec* from the machine learning literature was applied to the earnings call transcripts of banks to measure the frequency and prominence of discussions related to digital technologies within these transcripts.

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69 For details, see Wong et al. (2024): "Assessing the impacts of digitalisation adoption on banks' financial performance: New evidence based on textual analysis", *HKIMR Working Paper*, No. 07/2024.

70 Related statistics are reported on page 13 of *Hong Kong Banking Sector — 2023 Year-end Review and Priorities for 2024*, published by the HKMA on 31 January 2024. (https://www.hkma.gov.hk/media/eng/doc/key-information/speeches/s20240131e1.pdf)

71 While there are many survey analyses that evaluate the impact of digital innovations on financial institutions, most of them are one-off ad hoc analyses that are specific to particular jurisdictions. Internationally comparable empirical time-series analyse on this topic remains scant.

72 Additionally, the diverse digital strategies and applications employed by different banks make it difficult to develop a consistent and comparable measure for empirical analysis.

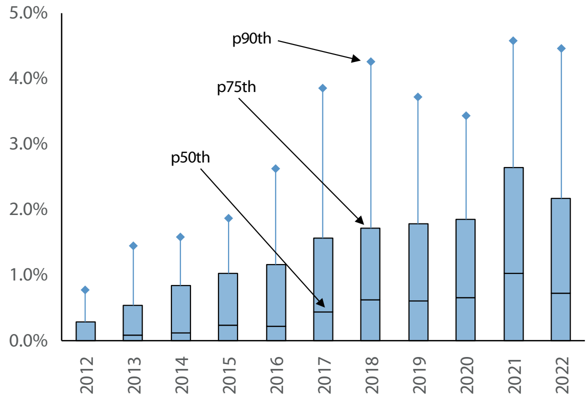
73 The textual transcripts record the contents of discussions in earnings conference call events, which are held between the board of a publicly listed bank, investors, analysts and the press to discuss financial results over a financial period. The relevant textual and financial data employed in this project are sourced from S&P Capital IQ.

74 The final sample includes 219 publicly listed commercial banks globally. Around 40%, 30% and 20% of the sample banks are located in North America, Europe and the Asia Pacific regions respectively.

Using over a million paragraphs from transcripts as inputs, the *Top2vec* algorithm first derived numerical embedding vector representations of each individual paragraph and their associated words. Then the algorithm constructed latent topic vectors based on clustering of documents and words vectors. This step was followed by the calculation of documents' similarity with the latent topics representing our keywords of interest, namely, "digital" and "fintech". This process enabled us to identify which paragraphs were mostly related to digital and fintech issues. We then derived a score (denoted as DFscore) from the proportion of paragraphs related to "digital" and "fintech" over the total number of paragraphs in each transcript, to quantify the banks' digital transformation focus over time.[75]

The boxplot in Chart B4.1 displays the DFscore distributions of sample banks over time. The chart reveals a rising trend in the discussion of digitalisation-related contents among the sample banks over the past decade, suggesting that the topic has gained increasing attention among relevant bank stakeholders.

Chart B4.1:
Distribution of banks' DFscore between 2013 and 2022



Note: The p50th, p75th and p90th values represent the median, 75th, and 90th percentile values of the distribution of the DFscore in each calendar year.

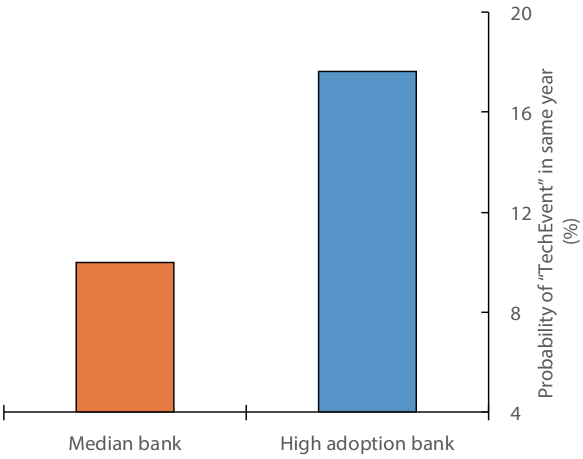
Source: HKMA staff estimates based on sample banks' earnings call transcripts obtained from S&P Capital IQ.

To verify the effectiveness of the DFscore in capturing the degree of digitalisation adoption by banks, a probit regression model was employed to examine the relationship between the value of the DFscore and the likelihood of our sample banks announcing a launch of new digital products or expanding new business segments with a technological focus (denoted as "TechEvent")[76] in the same year.

[75] This illustration paragraph is a high-level summary of the textual analytical method applied. For detailed technical discussions of the textual analytical approach, we refer readers to the HKIMR working paper version.

[76] To identify relevant events, we collected "products-related announcements" or "business expansion" type events for sample banks from S&P Capital IQ, and identified 663 out of more than 5,000 events between 2012-2022 directly related to banks' technological adoption by manually reviewing the headlines of these events containing banking technology related terms (such as, "digital", "fintech", "blockchain", "app", etc.).

Chart B4.2:
Estimated probability of "TechEvent" for a high adoption bank and a median bank



Note: Estimated probability of an occurrence of a "TechEvent" for high DFscore banks (i.e. with a p90th value) relative to the median bank based on a probit regression.

Source: HKMA staff estimates based on data from S&P Capital IQ.

Chart B4.2 shows the estimated results for two hypothetical banks: a high adoption bank (blue bar, with a DFscore at the 90th percentile) and a median bank (orange bar, with a DFscore at the median). The estimated probability of a high adoption bank experiencing a "TechEvent" is around seven ppts higher than that for a median bank. This suggests that banks with a higher DFscore are more likely to experience TechEvents in a given year. This finding corroborates the claim that the DFscore can serve as a useful proxy for gauging the extent of digitalisation adoption by banks.

Impacts of digitalisation adoption on banks' financial performances

To examine the potential impacts of digitalisation adoption on banks' financial performance, a panel regression model was employed by regressing banks' DFscore against five banking performance indicators separately. These indicators included total capital ratio (CapR), return-on-assets (ROA), non-performing loan (NPL) ratio, cost efficiency (costEff) ratio[77] and loan-to-deposit (LTD) ratio. We mainly focused on the effects on these indicators in our analysis because recent market intelligence suggests that banks are increasingly leveraging digital innovations in areas such as risk analytics, streamlining workflows, and forecasting regulatory capital and liquidity needs planning.[78]

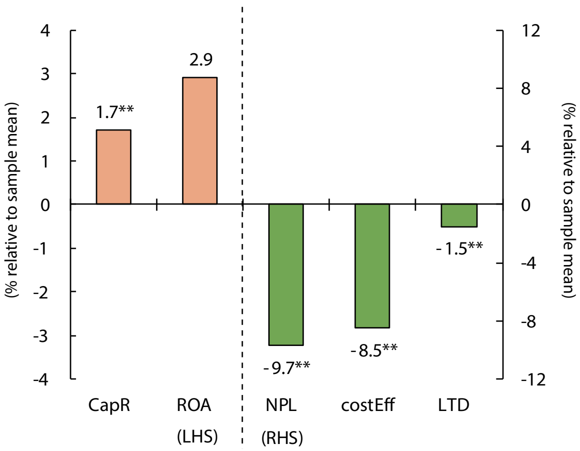
The regression model also included a set of bank- and macro-level controls, as well as various fixed effects dummies, to control for heterogeneity across banks and years. The estimated coefficient on the DFscore thus reflects the impact of higher digital technology adoption on each of the five financial performance indicators.

77 It is defined as the ratio of total non-interest expenses to total revenue minus interest expenses.

78 These examples of innovation applications are mentioned in the report "Digitalisation of finance" produced by the Basel Committee on Banking Supervision in May 2024.

Chart B4.3 presents the estimated impacts of digitalisation adoption by a high adoption bank on various performance indicators, compared to the estimated impacts for a median bank. To facilitate comparability across the five indicators, the estimated impacts have been further scaled by the sample mean of each respective indicator.

Chart B4.3:
Estimated difference in the impacts on performance indicators between a high adoption bank and a median bank

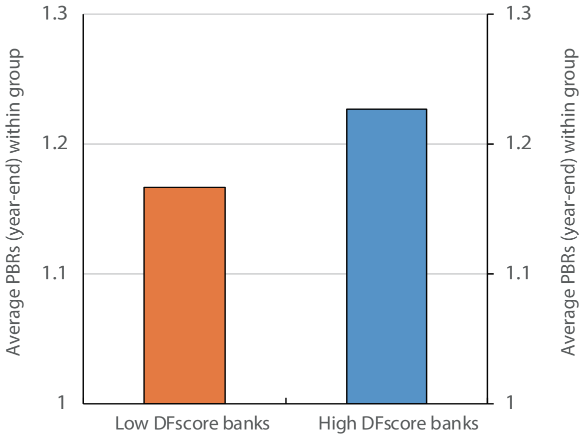


Note: ** denotes statistical significance at the 5% level.
Source: HKMA staff estimates.

Our findings suggest that a higher DFscore is positively correlated with improved cost efficiency, better asset quality and stronger capital and liquidity positions. These effects are not only statistically significant, but also economically meaningful. For instance, a high adoption bank is estimated to have an NPL ratio that is 0.24 ppts lower than the median bank. Given that the sample mean of NPL ratio is 2.47%, the impact of higher digitalisation adoption (i.e. an increase in the DFscore from the median to the 90th percentile) is equivalent to a 9.7% improvement in asset quality.

In addition to accounting-based financial indicators, we also assessed the potential impact on banks' market-based indicator. Ongoing advances in digital innovation have opened up significant potential for banks to enhance their future productivity and profitability. This could lead to higher bank valuations and improvements in their price-to-book ratios (PBRs), should investors perceive banks with higher levels of digitalisation adoption as having better future growth opportunities than their peers.

Chart B4.4
Average price-to-book ratios for high DFscore banks and low DFscore banks between 2020 and 2022



Note: The high DFscore group is defined as the group of banks with DFscore above the median value every year, while low DFscore group is defined as those banks with DFscore below the median.

Source: HKMA staff estimates based on S&P Capital IQ.

Chart B4.4 shows that banks with a higher DFscore (above the median) exhibited higher average PBRs than other banks.[79] This suggests that a higher degree of technological adoption by banks is associated with a more positive perception of their profitability prospects by investors, further echoing the beneficial role of digitalisation adoption for banks.[80]

Conclusion

Based on a sample of global listed commercial banks and the use of textual analysis, this box provides some fresh findings that can help broaden our understanding of the potential implications of digitalisation adoption for bank performance. Notably, banks with a higher degree of digitalisation adoption, as reflected by our textual measure, tend to exhibit better performance and improved market valuations compared to other banks. These findings provide strong support for decisions by banks to press ahead with digital transformation in order to improve their competitiveness.

Despite the benefits of digital innovations, new challenges and risks (such as cyber-security threats) will inevitably emerge as technologies continue to evolve. To harness the benefits of innovation in a safe and sustainable manner, it is essential for banks and supervisory bodies to stay abreast of the latest technological developments and assess their associated risks. They should also collaborate closely to ensure that key risk management principles are upheld appropriately.

[79] The observed pattern is also consistent with our empirical finding that a high adoption bank (i.e. with a DFscore at the 90th percentile) displayed a 6.1% higher PBR than the mean value in the same period between 2020 and 2022.

[80] However, caution should be exercised when interpreting the estimation results, because the rapid advances in technology mean that the longer-term benefits of digitalisation may not yet be fully reflected in the estimates. Also, impacts may differ significantly across banks, depending on the specific digital innovations adopted by individual banks.

Glossary of terms

Aggregate Balance
The sum of balances in the clearing accounts and reserve accounts kept with the central bank. In Hong Kong, this refers to the sum of the balances in the clearing accounts kept with the HKMA. The Aggregate Balance is a part of the Monetary Base.

Authorized Institution (AI)
An institution authorized under the Banking Ordinance to carry on the business of taking deposits. Hong Kong maintains a Three-tier Banking System, which comprises licensed banks, restricted licence banks and deposit-taking companies.

Best Lending Rate
A benchmark interest rate that banks use to price loans. In Hong Kong, the Best Lending Rate is used as a base for quoting interest rates on mortgage loans.

Certificates of Indebtedness (CIs)
Certificates issued by the Financial Secretary under the Exchange Fund Ordinance, to be held by note-issuing banks as cover for the banknotes they issue.

Composite Consumer Price Index
The main consumer price index (CPI) for Hong Kong. The Census and Statistics Department compiles three separate CPI series relating to households in different expenditure ranges. The CPI(A) relates to about 50% of households in the relatively low expenditure range; the CPI(B) relates to the next 30% of households in the medium expenditure range; and the CPI(C) relates to the next 10% of households in the relatively high expenditure range. The Composite CPI is compiled based on the aggregate expenditure pattern of all of the above households taken together.

Composite Interest Rate
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. Data from retail banks, which account for the majority of the Hong Kong dollar deposits in the banking sector, are used in the calculation. It should be noted that the composite interest rate represents only average interest expenses. There are various other costs involved in the making of a loan, such as operating costs (e.g. staff and rental expenses), credit cost and hedging cost, which are not covered by the composite interest rate.

Convertibility Undertaking (CU)
An undertaking by a central bank or Currency Board to convert domestic currency into foreign currency and vice versa at a fixed exchange rate. In Hong Kong, the HKMA operates Convertibility Undertakings on both the strong side and the weak side of the Linked Rate of 7.80. Under the strong-side Convertibility

Undertaking, the HKMA undertakes to buy US dollars from licensed banks at 7.75. Under the weak-side Convertibility Undertaking, the HKMA undertakes to sell US dollars at 7.85. Within the Convertibility Zone between 7.75 and 7.85, the HKMA may choose to conduct market operations consistent with Currency Board principles with the aim of promoting the smooth functioning of the money and foreign exchange markets.

Convertibility Zone

The Hong Kong dollar-US dollar exchange rate band, defined by the levels of the strong- and weak-side Convertibility Undertakings, within which the HKMA may choose to conduct market operations consistent with Currency Board principles.

Exchange Fund Bills and Notes (EFBNs)

Debt instruments issued by the HKMA for the account of the Exchange Fund. These instruments are fully backed by the foreign reserves. The HKMA has undertaken that new Exchange Fund paper will only be issued when there is an inflow of funds, thus enabling the additional paper to be fully backed by the foreign reserves. Since 1 April 1999, interest payments on Exchange Fund paper have been allowed to expand the Monetary Base. Additional Exchange Fund paper is issued to absorb such interest payments. This is consistent with the Currency Board discipline since interest payments on Exchange Fund paper are backed by interest income on the US dollar assets backing the Monetary Base.

Monetary Base

A part of the monetary liabilities of a central bank. The Monetary Base is defined, at the minimum, as the sum of the currency in circulation (banknotes and coins) and the balance of the banking system held with the central bank (the reserve balance or the clearing balance). In Hong Kong, the Monetary Base comprises Certificates of Indebtedness (for backing the banknotes issued by the note-issuing banks), government-issued currency in circulation, the sum of the balances of the clearing accounts kept with the HKMA (the Aggregate Balance), and Exchange Fund Bills and Notes.

Money supply

The total stock of money available in the economy. Hong Kong has three measures of money supply: Money Supply definition 1 (M1) is defined as the sum of legal tender notes and coins held by the public plus customers' demand deposits placed with licensed banks. Money Supply definition 2 (M2) is defined as M1 plus customers' savings and time deposits with licensed banks plus negotiable certificates of deposit (NCDs) issued by licensed banks held outside the banking sector. Money Supply definition 3 (M3) is defined as M2 plus customers' deposits with restricted licence banks and deposit-taking companies plus NCDs issued by these institutions held outside the banking sector.

Nominal and Real Effective Exchange Rate (NEER and REER)

An indicator of the overall exchange rate value of the Hong Kong dollar against a basket of currencies of Hong Kong's principal trading partners. The nominal effective exchange rate (NEER) is a weighted average of the exchange rates between Hong Kong and its principal trading partners. The real effective exchange rate (REER) is obtained by adjusting the NEER for relative movements in the seasonally adjusted consumer price indices of those selected trading partners.

Abbreviations

1m moving average	One-month moving average
3m moving average	Three-month moving average
3m-on-3m	Three-month-on-three-month
AB	Aggregate Balance
AEs	Advanced economies
AIs	Authorized institutions
APAC	Asia-Pacific
ASEAN	Association of Southeast Asian Nations
AU	Australia
AUM	Assets under Management
BI	Bank Indonesia
BAU	Business-as-usual
BoJ	Bank of Japan
BIS	Bank for International Settlements
bn	Billion
BoK	Bank of Korea
BLR	Best Lending Rate
bps	basis points
CAPEX	Capital expenditure
CAR	Capital Adequacy Ratio
CBRE	Coldwell Banker Richard Ellis
CCPI	Composite Consumer Price Index
CCDC	China Central Depository & Clearing Co., Ltd.
CCyB	Countercyclical capital buffer
CDs	Certificates of deposits
CET1	Common equity tier-one
CEWC	Central Economic Work Conference
CFETS	China Foreign Exchange Trade System
CFR	Core Funding Ratio
CIBM	China Interbank Bond Market
CIES	Capital Investment Entrant Scheme

CIs	Certificates of Indebtedness
CL	Confidence Level
CLR	Classified Loan Ratio
CMBS	Commercial mortgage-backed securities
CMU	Central Moneymarkets Unit
CN	Mainland China
CNH	Offshore renminbi in Hong Kong
CNY	Onshore renminbi
COVID	Coronavirus Disease
CPI	Consumer Price Index
CRE	Commercial real estate
CRST	Climate Risk Stress Test
C&SD	Census and Statistics Department
CU	Convertibility Undertaking
DAR	Debt-to-asset ratio
DaR	Debt-at-risk
DEA	Data Envelopment Analysis
DI	Direct investment
DID	Difference-in-differences
DSR	Debt-servicing ratio
DTD	Distance-to-default
EA	Euro area
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, taxes, depreciation and amortization
ECB	European Central Bank
EFBNs	Exchange Fund Bills and Notes
EM	Emerging-market
EMEAP	Executive's Meeting of East Asia-Pacific Central Banks
EMEs	Emerging Market Economies
EPS	Earnings per share

ESG	Environmental, Social and Governance
ESLS	Enhanced Supplementary Labour Scheme
ETFs	Exchange traded funds
EU	European Union
EUR	Euro
Fed	Federal Reserve
FI	Financial Institution
FINI	Fast Interface for New Issuance
FOMC	Federal Open Market Committee
FX	Foreign exchange
GBP	British Pound Sterling
GDP	Gross Domestic Product
GEM	Growth Enterprise Market
GFC	Global Financial Crisis
GHG	Greenhouse gases
GICS	Global Industry Classification Standard
GVCs	Global value chains
HIBOR	Hong Kong Interbank Offered Rate
HK	Hong Kong
HKD	Hong Kong dollar
HKEX	The Hong Kong Exchanges and Clearing Limited
HKFRS	Hong Kong Financial Reporting Standard
HKMA	Hong Kong Monetary Authority
HKMC	Hong Kong Mortgage Corporation Limited
HKMCI	HKMC Insurance Limited
HKPC	Hong Kong Productivity Council
HKTPC	Hong Kong Trade and Development Council
HK$M3	Hong Kong dollar broad money supply
HKSAR	Hong Kong Special Administrative Region
HSCEI	Hang Seng China Enterprises Index
HSI	Hang Seng Index

ICR	Interest Coverage Ratio
ICSD	International Central Securities Depository
ID	Indonesia
IDR	Indonesian Rupiahs
I/E	Import/Export
IG	Investment-grade
IFC	International Finance Corporation
IIF	Institute of International Finance
IMF	International Monetary Fund
IPO	Initial Public Offering
IRC	Initial Reference Calculator
IRRBB	Interest rate risk in the banking book
IT	Information technology
IVS	Individual Visit Scheme
JP	Japan
JPY	Japanese Yen
KR	South Korea
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offered Rate
LERS	Linked Exchange Rate System
lhs	Left-hand side
LMR	Liquidity Maintenance Ratio
LPR	Loan Prime Rate
LR	Leverage Ratio
LTD	Loan-to-deposit
LTV	Loan-to-value
LWB	Labour and Welfare Bureau
mn	Million
MDBs	Multilateral Development Banks
MVP	Minimum viable product
MIP	Mortgage Insurance Programme

MRF	Mutual Recognition of Funds
MY	Malaysia
MSCI	Morgan Stanley Capital International
NASDAQ	National Association of Securities Dealers Automated Quotations
NBS	National Bureau of Statistics of China
NCD	Negotiable certificate of deposit
NEER	Nominal effective exchange rate
NFCs	Non-financial corporates
NFRA	National Financial Regulatory Administration
NIM	Net interest margin
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NPL	Non-performing loan
NSFR	Net Stable Funding Ratio
NZ	New Zealand
OECD	Organisation for Economic Corporation and Development
PBRs	Price-to-book ratios
PH	The Philippines
PHP	Philippine Pesos
OIS	Overnight indexed swap
OTC	Over-the-counter
p.a.	Per annum
P2P	Peer-to-peer
PBoC	People's Bank of China
PD	Probability of default
PIMCO	Pacific Investment Management Co
PMI	Purchasing Managers' Index
POEs	Private-owned enterprises
ppt	percentage point
QFI	Qualified Foreign Investor

qoq	Quarter-on-quarter
qoqa	Quarter-on-quarter annualised
RAISe+	Research, Academic and Industry Sectors One-plus
R&D	Research and development
R&VD	Rating and Valuation Department
REER	Real effective exchange rate
REITs	Real estate investment trusts
Repo	Repurchase operation
rhs	Right-hand side
RMB	Renminbi
RML	Residential mortgage loan
ROA	Return on assets
ROE	Return on equity
RRR	Required reserve ratio
RTGS	Real Time Gross Settlement
RWA	Risk-weighted assets
SAFE	State Administration of Foreign Exchange
SDR	Special Drawing Rights
SG	Singapore
SHIBOR	Shanghai Interbank Offered Rate
SKEW	Chicago Board Options Exchange Skew Index
SMEs	Small-to-medium-sized enterprises
SOEs	State-owned enterprises
SOFR	Secured Overnight Financing Rate
SPM	Supervisory Policy Manual
STCs	Specialist Technology Companies
S&P 500	Standard & Poor's 500 Index
TFP	Total factor productivity
TH	Thailand
th	Thousands
tn	trillion

TNA	Total net assets
TTPS	Top Talent Pass Scheme
TWI	Trade Weighted Index
UK	United Kingdom
US	United States
USD	US dollar
VAR	Vector Autoregression
VaR	Value-at-risk
VHSI	HSI Volatility Index
VIX	Chicago Board Options Exchange Market Volatility Index
VN	Vietnam
VPAS	Vocational Professionals Admission Scheme
wk	Week
WMP	Wealth management product
yoy	Year-on-year

Full text of this Report is available on the
HKMA website at **www.hkma.gov.hk**.

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