4. Monetary and financial conditions

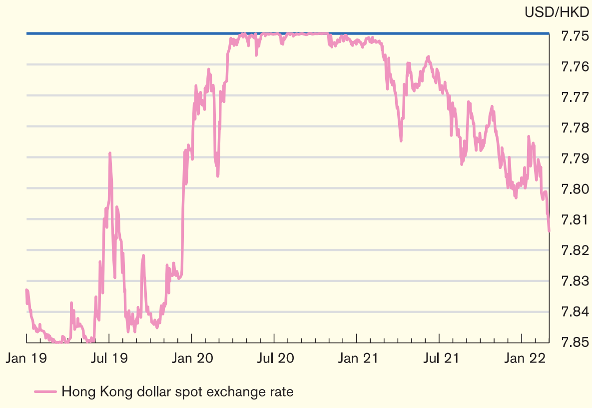
The Hong Kong dollar exchange rate softened during the review period amid risk-off sentiment in the local equity market and concerns over US monetary policy normalisation. With abundant Hong Kong dollar liquidity, the HIBORs continued to stay at low levels. Overall, the Hong Kong dollar exchange and money markets continued to trade in a smooth and orderly manner. In the near term, while uncertainties surrounding the US monetary policy, the pandemic and the rising geopolitical tensions may heighten the volatility in fund flows, Hong Kong is well-positioned to withstand the volatility given its ample foreign reserves and robust banking system.

4.1 Exchange rate and capital flows

For the most part, the Hong Kong dollar remained in the strong side of the Convertibility Zone and continued to trade in a smooth and orderly manner. Since September 2021, the Hong Kong dollar has eased gradually against the US dollar amid risk-off sentiment in the local equity market (Chart 4.1). While the Hong Kong dollar rebounded slightly in October 2021 as market sentiment improved, it lost momentum thereafter, due to lacklustre net buying interests from the southbound Stock Connects (Chart 4.2), as well as the expectation of a stronger US dollar along with the Fed's hawkish shift in its monetary policy outlook. Over the review period, the IPO pipeline remained supportive of the Hong Kong dollar (Chart 4.3).[28]

With total deposits increasing moderately during the review period, there was also no notable sign of outflows from the Hong Kong banking system[29]. Meanwhile, the latest Balance of Payment statistics suggested non-residents' direct investment inflows into Hong Kong continued in the second half of 2021, and did not show any abnormal cross-border flow pattern.

Chart 4.1
Hong Kong dollar exchange rate

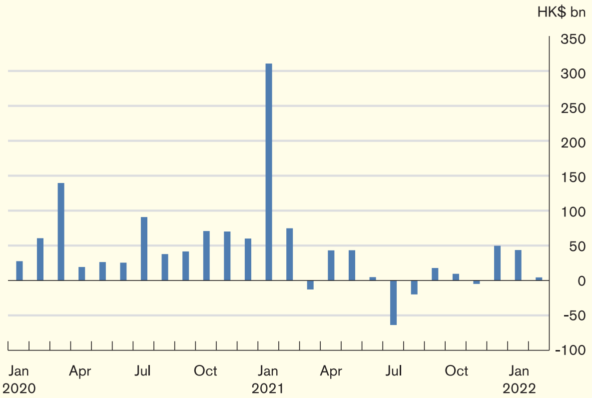


Source: HKMA.

28 Data from Hong Kong Exchanges and Clearing Limited (HKEX) show that there were 159 active applications for listing in Hong Kong at 28 February 2022. Among the total, the listing applications of 24 companies were approved, while the applications of 135 companies were still being processed.

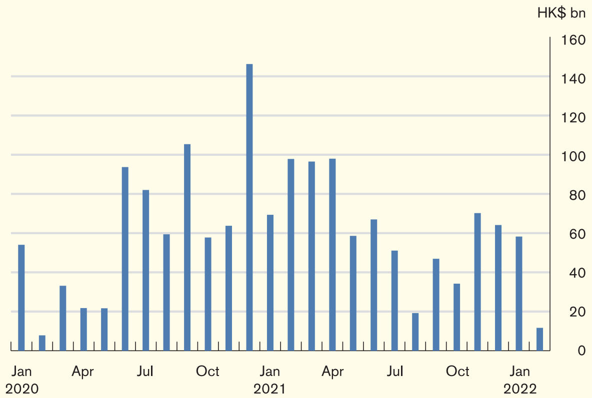
29 For a detailed analysis of Hong Kong's deposit growth, see section 4.2.

Chart 4.2
Net buying flows through southbound Stock Connects



Source: CEIC and HKMA staff estimates.

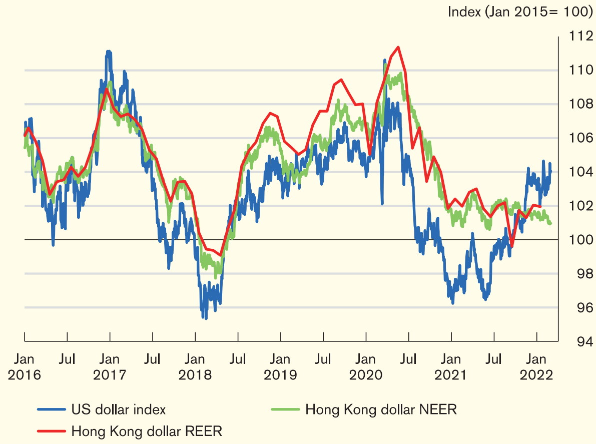
Chart 4.3
Equity funds raised in HKEX



Source: HKEX.

Reflecting the appreciation of the renminbi against the Hong Kong dollar, the Hong Kong dollar nominal effective exchange rate index (NEER) stayed flat despite a strengthening of the US dollar during the review period (Chart 4.4). Given the small inflation differential between Hong Kong and its trading partners, the Hong Kong dollar real effective exchange rate index (REER) generally followed the movement of the NEER.

Chart 4.4
Nominal and real effective exchange rate index



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

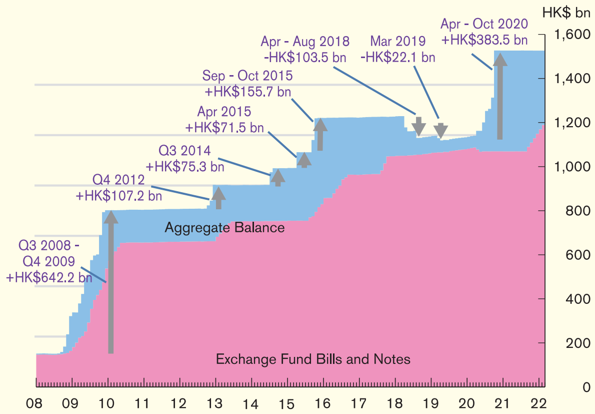
Looking ahead, uncertainties surrounding the US monetary policy, ongoing pandemic developments and the rising geopolitical tensions may heighten fund-flow volatility. Along with rising US dollar interest rates, in accordance with the normal functioning of the Linked Exchange Rate System (LERS), any possible Hong Kong dollar fund outflows (pace and size will depend on the prevailing market conditions) might weaken the Hong Kong dollar exchange rate and trigger the weak-side Convertibility Undertaking. Given the ample foreign reserves position and the robust banking system, Hong Kong is well-positioned to withstand the fund-flow volatility without compromising its financial stability.

4.2 Monetary environment and interest rates

Hong Kong's monetary environment remained accommodative during the review period. The Hong Kong dollar Monetary Base increased by 1.4% during the eight-month period since the end of June 2021, mainly driven by an increase in Certificates of Indebtedness. Reflecting the increased issuance of Exchange Fund Bills (EFBs) to meet the ongoing demand by banks amidst the abundance of liquidity in the banking system, the Exchange Fund Bills and Notes

(EFBNs) rose by HK$119.7 billion to HK$1,188.7 billion and the Aggregate Balance (AB) (before Discount Window activities) correspondingly decreased by HK$119.9 billion to HK$337.6 billion during the review period (Chart 4.5).[30] At the same time, Government-issued notes and coins remained relatively stable.

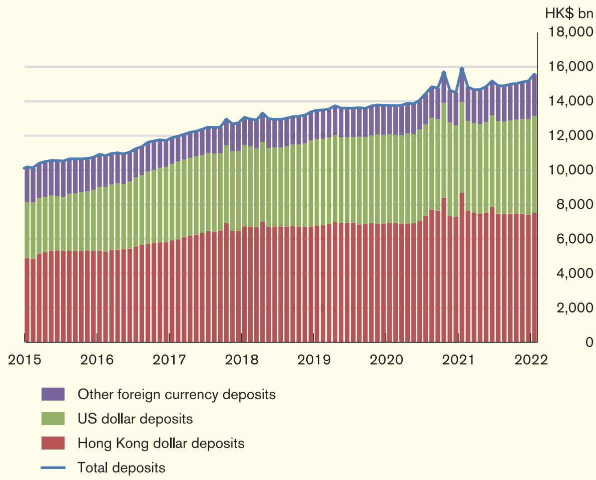
Chart 4.5
Aggregate Balance and Exchange Fund Bills and Notes



Source: HKMA.

In the six-month period since the end of July 2021, total deposits with authorized institutions (AIs) increased moderately by 4.5% and the Hong Kong dollar deposits also increased modestly by 0.3%. It should be noted that monetary statistics are subject to volatility due to a wide range of transient factors, such as seasonal and IPO-related funding demand as well as business and investment-related activities. It is therefore more appropriate to observe the longer-term trends. For 2021 as a whole, total deposits and Hong Kong dollar deposits grew by 4.6% and 1.4% respectively.

Chart 4.6
Deposits with authorized institutions by currency

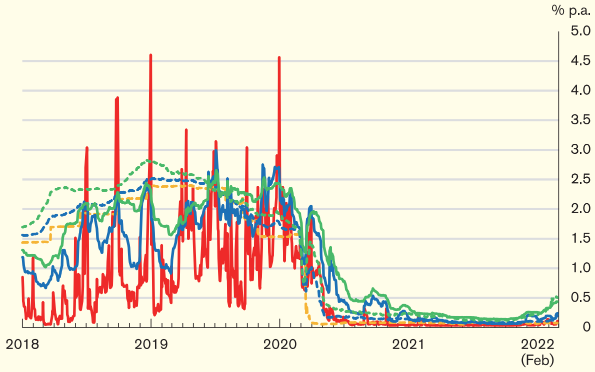


Source: HKMA.

Overall, Hong Kong's interbank market continued to trade in a smooth and orderly manner. With abundant liquidity in the banking system, HIBORs continued to stay at low levels despite concerns over US monetary tightening (Chart 4.7). Partly reflecting anticipated funding needs towards year-end, HIBORs witnessed a slight pickup in December 2021. The average lending rate for new mortgages increased slightly from 1.48% in July 2021 to 1.56% in January 2022. On the other hand, the Best Lending Rates of major retail banks stayed unchanged between 5.00% and 5.50% during the review period. Looking ahead, the abundant liquidity in the banking system should provide a sizeable cushion in the event of large-scale capital market activities or financial market volatility.

[30] To meet the ongoing demand for Exchange Fund paper by banks amidst the abundance of liquidity in the banking system, the HKMA increased the issuance size of 91-day Exchange Fund Bills during the period from September 2021 to February 2022. The issuance size of the Bills increased by a total of HK$120 billion, and the Aggregate Balance decreased by the same amount. The increase in the supply of Exchange Fund Bills is consistent with the Currency Board principles, as the additional issuance simply represents a change in the composition of the Monetary Base.

Chart 4.7
Hong Kong dollar and US dollar interbank interest rates

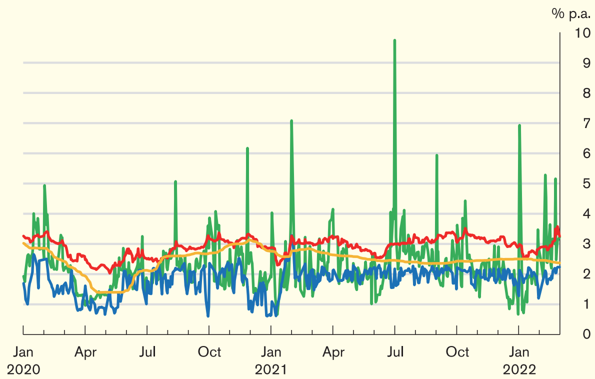


Sources: CEIC and HKMA.

Offshore renminbi banking business

The CNH interbank market continued to function normally during the review period.[31] The overnight CNH HIBOR witnessed modest fluctuations in late December 2021 due to seasonal liquidity demand near the year-end, whereas the three-month CNH HIBORs remained relatively steady and hovered around 3% throughout the review period (Chart 4.8).

Chart 4.8
The overnight and the three-month offshore renminbi HIBOR fixings

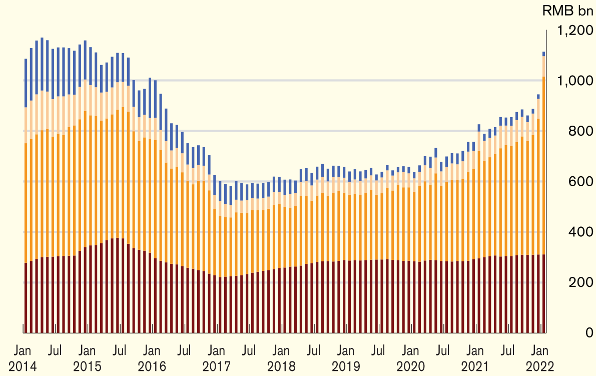


Source: CEIC.

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

Hong Kong's CNH liquidity pool continued to expand steadily during the second half of 2021. The total outstanding amount of renminbi customer deposits and certificates of deposit (CDs) recorded a 30.3% increase in the six-month period since the end of July 2021, amounting to RMB1,113.5 billion at the end of January 2022 (Chart 4.9 and Table 4.A). Among the total, the renminbi customer deposits expanded by 33.5%, largely driven by inflows from corporations, more than offsetting the 48.0% decline in the outstanding amount of CDs.

Chart 4.9
Renminbi deposits and certificates of deposits in Hong Kong



Source: HKMA.

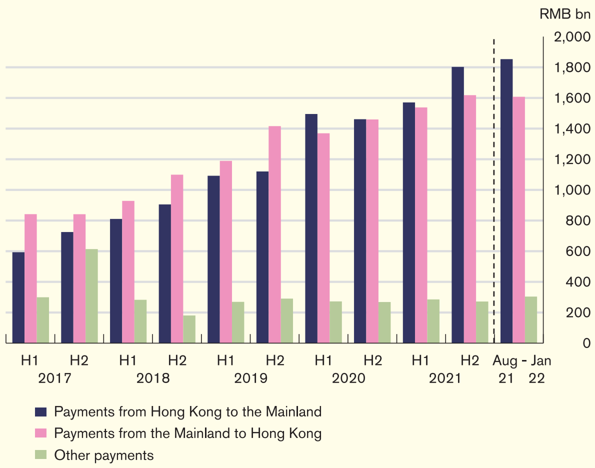
Table 4.A
Offshore renminbi banking statistics

	Dec 2020	Jan 2022
Renminbi deposits & CDs (RMB bn)	757.2	1,113.5
Of which:		
Renminbi deposits (RMB bn)	721.6	1,095.9
Share of renminbi deposits in total deposits (%)	5.9	8.6
Renminbi CDs (RMB bn)	35.5	17.6
Renminbi outstanding loans (RMB bn)	152.1	167.6
Number of participating banks in Hong Kong's renminbi clearing platform	206	213
Amount due to overseas banks (RMB bn)	99.4	127.7
Amount due from overseas banks (RMB bn)	97.3	82.9
	2020	**2021**
Renminbi trade settlement in Hong Kong (RMB bn)	6,324.1	7,083.6
Of which:		
Inward remittances to Hong Kong (RMB bn)	2,827.7	3,154.6
Outward remittances to Mainland China (RMB bn)	2,955.0	3,371.3
Turnover in Hong Kong's RMB real time gross settlement (RTGS) system (Daily average during the period; RMB bn)	1,191.5	1,522.6

Source: HKMA.

While the outstanding amount of renminbi loans decreased by 10.2% to RMB167.6 billion in the six-month period since July 2021, Hong Kong's renminbi trade settlement continued to pick up. Transactions handled by banks in Hong Kong amounted to RMB3,763.0 billion for the period between end-July 2021 and end-January 2022 (Chart 4.10), up by 18.3% compared with RMB3,181.0 billion during the same period last year. The deep pool of renminbi liquidity in Hong Kong continued to be adequate to support a large amount of renminbi payments and financing transactions. For 2021 as a whole, the average daily turnover of the renminbi Real Time Gross Settlement system rose to RMB1,522.6 billion from RMB1,191.5 billion recorded in 2020.

Chart 4.10
Flows of renminbi trade settlement payments



Source: HKMA.

In the period ahead, along with the establishment of the two-way Stock, Bond and Cross-boundary Wealth Management Connects, Hong Kong's offshore renminbi business is expected to benefit from the continuing liberalisation of Mainland's capital account, rising demand for renminbi assets from international investors, as well as deepening regional economic and financial cooperation under the Belt and Road and the Guangdong-Hong Kong-Macao Greater Bay Area initiatives.

Asset markets

Major equity markets continued to rally in the final quarter of 2021 but have consolidated since January 2022 amid rising concerns over the tightening stance of major central banks and the escalating Russian-Ukraine conflict. In Hong Kong, the stock market remained subdued in the final quarter of 2021, mainly affected by sharp declines in technology stocks. The global risks as well as well as uncertainties surrounding the development of pandemic in Hong Kong sent the Hang Seng Index to around 2-year low at the end of February. The CNH debt market in Hong Kong continued to grow steadily in the second half of 2021. Meanwhile, the residential property market softened somewhat since mid-2021, partly reflecting a weakened asset market sentiment and the new wave of local infections.

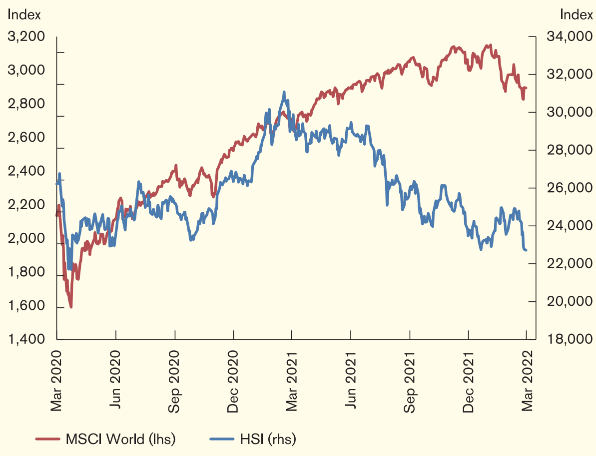
4.3 Equity market

Major equity markets as a whole continued to rally in the final quarter of 2021, leading the MSCI World Index to hit an all-time high of 3,262 points on 4 January 2022 (Chart 4.11). The rally was supported by the global economic recovery and strong corporate earnings on the back of government stimulus from monetary and fiscal policies, although the pandemic remained a major risk concern for investors throughout the year. Major equity markets, however, have consolidated since early January 2022 on rising concern over the tightening stance of major central banks in AEs amid inflation risks, sharp rises in commodity prices, and the escalating Russian-Ukraine conflict.

In contrast, the Hong Kong stock market continued to underperform relative to other major global equity markets towards the end of 2021. After hovering between 24,000 and 26,500 points from September to mid-November, the HSI ended 2021 at 23,398 points, a drop of 14.1% from 2020. In early 2022, buying interests from value investors returned to the Hong Kong equity market, driving the HSI back to around 25,000 points in January. However, uncertainties surrounding the development of pandemic in Hong Kong and the escalating Russian-Ukraine conflict sent the HSI to around 2-year low of 22,713 at the end of February.

For the whole review period between end-August 2021 and February 2022, the HSI dropped by 12.2%, and the MSCI World Index declined by 5.2% (Chart 4.11).

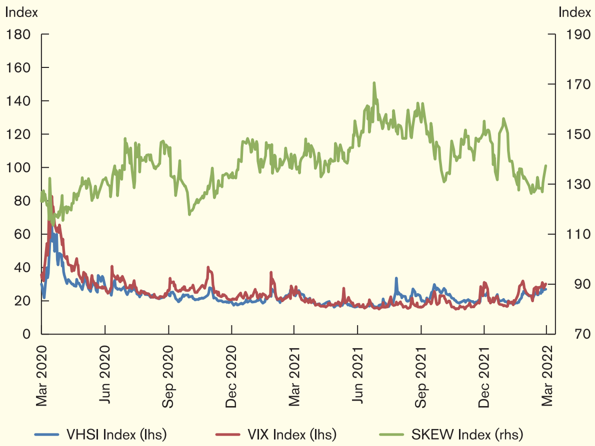
Chart 4.11
The Hang Seng Index and The MSCI World Index



Source: Bloomberg.

Equity market volatility spiked at the end of November 2021 due to the emergence of the highly infectious Omicron COVID-19 variant and has retreated somewhat since then. Although the SKEW Index fell from its record high in late June 2021, it has remained at an elevated level, reflecting investors' concerns about the risk of market corrections amid the long rally since the pandemic outbreak and hence the willingness to pay more for downside protection (Chart 4.12)[32].

Chart 4.12
Option-implied volatilities of the Hang Seng Index and the S&P 500 Index, and the SKEW Index

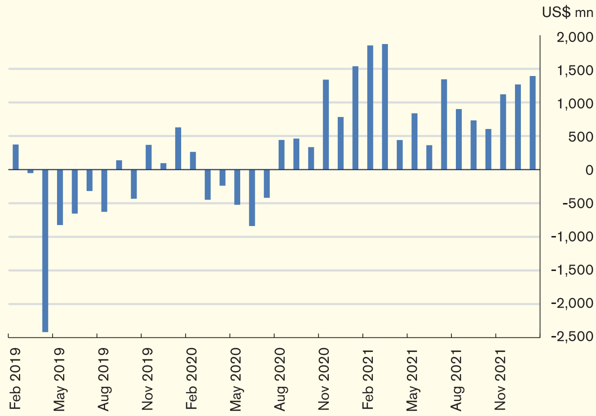


Source: Bloomberg.

Amid ample global liquidity, the Hong Kong stock market continued to record net inflows from international investors since the previous report (Chart 4.13). On the contrary, the southbound Stock Connects observed a significant net outflow in the third quarter of 2021 mainly over concerns of the impact of Mainland regulatory changes on technology stocks.

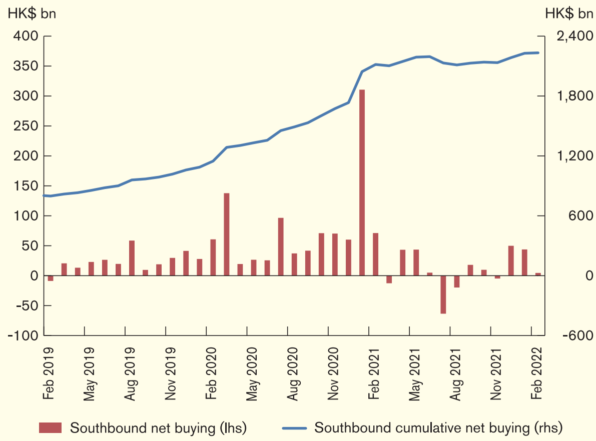
Nevertheless, buying interest through the southbound Stock Connects began picking up in December 2021 and registered a cumulative inflow of HK$98.3 billion till the end of February. During the review period, the cumulative net buying amount increased by 5.7% to HK$2,233.0 billion (Chart 4.14).

Chart 4.13
Equity market fund flows into Hong Kong



Source: EPFR Global.

Chart 4.14
Net flows through Stock Connect



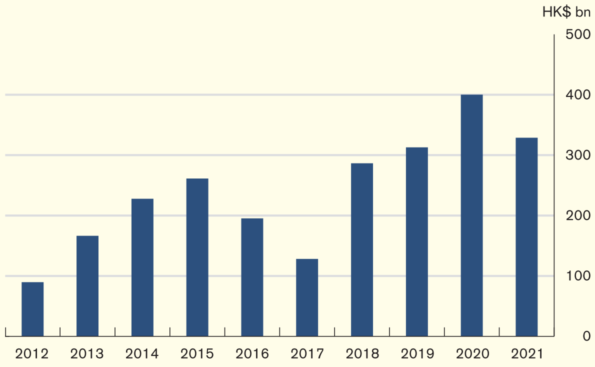
Note: Southbound net buying is the sum of such buying on the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect.
Sources: CEIC and HKMA staff estimates.

Hong Kong's primary market slowed in the second half of 2021 after its strongest-ever first half in terms of funds raised. For 2021 as a whole, there were 98 IPOs raising a total of HK$328.9 billion (Chart 4.15), a decrease of 17.8% in total funds raised compared with the year before. In 2021, the HKEX ranked fourth

32 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.

among global IPO rankings in terms of funds raised, after NASDAQ, the New York Stock Exchange and the Shanghai Stock Exchange.

Chart 4.15
Initial public offering market in Hong Kong



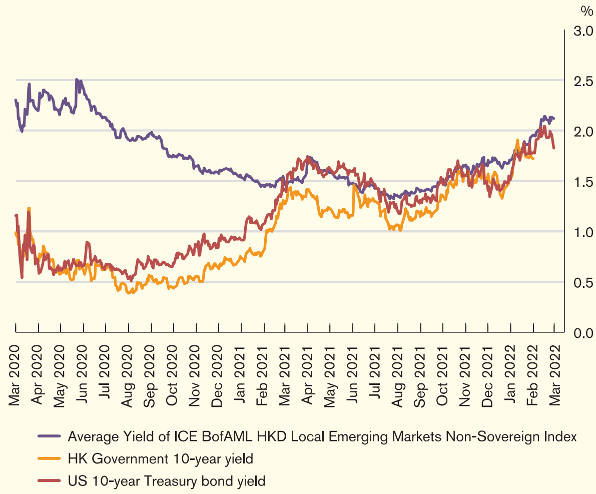
Source: HKEX.

The outlook for the local equity market remains uncertain. While monetary policy easing on the Mainland and more secondary listings in the primary market will improve the Hong Kong equity market sentiment, the market still faces a number of headwinds, including uncertainties over the epidemic situation in Hong Kong, the risk of a faster-than-expected pace of US monetary policy normalisation and the escalating Russian-Ukraine conflict.

4.4 Debt market

The outstanding amount of the Hong Kong dollar debt market continued to expand despite a slowdown in new issuance in the second half of 2021 along with a slight rise in bond yields. With accelerated inflation in the US on the back of continuing disruptions to global supply chains and a tightening in the job market, the 10-year US Treasury yield surged to a more than two-year high of 2.0% on 10 February 2022. However, it dropped to slightly above 1.8% in late February as the demand for safe-haven assets surged amid the escalating Russian-Ukraine conflict. Broadly in tandem with the movements in US Treasury yields, the Hong Kong dollar 10-year sovereign bond yield and non-sovereign bond yield also increased in the review period (Chart 4.16).

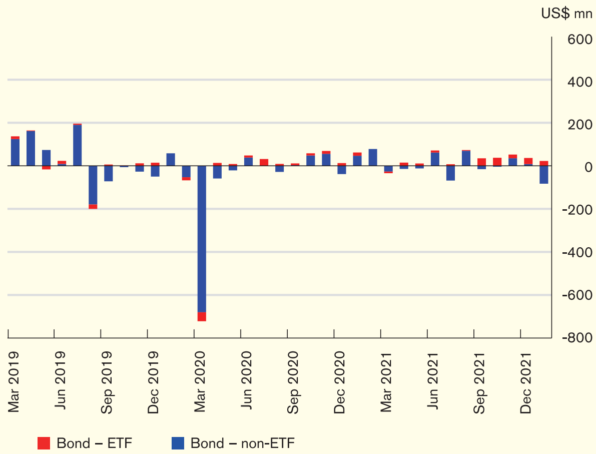
Chart 4.16
Hong Kong dollar sovereign and non-sovereign bond yields and 10-year US Treasury yield



Sources: Bloomberg and HKMA.

Net bond fund inflows to Hong Kong continued in the second half of 2021 (Chart 4.17). ETF bond funds had garnered a total inflow of US$140.3 million between September 2021 and January 2022. Such an inflow may be partly attributable to the introduction of two new fee waivers for Hong Kong-listed fixed income ETFs and money market ETFs in May 2021. Meanwhile, the non-ETF bond funds had registered a total outflow of US$59.9 million. Overall, Hong Kong recorded more than US$80 million bond fund inflows during the review period.

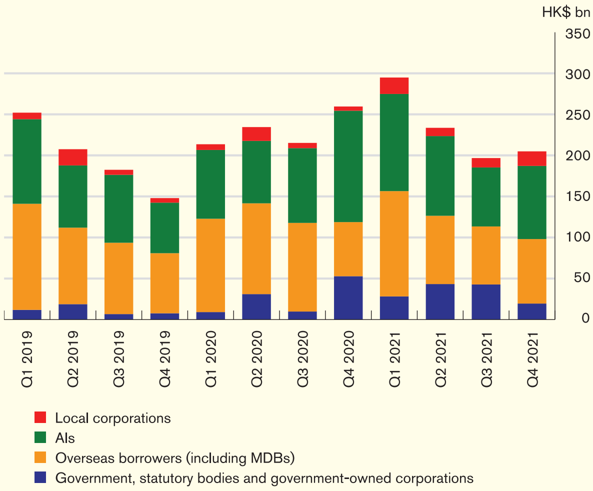
Chart 4.17
Flows of exchange traded fund and non-exchange traded fund bond funds into Hong Kong



Source: EPFR Global.

The total issuance of Hong Kong dollar debt in the second half of 2021 decreased by 2.1% to HK$2,163.4 billion, compared with the same period last year. The drop in the non-EFBN issuance contributed to the decline as EFBN issuance recorded a modest increase. In particular, there was a reduction of 29.0% in the issuance by AIs, and a 14.2% drop in issuance by overseas borrowers (Chart 4.18).

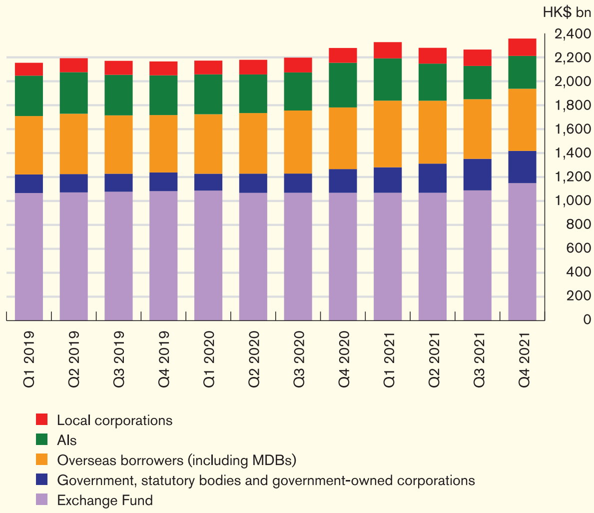
Chart 4.18
New issuance of non-Exchange Fund Bills and Notes Hong Kong dollar debt



Source: HKMA staff estimates based on data from Bloomberg, Central Moneymarkets Unit, Dealogic and Reuters.

Despite the drop in the total issuance in the second half of 2021, the outstanding amount of Hong Kong dollar debt at the end of 2021 expanded by 3.5% year-on-year to HK$2,356.8 billion (Chart 4.19). The amount was equivalent to 29.3% of Hong Kong dollar M3, and to 24.4% of the Hong Kong dollar-denominated assets of the banking sector. Within the government sector, the outstanding amount of non-EFBN debt rose sharply by 36.2% year on year to HK$269.8 billion, and that of EFBN debt increased by 7.5% to HK$1,148.6 billion.

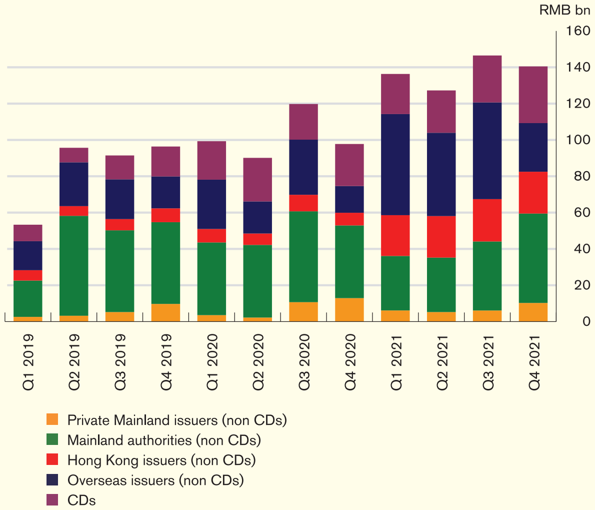
Chart 4.19
Outstanding Hong Kong dollar debt by issuer



Source: HKMA staff estimates based on data from Bloomberg, Central Moneymarkets Unit, Dealogic and Reuters.

The offshore renminbi debt market in Hong Kong continued to grow in the second half of 2021. Total new issuance increased by 31.9% to RMB287.0 billion in the second half of 2021 compared with the same period last year. This sharp rise was mainly driven by an increase of 77.5% in non-CD issuance by overseas entities, together with an increase of 33.3% in issuance of CDs. Meanwhile, the issuance by Mainland authorities decreased by 3.1% to RMB87.2 billion while the non-CD issuance by private Mainland issuers dropped by 30.7% to RMB16.4 billion (Chart 4.20).

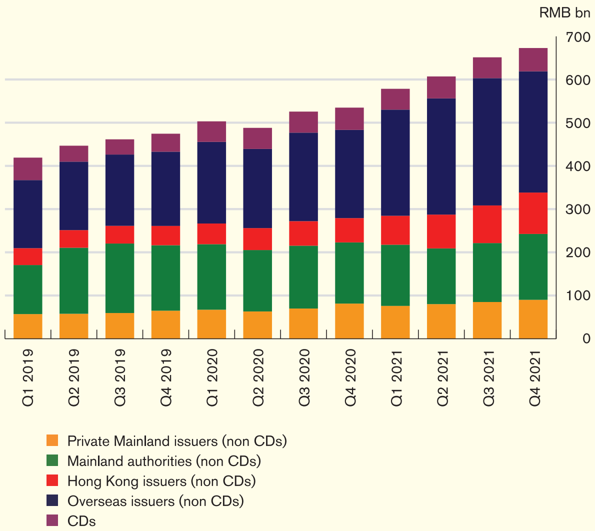
Chart 4.20
New issuance of offshore renminbi debt securities in Hong Kong



Sources: HKMA staff estimates based on data from Bloomberg, Central Moneymarkets Unit, Dealogic and Reuters.

Due to the surge in new issuance, total outstanding CNH debt securities recorded a 25.8% year-on-year increase to RMB673.0 billion at the end of 2021 (Chart 4.21).

Chart 4.21
Outstanding offshore renminbi debt in Hong Kong



Source: HKMA staff estimates based on data from Bloomberg, Central Moneymarkets Unit, Dealogic and Reuters.

Near-term prospects for the debt market in Hong Kong will be affected by a number of factors, including uncertainties surrounding the sustainability of the global economic recovery, the pandemic's progress under the rapid spread of the Omicron variant, rising energy prices and the monetary policies of major central banks in response to the resurgent inflation rate. These factors could weigh on market sentiment in the Hong Kong debt market. While the valuation of renminbi fixed-income assets will benefit from the prospective monetary policy divergence between the Mainland and other major advanced economies, the concerns over the rising renminbi bond defaults may still linger, which could dampen investors' demand on CNH debt securities.

In the medium term, local debt market development is supported by a number of policy initiatives. On 15 September 2021, the PBoC and the HKMA made a joint announcement on the long-awaited southbound Bond Connect, which debuted on 24 September 2021[33]. The southbound Bond Connect provides a convenient channel for Mainland institutional investors to invest in Hong Kong and the global bond market. This marks another important milestone in the two-way opening up of the Mainland financial markets.

On 12 October 2021, the Shenzhen Municipal People's Government debuted the first offshore renminbi municipal government bond in Hong Kong with a total size of RMB5 billion[34]. Other than the two-year bond, the three-year and five-year bonds are green bonds. This also demonstrates the joint effort by Hong Kong and Mainland municipal governments to use Hong Kong's bond market platform for green financing.

These new policy initiatives have laid out the foundation for the vibrant development of the bond market in Hong Kong as they broaden its local fixed income investor base and further enrich its product offerings.

33 On the first day of southbound trading, more than 40 Mainland institutional investors and 11 Hong Kong market makers completed over 150 transactions, amounting to a total of around RMB4 billion.

34 The bond was oversubscribed by 2.5 times, attracting orders from 89 global governments, insurers and pension funds.

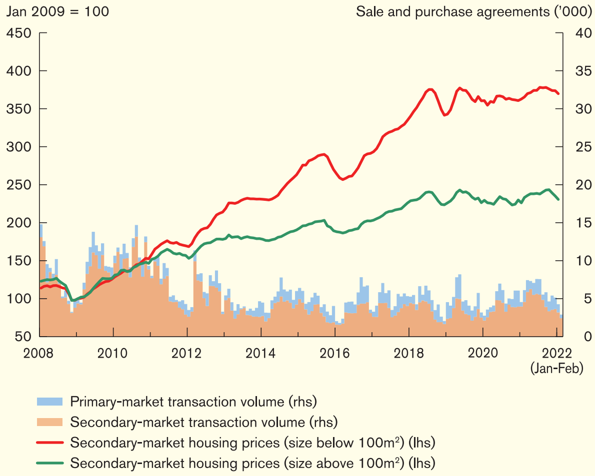
4.5 Property markets

Residential property market

The residential property market has softened somewhat since mid-2021. Market sentiment was dampened by the heightened local stock market volatilities, growing concerns over US policy rate hikes, the spread of the Omicron variant and the tightened social distancing measures locally. The average monthly transactions moderated from a recent high of about 6,700 units in the first half of 2021 to 5,700 units in the second half (Chart 4.22). Housing transactions reduced further to 3,594 units in January–February 2022 alongside a slowdown in flat-viewing activities amid the resurgence of local infections and the holiday effect of the Chinese New Year.

Secondary-market housing prices have also moderated after reaching a recent peak in September 2021. In particular, prices of large flats (with a saleable area of at least 100m^2) decreased slightly faster than those of small and medium-sized flats (with a saleable area of less than 100m^2) (Chart 4.22). Overall, flat prices declined by 1.2% in the last quarter of 2021, but still recorded an increase of 3.6% for 2021 as a whole. Moving into 2022, the Centa-City Leading Index of housing prices softened by about 3% in early March compared to the end of 2021.

Chart 4.22
Residential property prices and transaction volumes



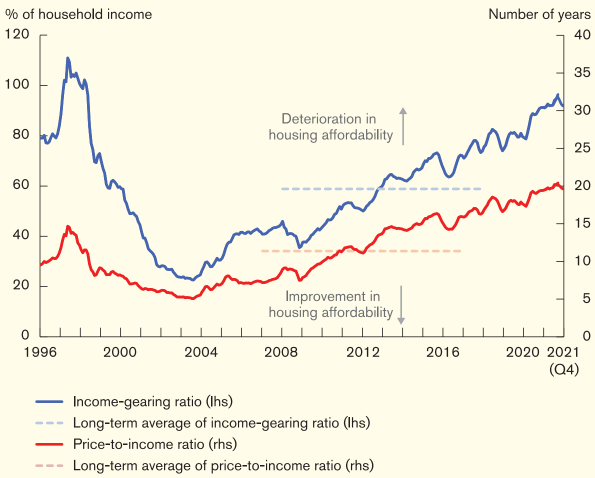
Sources: R&VD and Land Registry.

Housing affordability remained highly stretched. The housing price-to-income ratio reached 19.8 in the fourth quarter of 2021, compared with the peak value of about 15 in 1997. The income-gearing ratio also reached 92.9%, well above the long-term average (Chart 4.23).[35] After some revivals in the second and third quarters of 2021 supported by the domestic economic recovery, housing rentals softened again by 1.7% in the four months through January 2022 and were still 9.4% below the peak in August 2019 (Chart 4.24). The positive buy-rent gap[36] narrowed slightly in the fourth quarter of 2021. Residential rental yields remained low at 2.1–2.4% in January 2022.

[35] 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. Alternately, the income-gearing ratio compares mortgage payment for a typical 50m^2 flat (under a 20-year mortgage scheme with a 70% loan-to-value ratio (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 debt-servicing ratio, which is subject to a maximum cap under HKMA prudential measures.

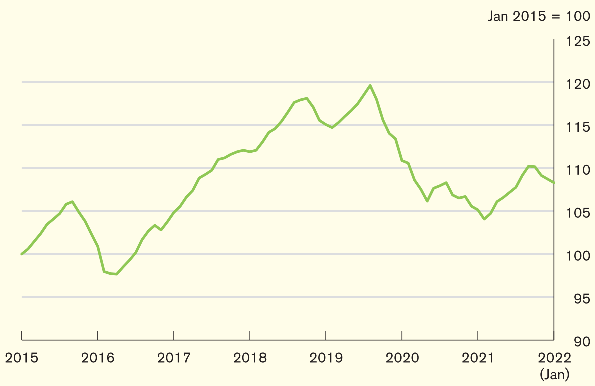
[36] The buy-rent gap estimates the cost of owner-occupied housing under a 20-year mortgage scheme with a 70% LTV ratio relative to rentals.

Chart 4.23
Indicators of housing affordability



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

Chart 4.24
Housing rentals

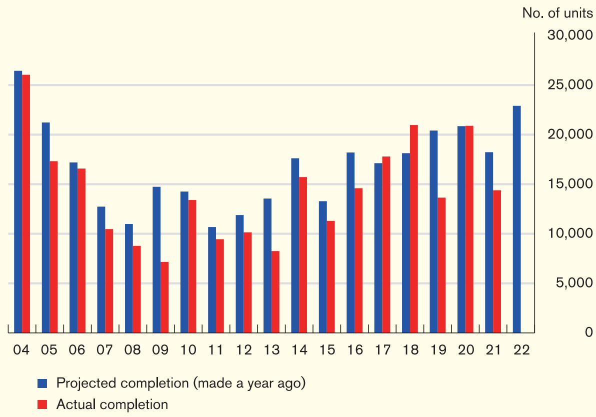


Source: R&VD.

Despite a challenging economic environment, the macro-prudential measures implemented by the HKMA since 2009 have helped contain household leverage and strengthen banks' risk management for mortgage loans, thereby improving their resilience to potential interest rate or property market shocks. The average LTV ratio for new mortgages was 54% in January 2022, below the prevailing ratio of 64% before the measures were first introduced, while the debt-servicing ratio also stayed low at around 36%. Box 4 investigates the prevalence of residential mortgage loans offered by non-bank institutions using transactional big data and discusses the related policy implications.

The residential property market outlook is subject to a number of uncertainties and risks as discussed in previous chapters. Domestically, the new wave of local infections and the re-tightening of social distancing measures could drag on the economic recovery and dampen the housing demand. Externally, the uncertainty over the US policy interest rate outlook will continue to affect housing market sentiment. Over the longer term, the outlook for the housing market will depend on the supply-demand gap. The Government projects that private housing supply will remain high in the coming years (Chart 4.25).[37]

Chart 4.25
Projected and actual private flat completion



Sources: Transport and Housing Bureau and R&VD.

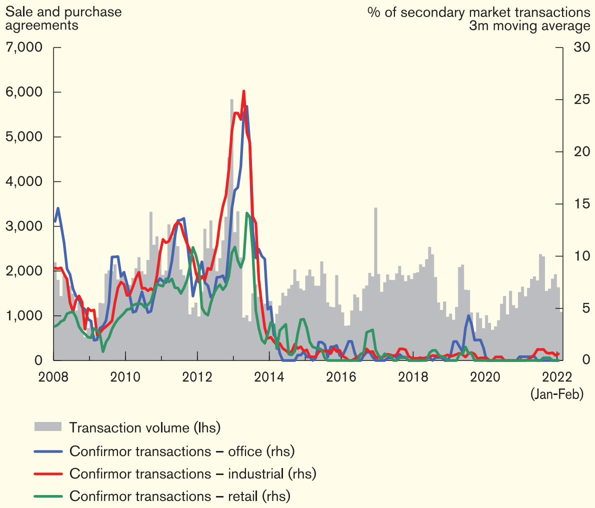
Non-residential property market

The non-residential property market showed signs of stabilisation in the second half of 2021 following some improvement in the first half. Average monthly transactions stayed high at around 1,700 units during the period, and speculative activities remained inactive (Chart 4.26). The prices of office space remained suppressed, while the prices of retail premises and factory spaces stabilised somewhat, albeit still below their respective peaks in 2018 or 2019 (Chart 4.27). In the leasing market, office rentals remained flat while rentals of retail shop spaces

[37] According to R&VD's projections, on average more than 22,000 private residential flats per year will be completed in 2022–2023, higher than the annual average of the previous five years.

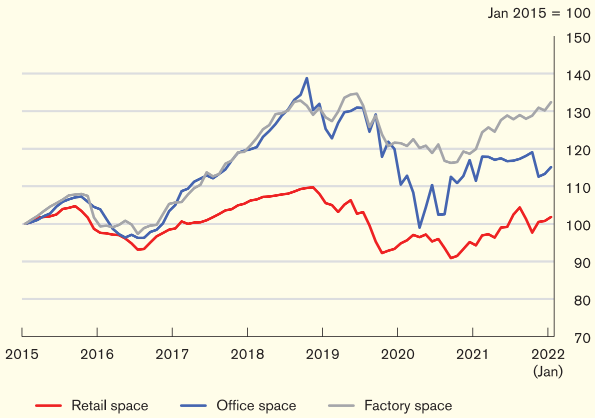
and industrial properties increased alongside robust merchandise trade and a better retail sales performance (Chart 4.28). Rental yields across the segments stayed low at 2.5–2.9% in December 2021. In early 2022, both official data and market intelligence suggest some softening of activities in the non-residential property market.

Chart 4.26
Transactions in non-residential properties



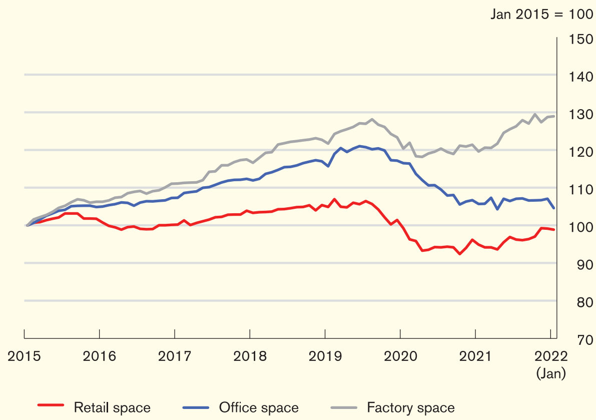
Sources: Land Registry and Centaline Property Agency Limited.

Chart 4.27
Non-residential property price indices



Source: R&VD.

Chart 4.28
Non-residential property rental indices



Source: R&VD.

The outlook for the non-residential property market will hinge on the developments with the latest infection wave, as well as the evolving economic environment. For example, amid the new wave of local infections, tighter social distancing measures and the resultant weaker business sentiment could suppress demand for commercial properties, especially office space in view of greater supply in the coming years.[38] On the other hand, a resumption of quarantine-free travel with the Mainland may bode well for the non-residential property market.

[38] According to R&VD's projections, more than 173,000 m^2 of private office spaces will be completed in 2022, which would be the highest since 2020.

Box 4
Using transactional big data to monitor Hong Kong's residential mortgage loans offered by non-bank institutions

Introduction

In addition to banks, money lenders, property developers and their related finance companies also offer mortgage loans to homebuyers in Hong Kong. These non-bank institutions fall outside the HKMA's supervisory ambit, which may lead to macroprudential policy leakages. With only some aggregate or scattered data on these non-bank mortgages currently available[39], this box strengthens our regular surveillance and data collection framework by using transactional big data to better monitor the activities of these non-bank institutions in the residential mortgage market.[40]

Use of mortgage information in the transaction records

First, from the Land Registry, we collected and processed about 1.6 million residential property transaction records between 2000 and 2021.[41] From these big data, we can identify whether a transacted property is associated with any first mortgage or subsequent mortgages, together with the name of the mortgagees (i.e. the lenders) and the time of mortgage registration or release. This new data collection framework gives us a big, granular dataset on over 2 million residential mortgage records[42] associated with over 1.3 million private housing units. In particular, we can now slice and dice the mortgage data into different types of lenders and market segments, and can trace the mortgage history of the property units. In the next section, we discuss some stylised facts derived from our initial analysis of this rich dataset.

The role of non-bank institutions in the residential mortgage market

In our sample period from 2000 to 2021, the aggregate market share of mortgages provided by non-bank institutions[43] (hereafter also referred to as "non-banks") averaged about 10% of the number of all new mortgage loans registered (i.e. cases of new mortgage loans made) (Chart B4.1). In any case, the aggregate outstanding value of mortgage loans granted by the non-banks remained small, representing less than 3% of the total outstanding residential mortgage loans of the banking sector in Hong Kong.[44]

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39 The HKMA conducts regular bank surveys to understand the credit relationship between banks and property developers or finance companies engaging in mortgage business. Some listed firms may also publish their figures on mortgage loan assets.

40 In its Financial System Stability Assessment with Hong Kong published in June 2021, the IMF also recommended strengthening the systemic risk monitoring and data collection framework on non-bank mortgages.

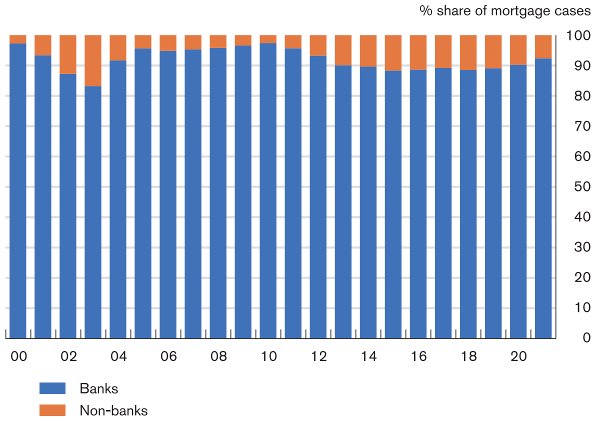
41 For more details on these Land Registry data, see "Box 3: Monitoring Hong Kong's non-residential property market with transactional big data", *HKMA Half-Yearly Monetary and Financial Stability Report*, September 2021.

42 Mortgage records include loan agreements, but exclude equitable mortgages to avoid double counting.

43 Government-related bodies (e.g. Hong Kong Housing Authority, Hong Kong Housing Society, etc.) also provide mortgages to homebuyers. These types of non-bank institutions are excluded in our analysis as they are not common nowadays, particularly after the termination of the Home Assistance Loan Scheme in the mid-2000s.

44 For example, see the inSight articles "Property Mortgage Loans by Finance Companies and Countercyclical Measures" and "Mortgage Loans with High Loan-to-Value Ratios offered by Property Developers" published on 20 March 2015 and 20 June 2016 respectively and also the Speech "Risk Management for Lending to Property Developers (Chinese version only)" on 12 May 2017, all available on the HKMA's website.

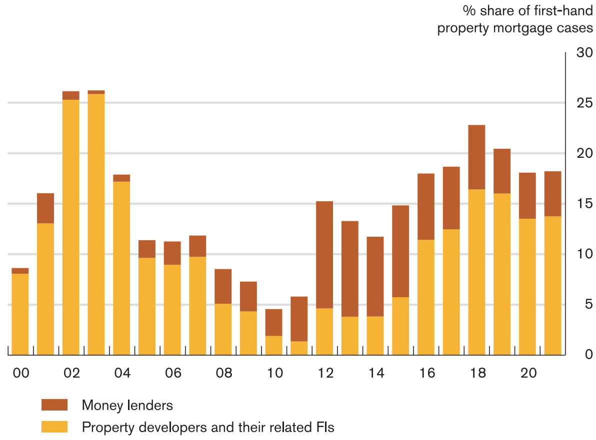
Chart B4.1
Share of residential mortgage cases made by banks and non-bank institutions



Note: Mortgage loans offered by non-profit organisations or jointly by banks and non-bank institutions are excluded.
Sources: Land Registry, Economic Property Research Centre (EPRC) and HKMA staff estimates.

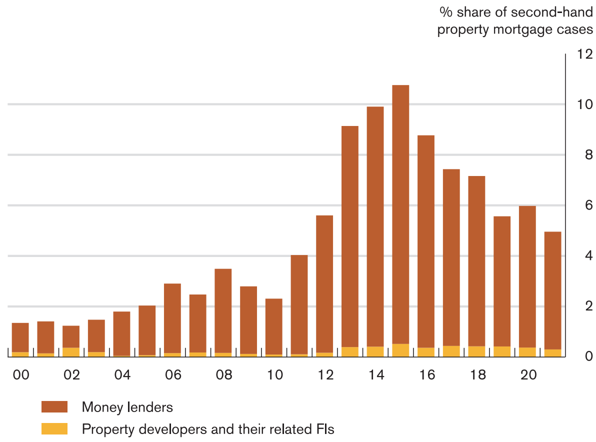
By breaking down the new non-bank mortgage cases into those offered by (i) property developers and their related financial institutions (FIs) and (ii) other "unrelated" money lenders (hereafter simply referred to as "money lenders"), we find that property developers and their related FIs[45] mainly served the primary market, in part, to boost the sales of their new development projects (Chart B4.2). In addition, they barely provided mortgage lending for residential properties in the secondary market (Chart B4.3). By contrast, other money lenders were generally active in granting mortgages in both the primary and secondary markets (Charts B4.2 and B4.3).

Chart B4.2
Share of first-hand property mortgage cases made by non-bank institutions



Sources: Land Registry, EPRC and HKMA staff estimates.

Chart B4.3
Share of second-hand property mortgage cases made by non-bank institutions

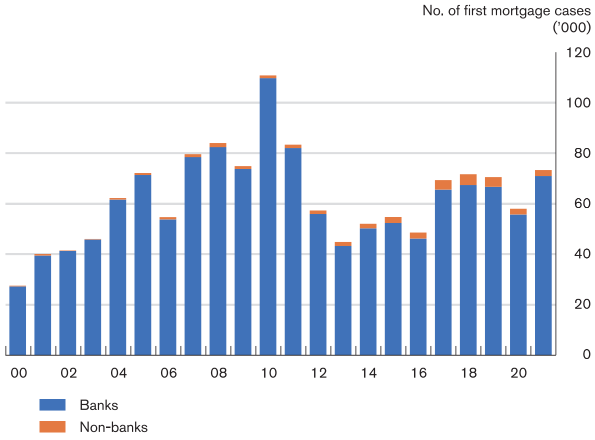


Sources: Land Registry, EPRC and HKMA staff estimates.

Analysed by types of mortgages, banks dominated the first mortgage market, while non-banks made up a larger share in the second mortgage market (Charts B4.4 and B4.5). The second mortgage market here refers to any subsequent mortgage of a property besides the first mortgage. Partly reflecting prudent risk management practices, banks were less active in providing second mortgages, making room for non-banks to develop in this market segment.

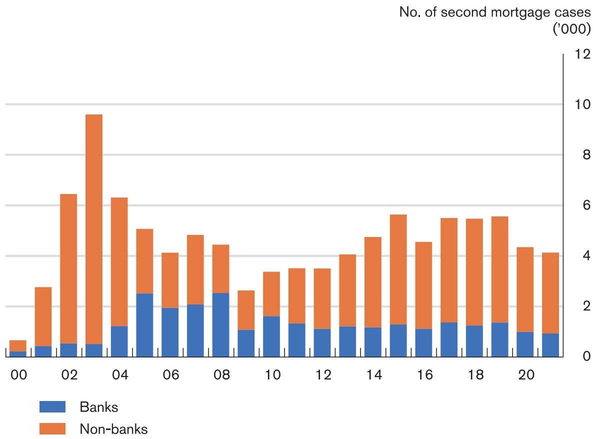
[45] In practice, property developers usually set up their own financial subsidiaries or collaborate with other finance companies to offer mortgage plans to homebuyers. Indeed, property developers that are mortgagees themselves are rare according to our data.

Chart B4.4
First mortgage cases made by banks and non-bank institutions



Sources: Land Registry, EPRC and HKMA staff estimates.

Chart B4.5
Second mortgage cases made by banks and non-bank institutions

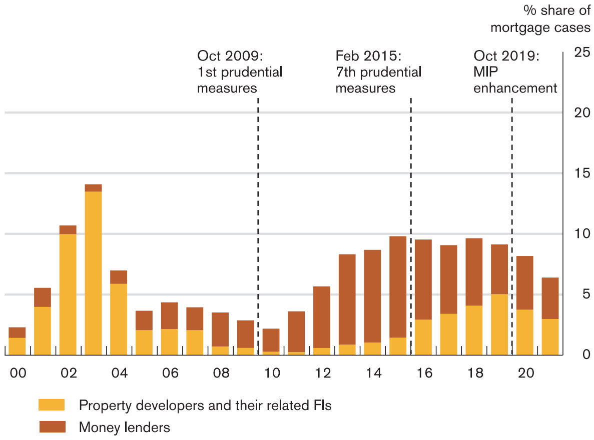


Sources: Land Registry, EPRC and HKMA staff estimates.

Policy implications

In addition to strengthening regular surveillance, our novel dataset on mortgages can also help us draw policy implications. First, the popularity of non-bank mortgages increased after the introduction of the first round of macroprudential measures in 2009, but their market share has been gradually reduced since 2016 (Chart B4.6). In particular, the share of money lenders fell as banks tightened their lending policy to these money lenders under the seventh round of macroprudential measures imposed in 2015.[46] Meanwhile, the share of property developers and their related FIs edged up for a period but subsequently declined after the 2019 enhancement of the Mortgage Insurance Programme (MIP) that allowed banks to offer higher-LTV mortgage loans under expanded conditions.

Chart B4.6
Share of residential mortgage cases made by non-bank institutions

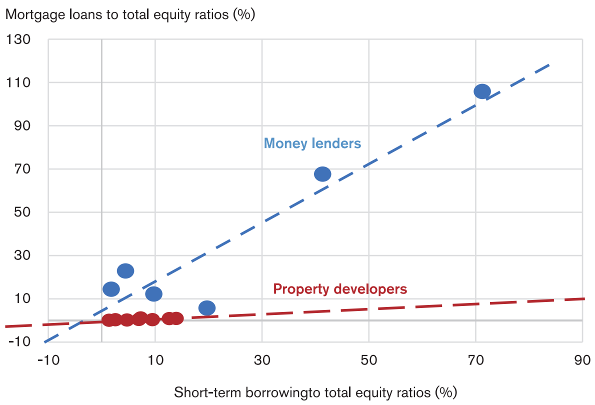


Sources: Land Registry, EPRC and HKMA staff estimates.

Second, we find that money lenders were more aggressive in extending mortgage loans relative to property developers and their related FIs, and this may expose the former to a larger liquidity mismatch risk. Indeed, money lenders usually have higher mortgage loans to total equities ratios compared to property developers (Chart B4.7). As well, they relied more on short-term borrowings (mostly bank loans) to finance their mortgage lending. Therefore, the seventh round of macroprudential measures not only reduced the leakage to non-banks, but also helped safeguard the resilience of the overall mortgage supply by passing the mortgage lending back to banks, given that banks tend to have more stable funding resources than non-banks.

[46] More specifically, banks that lend to money lenders have to require the money lenders to either comply with the HKMA's macroprudential policies on mortgage loans, or risk losing their credit relationship with banks.

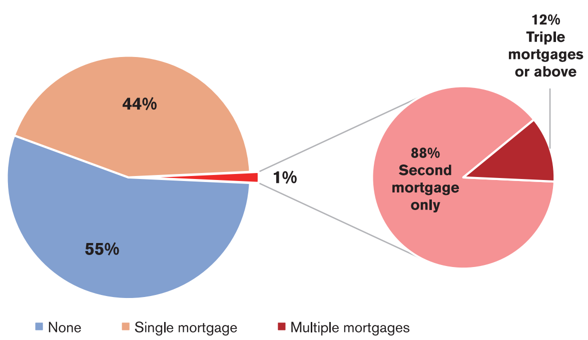
Chart B4.7
Mortgage business size and short-term borrowings for listed non-bank institutions between 2011 and 2020



Note: Short-term borrowings are those with loan tenor equal to or less than one year.
Sources: Land Registry, EPRC, Bloomberg and HKMA staff estimates.

Third, our mortgage data suggest that the household leverage risks remain manageable as over half the private housing mortgages are paid down, and multiple mortgages are not common in the private residential property market (Chart B4.8). Specifically, more than half of the private housing units (55%) did not have any outstanding mortgage at the end of 2021[47], and only about 1% of them had multiple mortgages. Among those properties with multiple mortgages, the majority of them had second mortgages only, and triple mortgages or above were rare.

Chart B4.8
Share of private residential properties with outstanding mortgages at end-2021



Sources: Land Registry, EPRC and HKMA staff estimates.

Concluding remarks

This box adopts a new data collection framework to investigate the involvement of non-bank institutions in Hong Kong's residential mortgage market. Broadly in line with our previous understanding, the market shares of mortgages provided by non-bank lenders remained small, especially in the first mortgage market. In addition, property developers and their related finance companies focused more on the primary-market properties, while other money lenders were also active in engaging secondary-market properties. We also find that the seventh round of macroprudential measures and MIP enhancements have helped curtail the potential leakage of macroprudential measures, as the market share of non-bank mortgages has been reduced. Our big mortgage dataset also reveals that more than half of the private housing units do not have mortgages and multiple mortgages are not prevalent, both of which suggest household leverage risks are contained.

47 This is roughly consistent with the 2021 Population Census data, which show that 66% of owner-occupier households are without mortgages.