HONG KONG MONETARY AUTHORITY
香 港 金 融 管 理 局

HALF-YEARLY MONETARY AND FINANCIAL STABILITY REPORT

March 2011

This Report reviews statistical information between the end of August 2010 and the end of February 2011.

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

The Hong Kong economy grew strongly in the second half of 2010. The unemployment rate has now dipped below the trend rate of the past 10 years and the momentum of rising consumer prices has picked up. The financial system has continued to function normally. However, credit has been growing much faster than nominal output, partly reflecting active cross-border lending by Hong Kong banks.

While government policies have dampened short-term speculative activities in the housing market, incentives for inflation hedging will continue to put upward pressure on housing prices. At the same time, the risk of an earlier than expected rise in interest rates has increased. Banks should continue to practise stringent underwriting standards, and remain alert to risks associated with property lending and Mainland-related exposure.

The external environment

The global recovery has shown more encouraging signs, with economic activities in major advanced economies rebounding in the second half of 2010. In particular, the recently introduced fiscal stimulus package and quantitative easing in the US have boosted the global growth prospects in 2011. Nevertheless, structural constraints to long-term sustainable growth remain binding in these economies. In the US, the still to be completed household de-leveraging, the weak housing market and rising structural unemployment remain a drag on the economy. In Europe, the sovereign debt crisis continues to pose downside risks to the recovery.

In Asia, growth in the fourth quarter regained momentum after a brief dip in Q3, with robust domestic demand continuing to support economic recovery. The Asian economies are expected to register solid but slower growth rates during the year. In the face of upside risks to inflation, central banks in the region have stepped up the pace of policy normalisation and adopted various regulatory measures to contain inflation and maintain financial stability. Growth in Mainland China has also remained strong, but inflationary pressures and overheating in the property market have remained the key risks.

Global financial markets in the past six months have been pulled in different directions, reflecting quantitative easing in the US, the deepening euro debt crisis, and the multiple-speed recovery in the global economy. Equity markets have been buoyed by the expanded asset purchase programme of the US Federal Reserve and improved corporate earnings. Long-term government bond yields in the advanced economies have still hovered at relatively low levels, increasing the incentives for investors to improve returns by investing in risky assets. Global commodity prices have climbed to new highs as a result of the weak dollar, strong emerging market growth, and geopolitical tensions.

For the period ahead, the outlook for global growth and financial conditions remains uncertain. While negative output gaps in the major advanced economies remain sizable, headline inflation is picking up. This is posing significant challenges to monetary policy making, and the changing interest rate outlook is likely to add to financial market volatility. In emerging Asia, volatility of fund flows is likely to remain high in a global environment of policy uncertainties. This is especially true, given that the impacts of the earthquake and tsunami that struck Japan on 11 March and subsequent explosions of the country's nuclear power plants are yet to be determined.

The domestic economy

Driven by robust and broad-based domestic demand, Hong Kong's economy continued to expand at a brisk pace in the second half of 2010. Sequential momentum in the fourth quarter rebounded to a quarter-on-quarter growth rate of 1.5%, from 0.9% in Q3. For 2010 as a whole, the economy rebounded strongly, with growth of 6.8% from a 2.7% contraction in 2009.

The labour market saw significant improvements. The seasonally adjusted three-month moving average unemployment rate continued to decline, falling to 3.8% in January 2011, the lowest since the beginning of 2009. Job creation remained favourable amid strong economic growth. The output gap is estimated to have largely closed during 2010 H2, implying little slackness in the economy.

Inflationary pressures have become more visible in the economy. On a three-month-on-three-month annualised basis, the underlying inflation rate rose sharply from 1.4% in August 2010 to 5.4% in January. Inflationary pressures are expected to rise further during the year, as increased market rentals are likely to pass through into consumer prices at an accelerated pace, while import price pressures will remain firm.

Economic growth, while gradually reverting to its trend rate, is expected to remain solid on the back of strong domestic demand. Private consumption growth will continue to be supported by improving labour market conditions, and investment is set to strengthen with large-scale infrastructure projects in the pipeline and capacity expansion in the private sector. Nevertheless, the waning of the global inventory re-building cycle will lead to a moderation in Hong Kong's export growth. The latest market consensus forecasts a real GDP growth rate of 4.8% for 2011.

Monetary conditions and capital flows

The Hong Kong dollar spot exchange rate strengthened in an orderly manner towards the strong-side Convertibility Undertaking of 7.75 between July and early November before weakening slightly towards the end of December. The Convertibility Undertakings were not triggered and the Monetary Base was little changed, with small fluctuations due to seasonal demand for banknotes. The HKMA has not issued additional Exchange Fund Bills since June 2010. The money market also continued to function smoothly, with interest rates staying low amid additional quantitative easing in the US. Yields of longer-term Exchange Fund paper increased alongside their US dollar counterparts, leading to a steeper Hong Kong dollar nominal yield curve towards the end of 2010. At the retail level, banks kept their Best Lending Rates and deposit rates stable, while the weighted average interest rates for newly approved mortgage loans increased slightly towards the end of the year.

Loans for use in Hong Kong continued to grow at a brisk pace. While Hong Kong suffered a more severe credit contraction than other regional economies during the global financial crisis, it has experienced a more pronounced credit recovery since 2009 H2. The increase in domestic loans was generally broad-based in 2010 H2. Property-related loans, trade finance and loans to wholesale and retail trades were the major contributors. Together with the expansion in loans, Hong Kong dollar M3 expanded in the second half.

A number of price indicators point to stronger demand for Hong Kong dollar between July and early November, including the strengthening of the Hong Kong dollar spot exchange rate, a widening of the Hong Kong dollar forward discounts and the rise in option-implied expected rate of maximum appreciation during the period. Signs of Hong Kong dollar buying pressures were also visible from the increase in the net Hong Kong dollar liabilities of the AIs, or equivalently their net foreign currency assets. The stronger demand for Hong Kong dollar could be explained in part by increased equity investment from abroad. The amount of capital raised in the equity market rose markedly in the second half compared with the first, and a market survey shows that the demand for Mainland-related stocks listed in Hong Kong rebounded substantially in Q3.

In late November and December, the demand for Hong Kong dollar eased, as shown by a weakening of the Hong Kong dollar spot and forward exchange rates. Hong Kong dollar deposits also contracted in the final two months of the year despite strong credit growth, signalling weaker demand for Hong Kong dollar assets by the non-bank private sector. However, Hong Kong dollar selling pressures appeared to be mild. Market information suggests the easing of the Hong Kong dollar exchange rates was due partly to a repatriation of proceeds from initial public offerings following vibrant fund-raising activities in the equity market. It might also have occurred as European sovereign debt concerns resurfaced towards the end of the year, leading to safe-haven buying of the US dollar.

The direction of fund flows remains highly uncertain in 2011. The favourable economic outlook will attract fund flows into the Hong Kong dollar, but global financial conditions remain vulnerable, and macroeconomic policy tightening on the Mainland and a possible reversal of the interest rate trends in major developed economies could also affect financial market sentiment.

Asset markets

The equity market rallied after the summer of 2010 on the back of a strong Mainland economy and ample global liquidity. The Hang Seng Index rose to a 29-month high at just below 25,000 in early November. However, the market then lost momentum as profit-taking emerged amid concerns about monetary tightening on the Mainland and the elevated sovereign risk of the peripheral European economies. If bond yields remain low globally, the low market-implied volatility of local equities is likely to attract yield-seeking investors to increase their exposure to the local market. This type of capital flow tends to be more sensitive to interest rate changes, hence potentially more volatile. The recent rise in inflation in various parts of Asia and Europe may cause uncertainties over the interest rate environment that will have an impact on local equities.

The residential property market boom continued in the second half, with housing prices rising further and trading activities remaining vibrant. For 2010 as a whole, housing prices rose by 20.4%, resulting in a cumulative increase of 54.8% since December 2008. Price rises that were concentrated in the luxury end of the market during most of 2009 filtered down to the mass market. Prices of small and medium sized flats (with a saleable area below 100 m^2) rose by 20.9% in 2010, faster than the increase of 16.2% in the price of large flats.

The Government and the HKMA introduced another series of measures to promote a more healthy and stable development of the housing market and safeguard banking stability. In November, the HKMA implemented further prudential measures to tighten the underwriting standards for mortgage loans, including further lowering of the cap on the loan-to-value ratio. The Government also introduced a Special Stamp Duty at 5 - 15% of property value to discourage speculative activities. While these measures have had some effect in calming trading activities and dampening the run-up in housing prices, signs have emerged of a resurgence in the property market.

Real property prices, new real mortgage loans made and the price-income ratio have been approaching their peak levels in 1997. Indicators with interest-rate loadings - the buy-rent gap and income-gearing ratio, however, have remained relatively low by historical standards because of the very low interest rate environment, although the latter has already surpassed its long-term average level. The overall transaction volume, while still below its peak of 1997, has been high and by historical standards has continued for a relatively long period.

There are signs the buoyant residential market has spread to properties in the commercial and industrial sector, with prices rising by 14 - 17% in December from June, and trading activities for 2010 as a whole increasing to a decade-high level. Confirmor transactions as a percentage of total secondary market transactions also increased markedly in the latter part of the year, indicating an intensification of speculative activities. Against this background, the HKMA extended the macro-prudential measures to cover industrial and commercial properties, with the ceiling on the loan-to-value ratio reduced to 50%.

Banking sector performance

The banking sector continued to register healthy profits, with strong liquidity and capital positions by international standards. Banks saw a smooth on-schedule withdrawal of the temporary Full Deposit Guarantee scheme and the expiry of the Contingent Bank Capital Facility, with no significant shifts of customer deposits across banks or from the domestic banking sector to overseas.

However, low effective mortgage rates due to the shift to HIBOR-based mortgages continue to weigh on the net interest margin. Although the net interest margin has declined significantly since 2008 Q1 and reached a record low in 2010 Q4, visible signs of bottoming out have yet to appear in the current low interest rate environment. Rapid credit growth, particularly in Mainland-related exposure and property lending, has raised concerns about increased latent credit risk. Banks should thus guard against erosion of underwriting standards, despite the current sound asset quality.

As banks have become more reliant on savings and demand deposits, they should also be aware of the impact on their liquidity of possible capital outflows. A simple scenario analysis suggests that if the loan growth momentum continues, the Hong Kong dollar loan-to-deposit ratio could rise sharply from the current level in the event of deposit outflows.

While the present level of the debt-service burden faced by households may not be alarmingly high, a reversal of low interest rates coupled with income reductions could lead to a sharp increase in their debt-service burden and thus the credit risk of banks' mortgage loans. The assessment in Box 3 suggests the prudential measure of reducing the limit on debt servicing ratios of borrowers to 50% significantly improves households' resilience to a double shock in the form of higher interest rates and lower income. In relation to banks' credit risk management, Box 4 indicates that the introduction of sharing positive consumer credit data in Hong Kong in 2003 has reduced the default risk structurally. This finding supports the current proposal of expanding the present credit data sharing system to include the sharing of both positive and negative credit data for residential and non-residential mortgage lending.

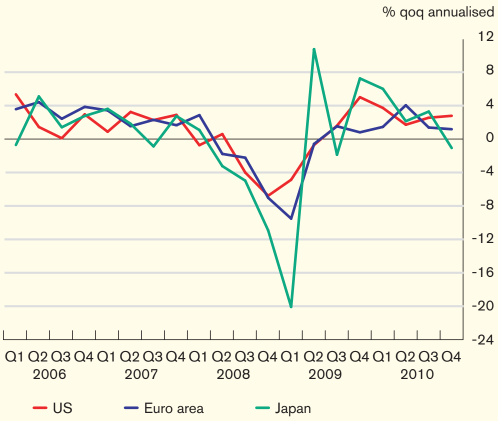
The Half-Yearly Report on Monetary and Financial Stability is prepared by the staff of the Research Department of the Hong Kong Monetary Authority.

2. Global setting and outlook

External environment

Economic activity in major advanced economies rebounded in the second half of 2010. The most recent fiscal stimulus package and further quantitative easing in the US have boosted global growth prospects in 2011, but structural constraints to long-term sustainable growth remain in these advanced economies. Asian economies are still expected to register robust growth, albeit at a slowing pace, with policy priority shifting to containing rising inflationary pressures and managing the risk of asset price bubbles in the face of continued fund flows into the region.

Chart 2.1
US, euro area, and Japan: Real GDP



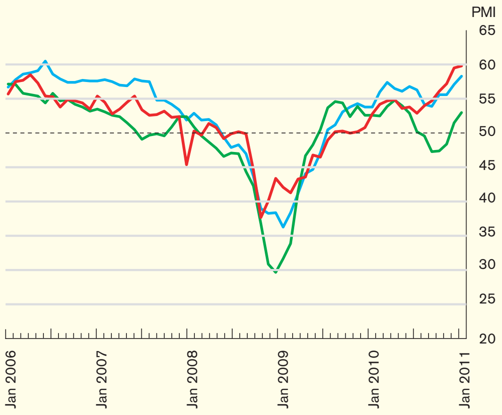
Sources: Bureau of Economic Analysis, Eurostat and Cabinet Office of Japan.

2.1 Real activities and trade

Advanced economies, apart from Japan, continued to recover at a gradual pace in the second half of 2010, overcoming earlier fears of a double-dip recession sparked by the sharp slowdown in the first half. The latest GDP figures show the economies of the US and the euro area grew by 2.8% and 1.1% respectively, while the Japanese economy contracted by 1.3% in 2010 Q4 (Chart 2.1).[1] The pick-up in economic activity was more notable in the US in Q4, on the back of stronger growth in consumer spending. Growth in the euro area was mainly driven by the robust German economy, which more than offset the weak economic performance in peripheral European countries. In Japan, economic activity fell in Q4 as the effect of government incentives for boosting consumption faded away, while exports were restrained by the strength of the yen. The continued improvements in the Purchasing Managers'

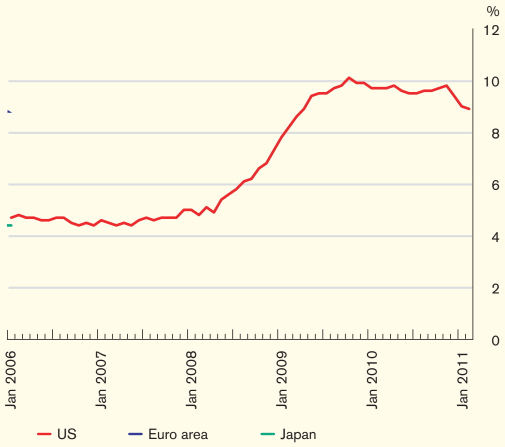
[1] For the US, euro area, Japan and non-Japan Asia (excluding Mainland China), quarterly real GDP percentage changes are on a seasonally adjusted annualised basis, unless otherwise stated.

Chart 2.2
US, euro area and Japan: Purchasing Managers' Indices



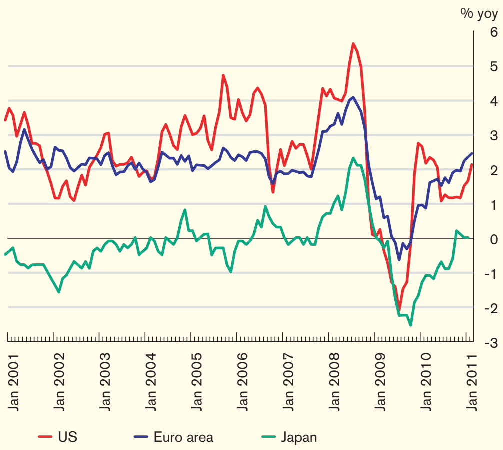
Source: Bloomberg.

Chart 2.3
US, euro area and Japan: Unemployment rate



Source: Bloomberg.

Chart 2.4
US, euro area and Japan: Headline inflation



Sources: US Department of Labour, Eurostat and Japan Ministry of Internal Affairs.

Indices across most advanced economies indicate that positive growth momentum will likely continue in the near future (Chart 2.2).

The more favourable near-term cyclical conditions, however, have not yet translated into distinct improvements in the labour market. The unemployment rate stayed at stubbornly high levels: hovering around 9% in the US, around 10% in the euro area, and 4.9% in Japan (Chart 2.3).

Despite the weak labour market and excess capacity in advanced economies, headline CPI inflation in the US and euro area started to creep up due to higher food and commodity prices (Chart 2.4). Nevertheless, as inflation expectation remained well anchored, core inflation pressures were well contained.

The recently enacted fiscal stimulus package and further quantitative easing in the US have lifted the near-term growth outlook in 2011. Beyond this, however, the prospects for a fully-fledged and sustainable recovery remain highly uncertain and doubtful, as structural issues confronting the advanced economies remain largely unresolved. In the US, household indebtedness, the stagnant housing market and rising structural unemployment remain a drag on the economy. In addition, the recent stimulus package will worsen the federal government's fiscal position. In Europe, the sovereign debt crisis continues to pose downside risks to the recovery, while large-scale fiscal consolidation programmes, which have just started to take hold across most European countries, may inflict further pain to the economy.

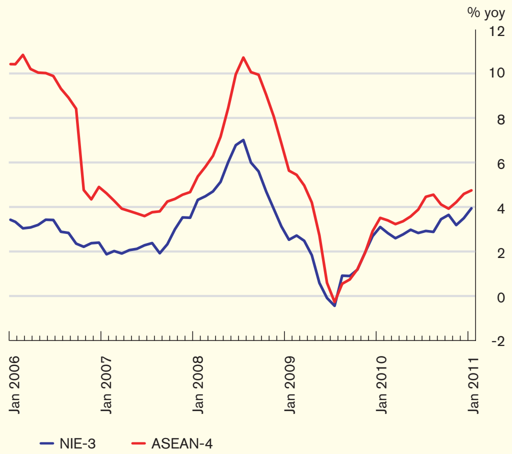
Table 2.A
Asia: real GDP growth

(% qoq, annualised)	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3	2010 Q4
NIE-3:[1]	**12.9**	**6.0**	**15.2**	**7.0**	**0.9**	**1.7**
Korea	13.4	0.7	8.7	5.8	3.0	2.2
Singapore	13.3	-1.5	39.9	29.7	-16.7	3.9
Taiwan	11.8	18.4	18.9	1.5	3.2	0.0
ASEAN-4:[1]	**7.3**	**9.4**	**9.8**	**4.0**	**1.1**	**9.0**
Indonesia[2]	6.4	5.9	5.6	6.5	5.2	10.5
Malaysia[2]	11.0	11.4	8.1	4.7	-2.1	8.2
Philippines	3.4	7.6	16.1	5.1	-3.2	12.7
Thailand	8.7	15.4	14.6	-1.5	-1.3	4.8
East Asia:[1]	**10.2**	**7.7**	**12.6**	**5.6**	**1.0**	**5.2**

Notes:
1. Weighted average (weighted by contribution to world GDP value at Purchasing Power Parity).
2. Seasonal adjustment made by HKMA staff.

Sources: International Monetary Fund (IMF), CEIC and staff estimates.

Chart 2.5
Asia: consumer price inflation



Sources: CEIC and staff estimates.

Table 2.B
Asia: Policy interest rates

	Policy interest rate[1]			Cumulative rate hike
	10 Mar 2011 (%)	Lowest since 12 Sep 2008 (%)	12 Sep 2008 (before the bankruptcy of Lehman Brothers) (%)	Percentage points
Indonesia	6.75	6.50	9.25	0.25
Korea	3.00	2.00	5.25	1.00
Malaysia	2.75	2.00	3.50	0.75
Philippines	4.00	4.00	6.00	–
Taiwan	1.625	1.250	3.625	0.375
Thailand	2.50	1.25	3.75	1.25

Note:
1. Indonesia: BI rate; Korea: overnight call rate; Malaysia: overnight policy rate; the Philippines: overnight reverse repo rate; Taiwan: discount rate; and Thailand: one-day repo rate.

Sources: Bloomberg and staff estimates.

The East Asian economies continued to grow robustly in the second half of 2010, albeit at a slower pace. Growth in Q4 regained momentum after a brief dip in Q3, with the aggregate real GDP gaining by 5.2% in Q4 (Table 2.A). In contrast to the rapid expansion in the first half, exports and industrial production moderated in the second half, particularly in the ASEAN-4 economies. Nevertheless, robust domestic demand supported economic recovery in the region.

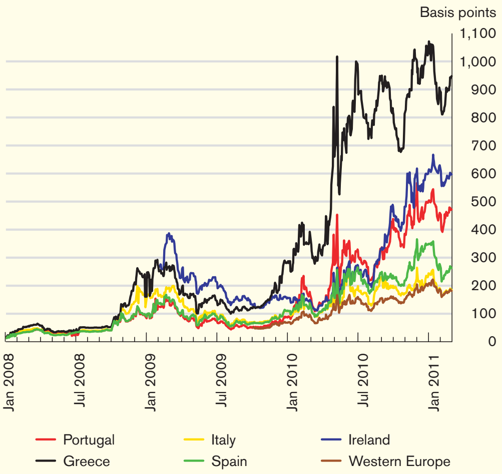
Consumer prices continued to increase in the second half of 2010 (Chart 2.5). In addition to escalating food and commodity prices, demand pressures associated with improving economic conditions also contributed to a build-up of inflationary pressure in the region. As a result, central banks in Indonesia, Korea, Malaysia, Taiwan and Thailand gradually raised their policy interest rates, while the Monetary Authority of Singapore widened and steepened the policy band of the Singapore dollar nominal effective exchange rate in the latest policy meeting (Table 2.B). The new round of quantitative easing by the US has also sparked concerns about the increasing risks of asset bubbles amid ample

Table 2.C
Asia: Exchange rate and foreign reserves

	Change in foreign reserves in 2010 (US$ bn)	(%)	Currency appreciation against USD in 2010 (%)
Indonesia	30.1	45.5	4.6
Korea	21.6	8.0	3.2
Singapore	37.9	20.2	9.3
Taiwan	33.8	9.7	9.7
Thailand	33.7	24.4	11.0

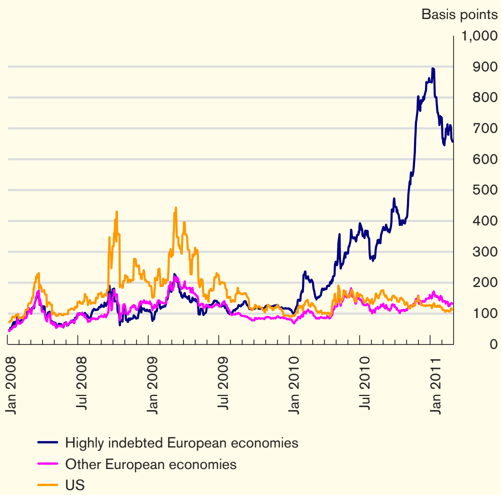
Sources: Bloomberg and CEIC.

Chart 2.6
5-year sovereign CDS spreads of the countries in Europe



Source: Bloomberg.

Chart 2.7
5-year median CDS spreads of banks in Europe and the US



Source: Staff estimates.

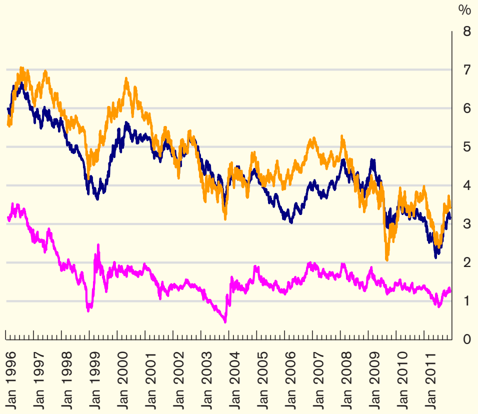
global liquidity. In view of the influx of yield-searching capital flows, domestic currencies in East Asia appear to have faced higher appreciation pressures (Table 2.C). Against this backdrop, central banks in the region have introduced or strengthened various regulatory measures to maintain financial stability.

Growth in East Asia is expected to hold firm in 2011, although its pace will likely decelerate. The latest consensus forecasts surveyed in mid-February expect the region's GDP to grow by 5.0%, compared with 7.7% in 2010. The CPI is forecast to increase by 4.0% on average in 2011, against 3.1% a year earlier. However, this favourable outlook will hinge importantly on continued recovery in the major advanced economies and inflationary pressures being contained in the region.

2.2 Global financial conditions

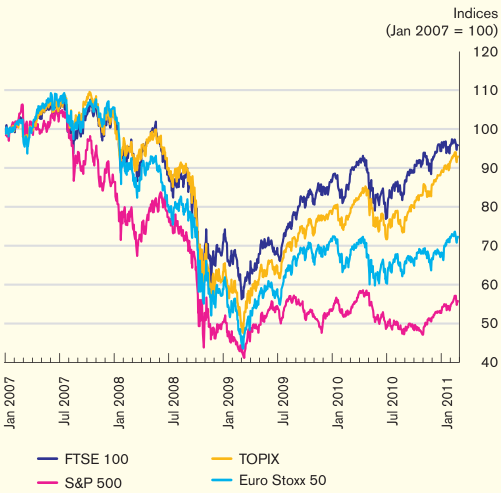
The performance of global financial markets in the past six months has largely been influenced by the implementation of unconventional monetary policies in the major advanced economies. In the US, increasing concerns during summer of a double-dip recession prompted the Federal Reserve to introduce another round of quantitative easing. In Europe, Ireland's fiscal position deteriorated during mid-September to late November, with market concerns spreading to Italy, Portugal and Spain. Although the unveiling of a joint EU-IMF support package substantially calmed markets, the sovereign credit default swap (CDS) spreads of the debt-ridden European countries remained at very high levels, reflecting lingering concerns about the ability of these countries to reduce their fiscal deficits and public debts (Chart 2.6). Worse still, there are increasing signs that sovereign debt problems are spilling over to banks in Europe given their exposure to these countries (Chart 2.7).

Chart 2.8
International long-term government bond yields



Source: Bloomberg.

Chart 2.9
World equity indices

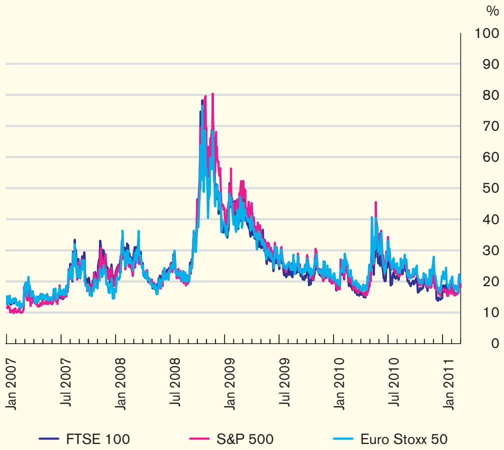


Source: Bloomberg.

Long-term government bond yields in major developed countries initially fell, but rebounded towards the end of 2010, reflecting a better growth prospect as suggested by the latest economic figures (Chart 2.8). Despite the upsurge, long-term government bond yields still hovered at low levels from an historical perspective. This, combined with the steps taken by the authorities to insure against recession, increased the incentive for investors to improve returns by investing in risky assets. As a result of the emergence of this ‘search for yields’ phenomenon, investors have become more vulnerable to a widening of yield spreads that could possibly be triggered by any negative surprises in economic data or corporate earnings.

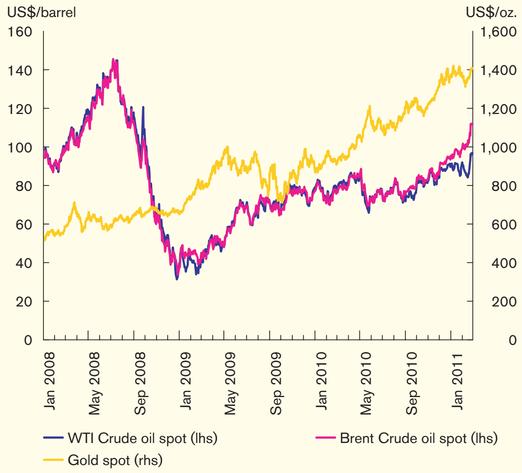
Global equities headed higher in the wake of better-than-expected economic figures, accommodative monetary policies and encouraging corporate earnings announcements (Chart 2.9). Despite more negative news on the geopolitical front (for example, the Irish debt crisis, military clashes between North and South Korea, and political upheavals in the Middle East and North Africa), the volatility of major markets was at a relatively

Chart 2.10
Implied volatility of major stock markets



Source: Bloomberg.

Chart 2.11
Oil and gold prices



Source: Bloomberg.

low level (Chart 2.10). However, the risks of global political instability drove Brent crude oil and gold prices higher by 48.8% and 13.1% respectively in the review period (Chart 2.11). Against the background of the second quantitative easing, the weak dollar, which depreciated by 8.2% and 2.9% against the euro and the yen, might have also contributed to the upsurge in commodity prices.

The outlook for global financial conditions in the period ahead is uncertain. Over the past six months, the fact that major central banks were able to maintain supportive monetary policies had an important stabilising effect on global financial markets. However, with inflation picking up in various parts of the world, increasing pressure for central banks to normalise their policies and the changing interest rate outlook will add to financial market volatility. The uncertainties over the impacts of Japan's earthquake and nuclear crisis will also cast a shadow over the market.

Mainland China

The Mainland economy continued to expand at a robust pace in the second half of 2010, supported by solid domestic economic activities as well as an improvement in external demand. Inflationary pressures intensified and property prices rose amid a rapid expansion in loans. Output is expected to grow steadily, while inflation and overheating in the property market will remain the major risks.

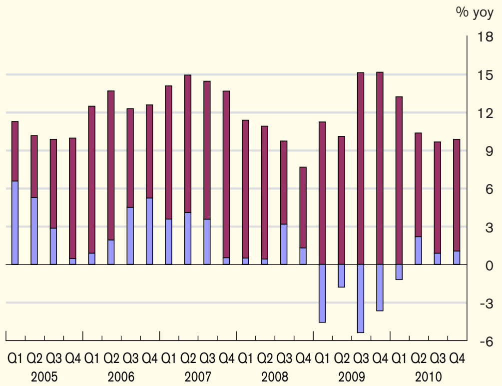
2.3 Output growth, external trade and inflation

Output growth

Real GDP grew by 10.3% in 2010 as the Mainland economy expanded at a robust pace. Growth momentum was well maintained in the second half, underpinned by solid domestic economic activities as well as an improvement in external demand. The contributions by net exports to GDP growth, while staying in positive territory, were subdued in the last two quarters (Chart 2.12). For 2010 as a whole, domestic demand contributed 9.5 percentage points to GDP growth, compared with 0.8 percentage points by net exports.

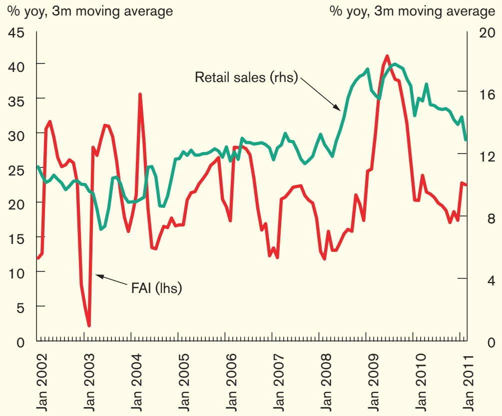
Private consumption performed well in the second half. Real retail sales growth softened in the past two quarters year on year, but remained high relative to the pre-crisis period, supported by favourable labour market conditions and solid consumer confidence (Chart 2.13). Real fixed-asset investment (FAI) growth stabilised and registered 17.5% in Q4, compared with 19% in the previous quarter. It then rebounded in early 2011. While infrastructure investment growth dropped further

Chart 2.12
Mainland China: real GDP growth and contributions by domestic demand and net exports



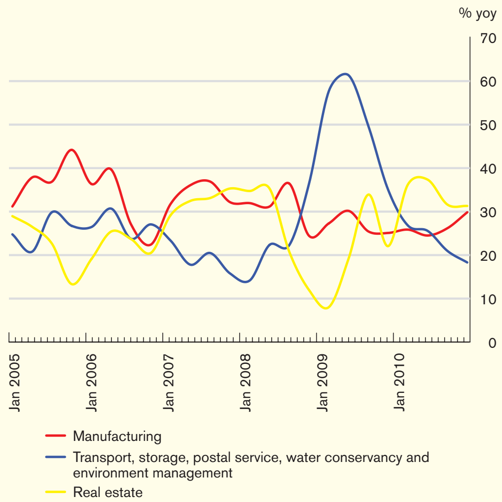
Sources: CEIC, National Bureau of Statistics and staff estimates.

Chart 2.13
Mainland China: real growth in fixed-asset investment and retail sales



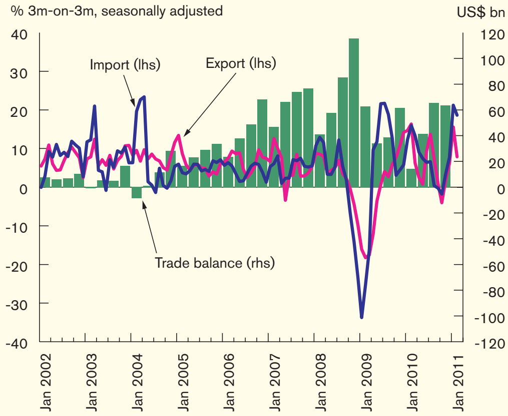
Sources: CEIC and staff estimates.

Chart 2.14
Mainland China: fixed-asset investment growth by sector



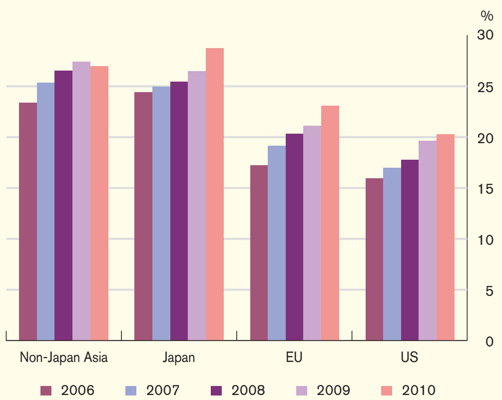
Sources: CEIC and staff estimates.

Chart 2.15
Mainland China: external trade



Sources: CEIC and staff estimates.

Chart 2.16
Mainland China: share of China's exports in total non-oil imports of major destinations



Note: Non-Japan Asia comprises Hong Kong, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand.
Sources: CEIC and staff estimates.

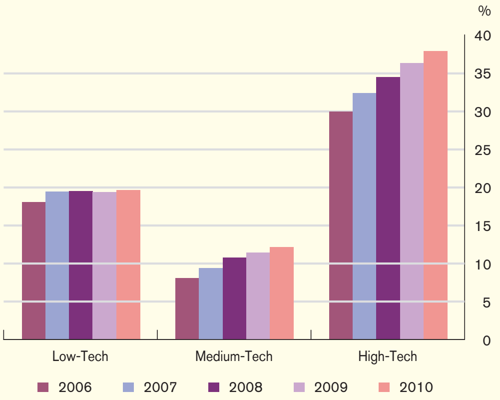
on a year-on-year comparison, real estate FAI continued to expand at a solid, albeit slowing, pace in the second half, partly fuelled by brisk affordable housing activities (Chart 2.14).

Consumption is expected to expand steadily, and domestic investment will likely grow at a healthy pace. The government's initiatives to promote industrial upgrading and new strategic industries in the 12th five-year plan will support manufacturing investment. Affordable housing investment will increase significantly, partly mitigating the potential adverse impacts of tightening measures on private housing activities. The mean of the consensus forecasts in February suggests the Mainland economy will grow by 9.3% in 2011.

External trade

Exports continued to recover in the second half of 2010 to surpass their pre-crisis high recorded in 2008 Q3. On a year-on-year comparison, exports slowed from the first half, growing by 32.2% and 24.9% in 2010 Q3 and Q4 respectively. On a sequential basis, however, export growth revived in Q4 from Q3 (Chart 2.15), due in large part to higher growth in exports to emerging Asia relative to the advanced economies. While China's export competitiveness softened slightly in the emerging Asian markets in 2010, it has been strengthening in the advanced destinations in the past few years (Chart 2.16). Our analysis further indicates that the gains in China's

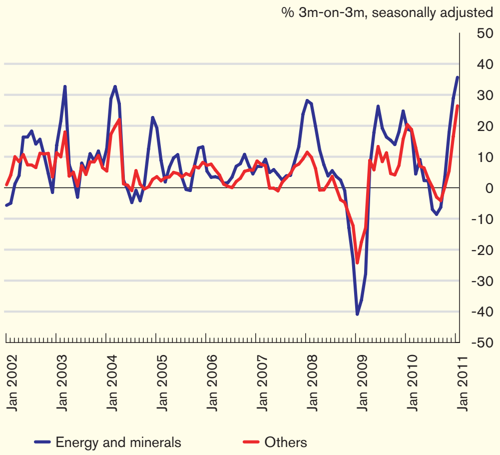
Chart 2.17
Mainland China: share of China's sectoral exports in the total imports of corresponding sectors in major markets



Note: Major markets include non-Japan Asia, Japan, EU and the US. Oil trade is excluded in the estimation.

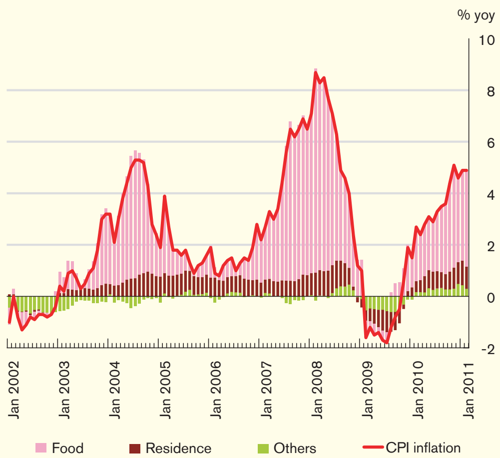
Sources: CEIC and staff estimates.

Chart 2.18
Mainland China: imports of major commodities and other products



Sources: CEIC and staff estimates.

Chart 2.19
Mainland China: contributions to CPI inflation



Sources: CEIC and staff estimates.

export competitiveness have mainly been contributed by medium- and high-technology products, as its competitiveness in low-technology products has remained generally flat (Chart 2.17).

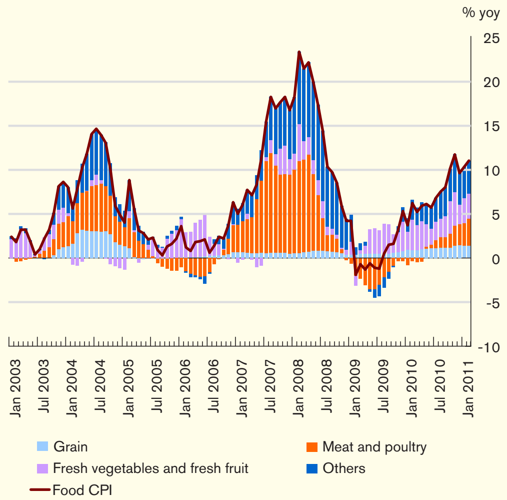
Partly reflecting an unfavourable base effect, the year-on-year import growth in the past two quarters slowed significantly from the first half. On a sequential basis, import growth rebounded in 2010 Q4 following a downward trend in the previous two quarters. Australia, Canada, Latin America and New Zealand account for a progressively larger share of China's total imports, suggesting an increasing demand for raw materials and commodities. As shown in Chart 2.18, growth in imports of energy and minerals rebounded more than other goods in 2010 Q4, reflecting both solid domestic demand as well as increases in commodity prices.

The trade surplus increased sharply from the first half to US$128.1 billion in the second half, due mainly to slower growth momentum in imports. The ratio of trade surplus to GDP also revived from 2.2% to 3.8%.

Inflation

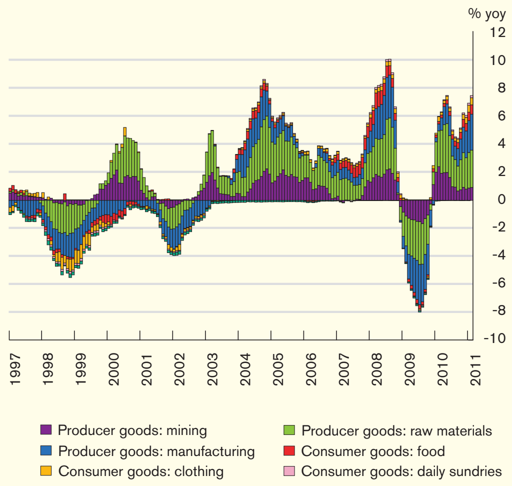
Inflationary pressures intensified in the second half, with the headline CPI inflation rate rising to a 28-month high of 5.1% year on year in November. It softened to 4.6% in December and rebounded to 4.9% in January and February 2011 (Chart 2.19). CPI inflation trended up on a month-on-month basis from July 2010 to February 2011. The food component remained the major contributor to aggregate CPI inflation, with fresh

Chart 2.20
Mainland China: contributions of various food items to aggregate food price inflation



Sources: CEIC and staff estimates.

Chart 2.21
Mainland China: contributions to PPI inflation

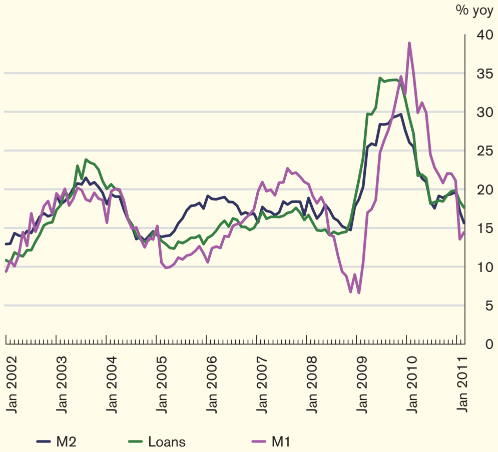


Sources: CEIC and staff estimates.

vegetables and fruit being an important contributor to aggregate food price inflation (Chart 2.20). Box 1 analyses what determines food price inflation and how food price inflation contributes to aggregate inflation. The PPI inflation rebounded in 2010 Q4 after a temporary softening in Q3, due in large part to surges in manufacturing goods and raw material prices. It then further increased to 7.2% in February 2011 (Chart 2.21).

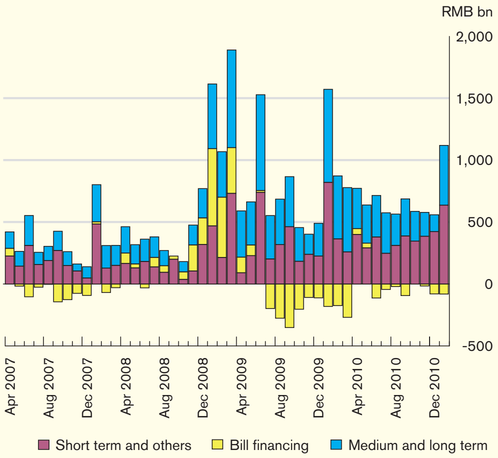
The authorities have taken steps to combat inflation, including normalising monetary policy as well as increasing food supply. The favourable economic outlook, solid credit expansion, continued pressures of capital inflows, and rising global commodity prices suggest inflationary pressures will likely remain in the near term. The price expectation index compiled by the People's Bank of China (PBoC) declined in 2011 Q1, but remained high by historical standards.

Chart 2.22
Mainland China: money and loan growth



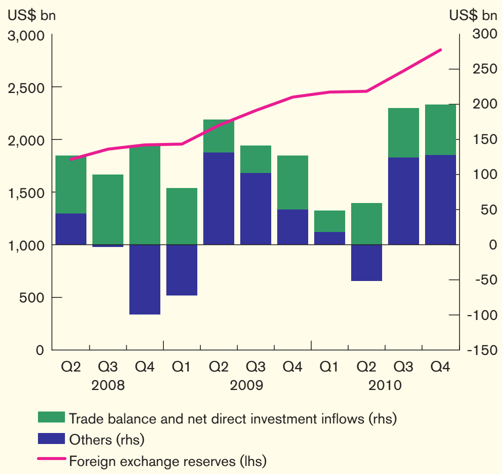
Sources: CEIC and staff estimates.

Chart 2.23
Mainland China: new financial institution loans



Sources: CEIC and staff estimates.

Chart 2.24
Mainland China: external capital flows



Sources: CEIC and staff estimates.

2.4 Monetary and financial conditions

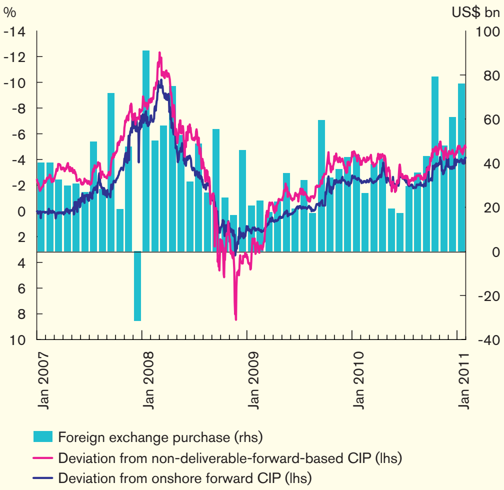
Monetary conditions

Following a persistent drop in the first half of 2010, the year-on-year growth in broad money (M2) trended up from August to December, partly driven by increases in the PBoC's foreign exchange purchases (Chart 2.22). It then declined to 17.2% in January and 15.7% in February 2011. Narrow money (M1) growth hovered above its pre-crisis level in the latter part of 2010 before declining significantly in early 2011. Growth in outstanding loans declined to 17.7% year on year in February 2011 following a revival in the latter part of 2010.

The value of new loans stabilised in the latter part of the year following a downward trend in the first half, but increased substantially in January 2011 due partly to seasonal patterns in bank lending practice. Adjusted for bill-financing, the value of new loans made in 2010 was comparable to a year ago, suggesting underlying lending to the real economy remained solid. Loans to small and medium-sized enterprises (SMEs) continued to outpace those to large firms year on year, while loans to the agricultural sector also grew at a rapid pace, reflecting the effects of policy measures supporting the development of SMEs and rural areas. While short-term loans expanded steadily, medium and long-term loans fell on a sequential basis in the latter part of the year (Chart 2.23). This possibly reflects the impact of the government's measures taken earlier in the year to manage the risks related to the lending to local government financing vehicles, which is mainly medium to long-term loans, as well as to cool off lending to real estate developers.

Following an increase of US$194.0 billion in 2010 Q3, foreign exchange reserves gained US$199.0 billion in Q4 to reach US$2,847 billion at the end of the year (Chart 2.24). The trade surplus and net direct

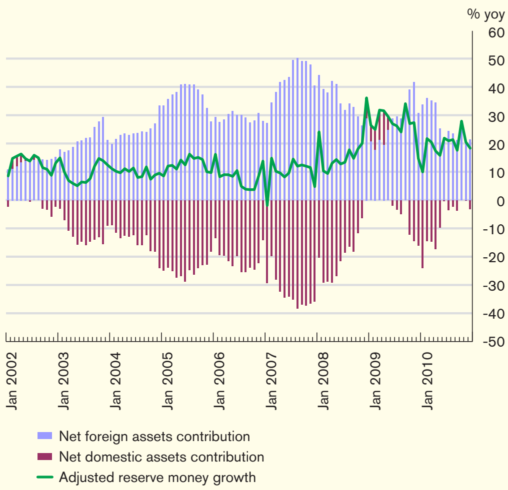
Chart 2.25
Mainland China: foreign exchange purchase and deviations from covered interest parity



Note: Negative deviation from the CIP indicates incentives for capital inflows, and vice versa.

Sources: CEIC and staff estimates.

Chart 2.26
Mainland China: contribution to reserve money growth



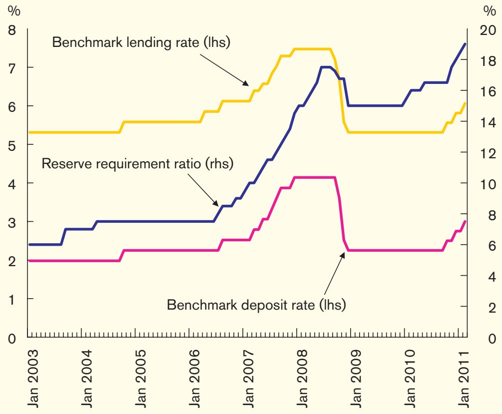
Note: Total reserve money is adjusted for the changes in the reserve requirement ratio.

Sources: CEIC and staff estimates.

investment inflows (foreign direct investment minus outward direct investment) accounted for 32.6% and 3.3% of the increases in foreign exchange reserves in the second half, with the rest being contributed by income from foreign exchange assets, repatriation of funds raised overseas, valuation gains of non-US dollar-denominated foreign reserve assets and portfolio flows. According to the estimate of the State Administration of Foreign Exchange, the increases in foreign exchange reserves in 2010 were largely in line with underlying economic activities. However, our estimate of the deviation from the covered interest parity (CIP), a rough measure of pressures from capital inflows, shows that the incentives for capital inflows still remain (Chart 2.25).

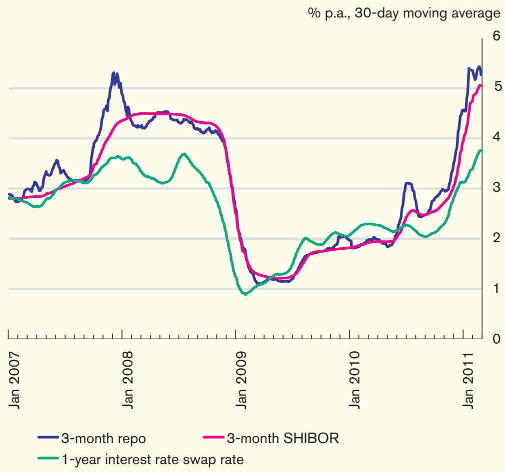
The PBoC quickened the pace of monetary policy normalisation in the latter part of 2010 amid increasing inflationary pressures. Growth in reserve money dropped in the last two months of 2010 following a temporary jump in October (Chart 2.26). The one-year benchmark interest rates were raised three times between October 2010 and February 2011 each by 25 basis points,

Chart 2.27
Mainland China: reserve requirement ratio and benchmark interest rates



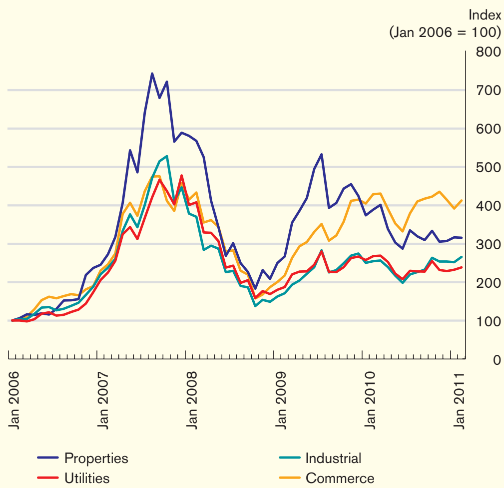
Source: CEIC.

Chart 2.28
Mainland China: market interest rates



Sources: CEIC and staff estimates.

Chart 2.29
Mainland China: share price indices across sectors



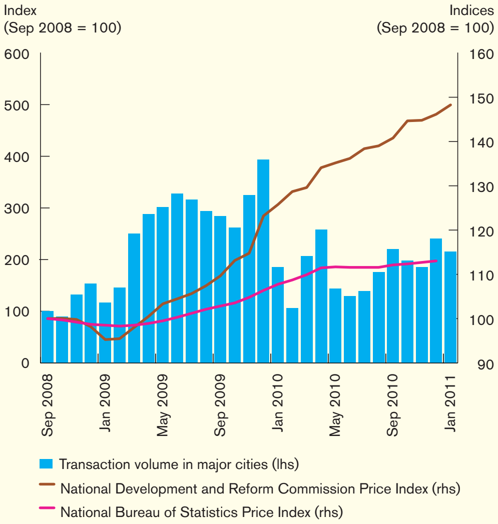
Sources: CEIC and staff estimates.

with deposit and lending rates of other tenors raised asymmetrically. The reserve requirement ratio (RRR) was also lifted five times between November 2010 and February 2011, each by 50 basis points (Chart 2.27). Market interest rates increased notably recently, mainly reflecting the effects of the RRR adjustments amid expectations of further rises in interest rates (Chart 2.28).

Asset prices

Following a declining trend in the first half of 2010, the Mainland stock market gained some ground during July to October alongside other major international stock markets. Investors' sentiment improved on the back of stronger-than-expected corporate earnings, while abundant liquidity may have also played a role. The stock market then lost steam in the last two months of the year, due mainly to concerns over policy tightening amid rising inflationary pressures. Property sector stocks underperformed others, reflecting investors' worries about the impact of the tightening measures to stabilise the housing market (Chart 2.29).

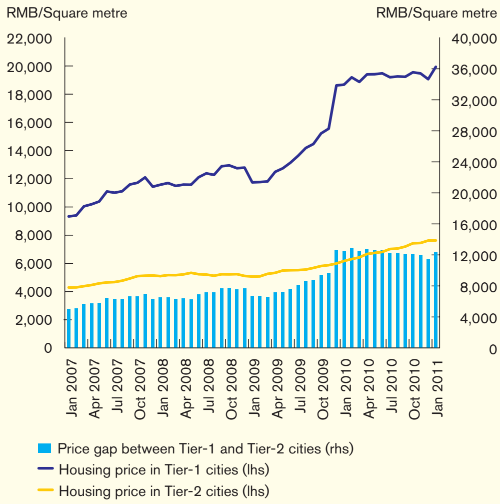
Chart 2.30
Mainland China: housing prices and housing sales



Note: The transaction volume index is constructed based on the number of units sold in each month in Beijing, Shanghai, Hangzhou, Guangzhou, Shenzhen, Tianjin, Nanjing, Fuzhou, Xiamen and Ningbo.

Sources: CEIC, WIND and staff estimates.

Chart 2.31
Mainland China: housing prices across regions



Note: Tier-1 cities include Beijing, Shanghai, Hangzhou, Guangzhou and Shenzhen. Tier-2 cities include the rest of the provincial capitals plus Ningbo, Dalian, Xiamen and Qingdao.

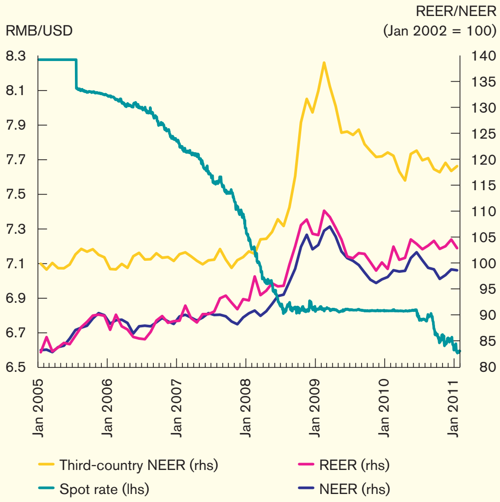
Sources: CEIC and staff estimates.

The residential property market turned around in July 2010 after a short-lived softening following the announcement of tightening policy measures in April. Transaction volumes, especially in major cities, picked up between July and September, while overall housing prices also increased (Chart 2.30). Against this background, the authorities launched another round of tightening policy measures in late September to curb speculative activities in the property market. The minimum down-payment ratio was set at 30% for first mortgages regardless of the size of residential properties. An upper limit was imposed on the number of units a household can buy in cities where property prices had risen too fast. Mortgage loans for a third property were suspended, while developers suspected of hoarding land or delaying property development and sales were not allowed to issue bonds or stocks, or to participate in land auctions.

Overall, these policy measures appear to have had limited impact on the property market. Property prices in Beijing, for instance, rose by 0.1 - 0.2% month on month during October and December, and those in Shenzhen increased by 0.8% in December after staying roughly flat in October - November. Property prices in nearly all tier-2 cities continued to grow sequentially in the past few months (Chart 2.31). Transaction volumes in major cities dropped in October, but recovered in December. While economic fundamentals including income growth and urbanisation will continue to support China's property prices from a medium-term perspective, our analysis shows that risks of overheating have emerged in the property markets of major cities.[2] The authorities have stressed their determination to stabilise the market, and reinforced the measures against speculative activities in January. Property taxes were imposed in some cities, while purchase restrictions will be expanded to most tier-2 and tier-3 cities. The supply of affordable housing will be increased notably in the next few years.

[2] See "Are China's house prices rising too fast?" by A. Ahuja, L. Cheung et al., *HKMA Working Paper 08/2010*.

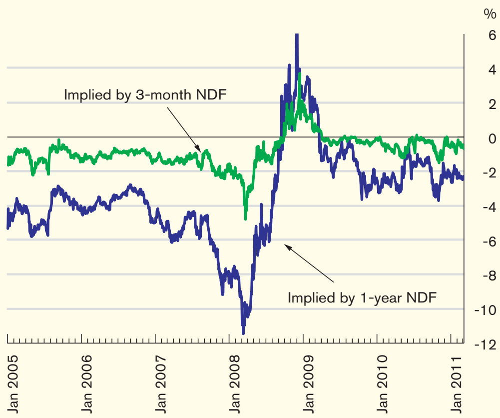
Chart 2.32
Mainland China: exchange rates of the renminbi



Note: A higher effective exchange rate index indicates a stronger renminbi. The third-country NEER takes into account the competition that China faces in foreign markets from other economies which export similar products. The methodology of constructing the third-country effective exchange rate is presented in Box 2 of the December 2006 issue of this *Report*.

Sources: Bank for International Settlements (BIS), Bloomberg, CEIC and staff estimates.

Chart 2.33
Mainland China: expected appreciation of the renminbi



Note: The expected rate of appreciation of the renminbi is calculated as the percentage difference between the spot rate and the NDF rate. A negative number implies an appreciation of the renminbi against the US dollar.

Sources: Bloomberg and staff estimates.

The renminbi exchange rate

Following some narrow range movements in July and August 2010, the renminbi strengthened continuously against the US dollar during September and mid-October, and then experienced some two-way movements in the latter part of the year. By the end of February 2011, the renminbi had appreciated by about 3.7% against the US dollar since the resumption of the reform of the exchange rate regime (Chart 2.32). The nominal effective exchange rate (NEER) depreciated during July to October, but strengthened towards the end of the year, while the third-country NEER and the real effective exchange rate (REER) remained basically trendless. Non-deliverable forward (NDF) rates at the end of February indicate that markets expect the renminbi to appreciate by 2.4% against the US dollar in 12 months (Chart 2.33).

The Mainland authorities continued to promote a wider use of the renminbi for international payments. In December, the PBoC substantially expanded the list of Mainland enterprises eligible to participate in the cross-border renminbi trade settlement scheme. And, in January 2011, it launched a pilot programme allowing Chinese firms to use the renminbi in overseas direct investment. These policy moves will reduce the risk of currency mismatch of Mainland residents' investments and facilitate the management of a more flexible exchange rate.

Box 1
What drives food price inflation in Mainland China and how does it affect aggregate inflation?[3]

Headline CPI inflation on the Mainland has been mainly contributed by increases in food prices. For a better understanding of the inflationary dynamics, it is necessary to study what drives food price inflation and how it affects aggregate inflation. While it is typically argued that supply-side shocks including natural disasters have been the main cause of food price inflation on the Mainland, our research shows demand pressures are just as important, if not more so. The study also shows that food price inflation has not generated significant spill-over effects on non-food price inflation, indicating that policy action may have responded to food price inflation to prevent a potential transmission to other prices.

Why has food price inflation been the major contributor to China's headline CPI inflation?

To answer this question, we estimate the expenditure elasticity for various food items, which illustrates to what extent the expenditure on different foodstuffs will rise when total household consumption expenditure increases by 1%. Using household consumption data from 1995 to 2007 at provincial levels, we estimate the expenditure elasticity for eight food items, including aquatic products, milk and its products, eggs, oil and fat, dried and fresh melons and other fruit, grains, meat and poultry and their products, and vegetables.

We find that the elasticities for most foodstuffs in China are larger than in other economies (Table B1.A). In particular, the elasticities for high-calorie food items including meat and poultry as well as milk products are above unity. For instance, the elasticity for meat is 1.15 in China, compared with 0.11 in the US and 0.35 in the UK. This suggests that a 1% increase in consumption expenditure will lead to a rise in expenditure on these products of more than 1% in Mainland China.

Table B1.A
Expenditure elasticity for major food items across economies

	Bread & cereals	Meat	Fish	Dairy	Fats & oil	Fruit & Vegetables
Brazil	0.17	1.01	–	1.05	–	–
Canada	0.15	0.30	0.33	0.32	0.17	0.24
France	0.16	0.35	0.39	0.38	0.19	0.28
Germany	0.15	0.33	0.36	0.35	0.18	0.26
HK	0.14	0.27	0.30	0.29	0.15	0.21
India	0.17	1.30	–	–	–	–
Indonesia	0.02	2.30	–	0.62	–	–
Japan	0.16	0.31	0.35	0.33	0.18	0.25
Russia	0.11	0.82	–	–	–	–
UK	0.17	0.35	0.39	0.38	0.19	0.28
US	0.05	0.11	0.12	0.12	0.06	0.09
China	**0.10**	**1.15**	**0.42**	**1.12**	**0.30**	**0.47**

Sources: US Department of Agriculture, Organisation for Economic Co-operation and Development and staff estimates.

[3] This box is adapted from the *HKMA Working Paper 06/2010*, "What drives China's food price inflation and how does it affect the aggregate inflation?" by W. Zhang and D. Law.

This analysis indicates that pressures on food prices, particularly on high-calorie food items, are likely to be more intense in China than in other economies when demand rises. On the other hand, the supply of food is more rigid than other products partly because food cannot be stored for a long period. As a result, when demand pressures and household expenditure rise, food prices could rise at a faster and more significant pace than other goods if food supplies are not increased quickly. This helps explain why food prices, especially for meat and poultry, have been the major contributor to China's aggregate CPI inflation.

What determines China's food price inflation?

Both demand- and supply-side factors can affect food price inflation. Demand pressures are captured by output gap and excess money supply in this analysis, and supply-side shocks include natural disasters, food yield and food production costs. Natural disasters are measured by the absolute value of the deviation of temperature from its long-term mean and the ratio of disaster affected areas to disaster covered areas.

Using national quarterly data from 1996 to 2009 we find that both demand- and supply-side variables have played a role in driving food price inflation, but the former accounted for a larger part of the variation. For example, in one of the estimated models, the supply-side effect accounted for 17% of food price inflation variation, compared with 24% by demand pressures.

In another model, we use a panel data set containing data for grains, fruit, meat and vegetables over the period from 1994 to 2008. The estimation results also indicate that while both demand and supply-side shocks are important explanatory variables for food price inflation, demand pressures have made a larger contribution than supply-side shocks. One estimation shows, for instance, supply-side factors accounted for 22% of total food price inflation variation, compared with 35% by demand pressures. In a further exercise, we use provincial level data of various foodstuffs from 1995 to 2008. Again, the results show demand pressures have been the major contributor to China's food price inflation. For example, demand pressures accounted for 29.0% of meat price inflation variation, compared with 5.0% by supply-side factors (Table B1.B).

Table B1.B
Contribution of demand and supply shocks to various foodstuff price inflation variation (%)

	Grain	Meat	Fruit	Vegetables
Demand pressures	13.3	29.0	22.0	7.8
Supply-side shocks	9.0	5.0	8.5	6.7

Sources: CEIC and staff estimates.

Table B1.C
Determinants of wage growth

Variable	Coefficient	T-statistic
Persistence effect	0.045	6.173
Employment rate	0.273	0.860
Productivity	0.213	2.494
Food price inflation	0.001	0.050
J-statistic	27.450	

Note: The parameters are estimated using the generalised methods of moments. The J-statistic indicates the over-identifying conditions are satisfied.

Sources: CEIC, WIND and staff estimates.

How does food price inflation affect aggregate inflation?

There are three major channels through which food price inflation can feed into aggregate price inflation. First, as food is a large component of the CPI basket in developing economies, the direct contribution of food prices to aggregate inflation is significant. Secondly, food price inflation can push up wage growth. And, finally, it can affect inflation expectations. Here we focus on the last two channels.

Using quarterly data at provincial levels covering 2003 to 2008, we find that labour productivity has been the main determinant of wage growth on the Mainland; neither employment nor food price inflation has been a driving force (Table B1.C). This is probably because of the vast pool of labour available on the Mainland and the fact workers have little bargaining power in wage setting. On the other hand, Granger-causality tests for inflation expectations and food price inflation indicate that the latter has likely affected inflation expectations.

To gauge the spill-over effects on non-food price inflation, we explore whether headline CPI inflation reverts to non-food price inflation and vice versa. If headline inflation reverts to non-food price inflation, increases in food prices are temporary and do not generate significant second-round effects. However, if non-food price inflation reverts to headline inflation, there will be a significant spill-over from food price inflation to non-food price inflation. Our analysis using monthly data of January 1997 to March 2010 shows (a) headline inflation only partially reverts to non-food price inflation, and (b) non-food price inflation does not closely catch up with headline inflation.

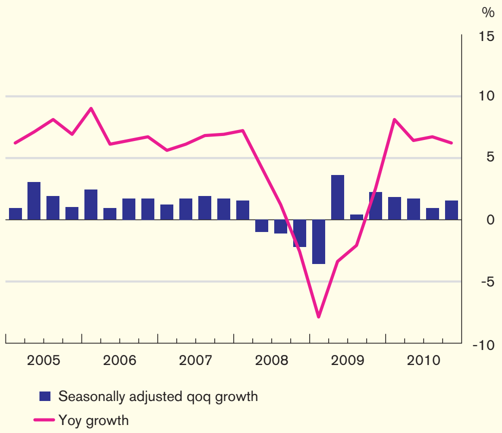
In summary, although demand pressures have been found to be an important driver of food price inflation, which in turn affected inflation expectations, we have not found any significant spill-over effects from food price inflation to non-food price inflation. This may suggest: (a) food price inflation has mainly affected the expectations of future food prices rather than non-food prices, and (b) the authorities may have been, to some extent, responsive to food price inflation to prevent a potential transmission to other prices.

3. Domestic economy

Demand

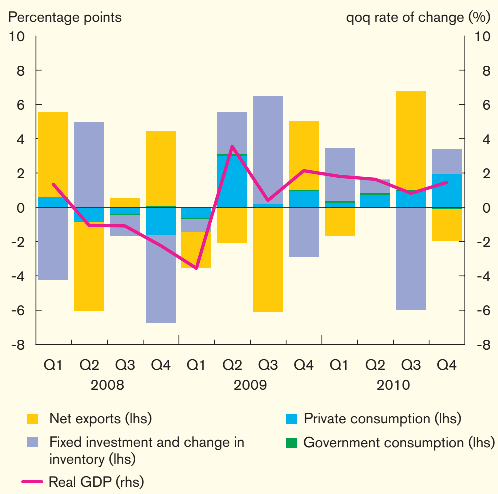
A robust and broad-based increase in domestic demand buoyed economic activity in Hong Kong, but net exports declined due partly to the waning of the global inventory re-building cycle. Although GDP is likely to grow at a slower pace in 2011, the economic outlook remains favourable supported by solid domestic demand. Risks to local economic growth are primarily related to the growth prospects of the advanced economies and global financial market conditions.

Chart 3.1
GDP in chained (2008) dollars



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

Chart 3.2
Contributions to quarter-to-quarter percentage change in real GDP



Sources: C&SD and staff estimates.

3.1 Aggregate demand

The Hong Kong economy continued to expand at a brisk pace in the second half of 2010. Real GDP growth rebounded to 1.5% quarter on quarter in Q4 after trending down to 0.9% in Q3, lifted by a broad-based increase in domestic demand (Chart 3.1). Consumption and gross fixed investment both saw a significant increase in Q4, while inventory re-building also revived notably. Domestic demand added 3.4 percentage points to real GDP growth in Q4, while net exports turned into a drag and subtracted 1.9 percentage points (Chart 3.2). For 2010 as a whole, real GDP rose by 6.8% after a 2.7% contraction in 2009, indicating a strong recovery in the Hong Kong economy from the global financial crisis.

The domestic economic environment is expected to remain favourable in 2011. Private consumption growth will continue to be underpinned by improving labour market conditions and still-solid consumer confidence. The policy measures announced in the 2011/12 Budget including rates waiver, electricity subsidy, as well as cash handouts and tax concessions will also provide some support to private consumption, though it is unclear as to what extent these relief measures will stimulate consumer spending in 2011. Business investment is set to strengthen further, underscored by upbeat business sentiment and a stronger demand for capacity expansion and replacement. Meanwhile, public investment will also see notable growth. However, the waning global inventory re-building cycle will lead to a moderation in Hong Kong's export growth. Overall economic growth, while gradually reverting to its trend rate, is expected to remain solid. The latest market consensus forecasts a real GDP growth rate of 4.8% for 2011.

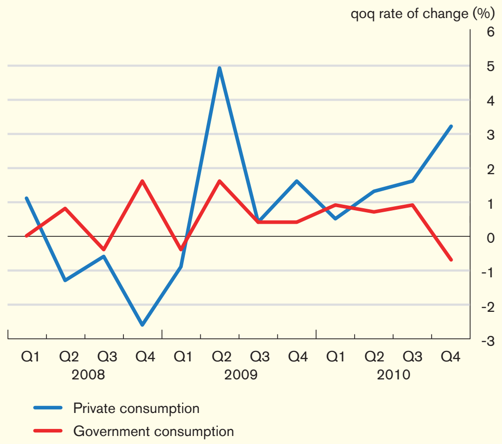
The largely favourable outlook for the Hong Kong economy is subject to a number of uncertainties and risks. The predominant external uncertainties include the strength and speed of recovery in the advanced economies and developments in the European sovereign debt crisis that could heighten financial market volatilities. Any significant adverse developments of these factors could have spill-over effects on Hong Kong through both trade and financial channels. In addition, concerns over further macro-tightening in Mainland China to contain inflationary pressures and stabilise the property market could affect market sentiment in Hong Kong and increase asset market volatilities.

3.2 Domestic demand

Consumption

Growth in private consumption accelerated from 1.6% quarter on quarter in Q3 to an above-trend rate of 3.2% in Q4 (Chart 3.3), buoyed by robust gains in household income, improvement in job prospects and consumer sentiment, and the wealth effect of rising asset prices. Demand for consumer goods, in particular durable goods, strengthened notably, while service consumption increased at a steady pace. Recent retail sales data suggest the strong momentum in private consumption remained broadly in place in early 2011, although the latest CUHK Quarterly Survey on Public Perception of the Economic Conditions pointed to a softening in consumer sentiment. Overall, private consumption demand is expected to hold up well in 2011. The latest market consensus projects private consumption growth to moderate from 5.8% in 2010 to 4.7% in 2011.

Chart 3.3
Private and government consumption



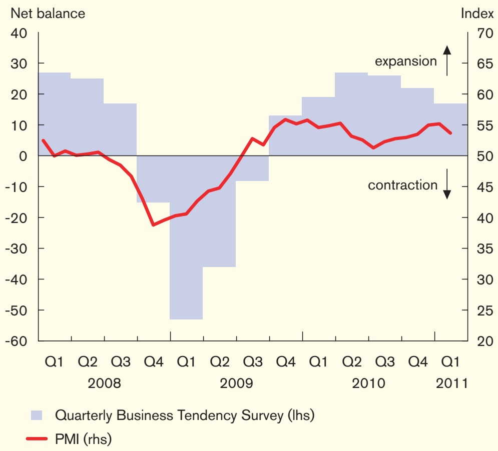
Source: C&SD.

Government consumption dropped by 0.7% in Q4, likely due to the unfavourable base effect in Q3. Nevertheless, government consumption is expected to resume growth as set out in the Government's Budget plans. This can be seen from the projected increase in the recurrent part of public expenditure, of which the growth rates have been in line with those of government consumption expenditure over the past decade.[4]

Investment

Overall investment spending (gross fixed investment and changes in inventory combined) turned from a drag on output growth in the second and third quarters into a significant driver in the fourth quarter by contributing 1.4 percentage points. Gross fixed investment rebounded strongly amid a revival in business capital spending. Public construction works continued to increase at a firm pace with a number of large-scale infrastructure projects in the pipeline, while private sector construction activities remained subdued. Inventory re-building recovered after weakening for two quarters in anticipation of stronger domestic demand.

Chart 3.4
Business sentiment and Purchasing Managers' Index



Source: C&SD and Markit Economics.

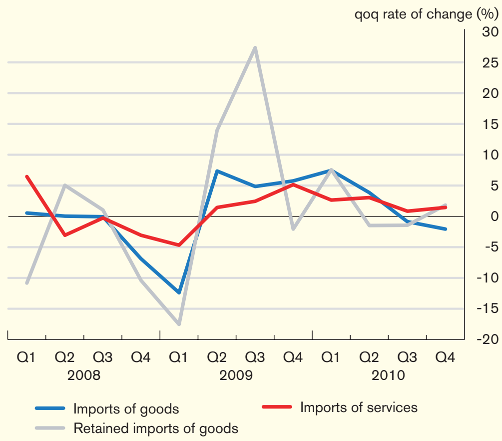
The pick-up in business capital spending is expected to carry into 2011. Available information from the Quarterly Business Tendency Survey (QBTS) and the Purchasing Managers' Index (PMI) points to a noticeable improvement in business sentiment and growth prospects (Chart 3.4). The QBTS also shows that corporate financial positions are returning to a more solid level while credit conditions have loosened for businesses. All these factors will continue to encourage new business investment and replacement demand. Public construction activities are expected to remain brisk with the Government and the public sector accelerating infrastructure and housing development. According to the latest Government's Budget, public-sector infrastructure investment is projected to increase by 17.5% in nominal terms to a record HK$58.3 billion in 2011/12. Major projects in the pipeline include the Hong Kong-Zhuhai-Macao Bridge, the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link, the Kai Tak Development Plan Stage 1 and the South Island Line (East) of the MTRCL. While lower than last year, the growth in gross fixed investment projected by the latest market

[4] The recurrent part of the public expenditure is projected to grow by 6.5% in real terms in the fiscal year of 2011/12, higher than the 3.8% increase originally planned for 2010/11.

Chart 3.5
Exports of goods and services

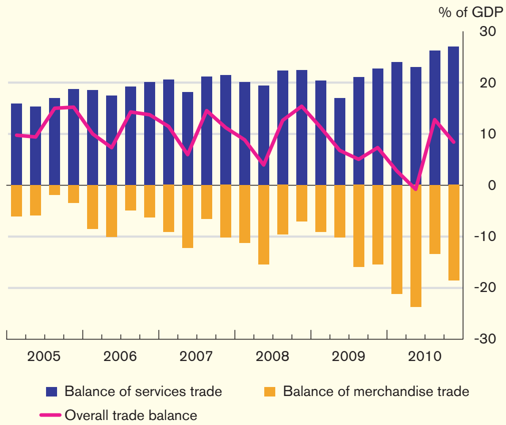
Source: C&SD.

Chart 3.6
Imports of goods and services



Sources: C&SD and staff estimates.

Chart 3.7
Trade balance by component (in nominal terms)



Source: C&SD.

consensus touches a robust rate of 6.2%. With the inventory re-building process already well-entrenched, the pace of stocking is expected to normalise in 2011.

3.3 External trade

External demand weakened in Q4, with merchandise exports contracting by 3.4% quarter on quarter. Demand from advanced economies essentially lost steam due in part to the waning of the global inventory re-building cycle, while demand from the Mainland also weakened. Growth in Hong Kong's overall exports of services slowed to a quarter on quarter 0.4% in Q4, largely because overseas demand for transportation and trade-related services weakened in tandem with the fall in exports of goods (Chart 3.5). Inbound tourism and exports of financial services continued to grow, albeit at a modest pace.

Hong Kong's imports of goods dropped by 2.2% in Q4 due to the fall in re-export-induced demand. However, imports for domestic use and consumption strengthened amid resilient domestic demand. It is estimated that retained imports of goods resumed growth at 1.7% in Q4 after falling by 1.6% in Q3 owing to stronger consumption and inventory accumulation. Led by vibrant outbound tourism, growth in imports of services quickened to 1.3% in Q4 from 0.7% in Q3 (Chart 3.6).

As exports declined more than imports, net exports changed from a significant contributor to output growth in the second and third quarters to a drag in Q4 by taking off 1.9 percentage points. In value terms, the seasonally unadjusted overall trade balance recorded a surplus in Q4 of HK$39.8 billion or 8.3% of GDP (Chart 3.7).

The continuing recovery in the advanced economies and robust growth in Mainland China and other emerging economies point to broadly positive prospects for Hong Kong's merchandise exports. However, the fading global inventory re-building cycle casts a shadow over the near-term export growth. The market consensus projects nominal merchandise exports to grow by 8.6% in 2011, down from 22.7% in 2010. Service exports are also expected to be less buoyant due to a moderation in offshore trade, transportation and other related services.

On the other hand, the expansion of renminbi business will continue to bolster Hong Kong's exports of financial services. Inbound tourism will likely remain robust, supported by continued recovery in the global economy and the expanding scope of the Individual Visit Scheme. In anticipation of a gradual slowdown in domestic demand, imports of goods and services are projected to increase at a more measured pace.

Labour market conditions and output gap

The labour market improved significantly in the second half, with the unemployment rate falling to 3.8% by January 2011, the lowest since the beginning of 2009. Job creation remained strong amid solid economic growth, and the output gap is estimated to have been largely closed.

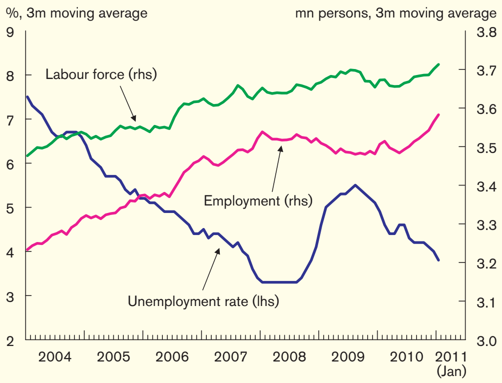
3.4 Labour market conditions and output gap

Labour market conditions

Labour market conditions have improved markedly since the third quarter of 2010, thanks to solid economic growth in recent months. Employment grew strongly in the second half and reached a record-high of 3.58 million in January. The seasonally adjusted three-month moving-average unemployment rate continued to fall and registered 3.8% in January, a big improvement compared with the peak of 5.5% in August 2009 (Chart 3.8). For the labour market performance across different sectors, both the lower-skilled and higher-skilled segments improved significantly in recent months, compared with unbalanced growth in the first half of 2010. In particular, the unemployment rate for workers in the lower-skilled segment fell to 3.8% in 2010 Q4, a marked improvement from 5.1% in 2010 Q2 (Chart 3.9). Employment in the higher-skilled sectors also picked up, with the unemployment rate falling to 2.0% in 2010 Q4, reflecting a broad-based recovery in the labour market, supported by the strong growth momentum of the economy.

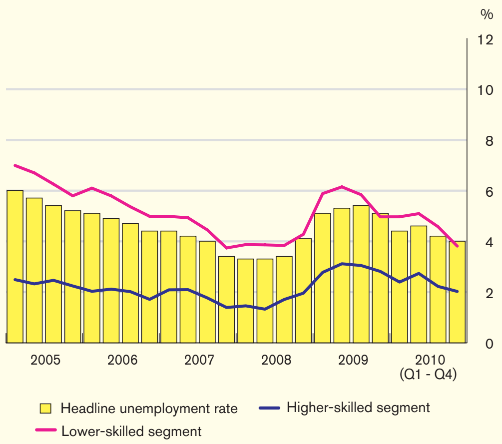
On the labour demand side, the pace of job creation strengthened with a clear upward trend in recent months. Employment gains were observed in the construction and retail sectors, probably due to rising infrastructure investment and inbound tourism. Job growth was also seen in the higher-skilled segment, such as information and communication, bringing the unemployment rate in these sectors to their lowest levels since the financial crisis. However, hiring sentiment seems to have moderated somewhat in the real estate

Chart 3.8
Labour market conditions



Source: C&SD.

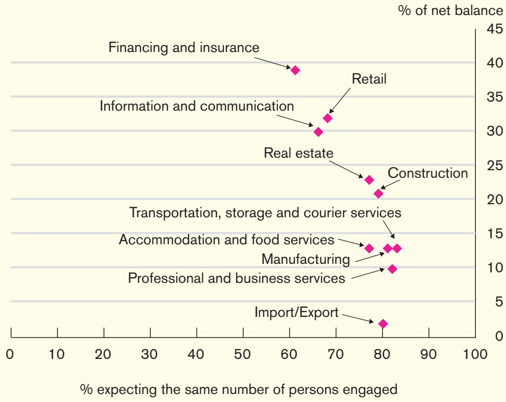
Chart 3.9
Unemployment rates in the higher and lower-skilled segments



Sources: C&SD and staff estimates.

sector after the Government announced new measures to dampen speculation in the housing market in November 2010. Labour supply has increased slightly since May, with the overall labour force participation rate staying at 60.1% in December.

Chart 3.10
Quarterly business tendency survey for 2011 Q1 – Employment



Notes:
1. Net balance refers to the difference between the percentage points of respondents expecting a rise over those expecting a decline.
2. Sectors are classified according to the new Hong Kong Standard Industrial Classification Version 2.0 (HSIC V2.0).

Source: C&SD.

The outlook for the labour market in 2011 now seems more favourable than it was six months ago. The latest QBTS indicated that all surveyed sectors expected their employment to increase in the first quarter, giving a positive result for three successive quarters (Chart 3.10). However, some uncertainties still remain. For example, the implementation of the Minimum Wage Ordinance in May 2011 may, to some extent, dampen job creation in the lower-skilled segment.

Output gap

The potential output growth rate of the economy continued to increase towards its pre-crisis level during the second half of 2010, as private investments improved amid enhanced business sentiment. Potential labour supply growth, on the other hand, increased modestly, with the labour force participation rate improving from its historical low of 59.8% during the second half.

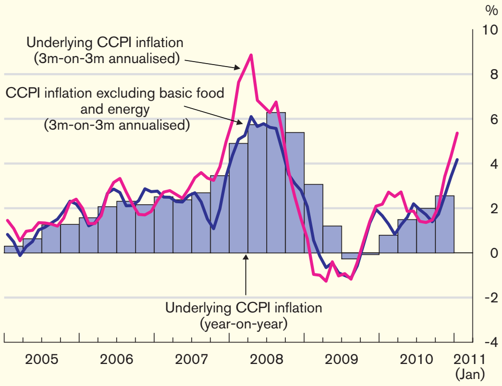
Along with the potential and the actual outputs expanding at a similar pace during the second half, the output gap is estimated to have stayed in the vicinity of zero in the third and fourth quarters.

For 2011, the output gap is likely to be positive, as the projection of the growth rate of the actual output will be higher, albeit moderately, than that of the potential output. As such, the risks of higher inflationary pressures stemming from having the economy operating significantly above potential should not be high.

Prices and costs

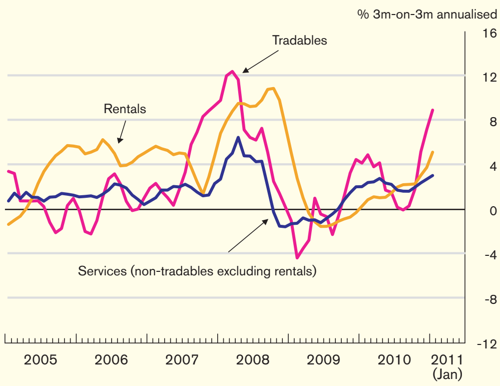
Inflationary pressures have become more visible in the economy, as import prices have increased on the back of rising commodity prices, while higher market rentals have trickled into the rental component of the CCPI. As a result, inflationary pressures are expected to rise further in 2011.

Chart 3.11
Different measures of consumer price inflation



Sources: C&SD and staff estimates.

Chart 3.12
Consumer price inflation by broad component



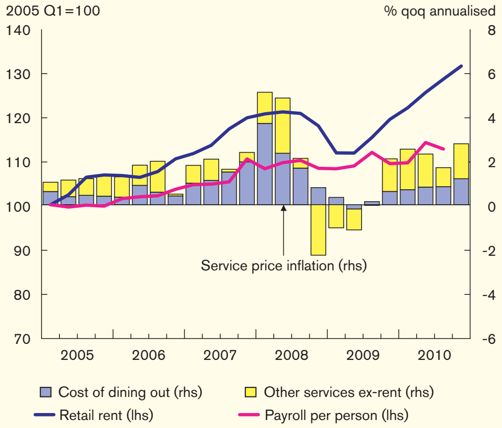
Sources: C&SD and staff estimates.

3.5 Consumer prices

Inflationary pressures have become more visible in the economy. On a year-on-year comparison, the increase in inflationary pressures was not particularly acute, with the underlying inflation rate picking up steadily from 1.5% in the second quarter to 2.0% in the third quarter and 2.6% in the fourth quarter (Chart 3.11). However, on a three-month-on-three-month annualised basis, the increase in inflationary pressures was much greater, with the underlying inflation rate rising sharply from 1.4% in August 2010 to 5.4% in January 2011. Analysed by component, food, housing, transport, miscellaneous goods and services were all responsible for the rising inflation rate, but the contribution of the food component was particularly notable. With the increase in price pressures being somewhat broad-based, the upward trend in inflation remained unchanged when basic food and energy were excluded from the consumer basket.

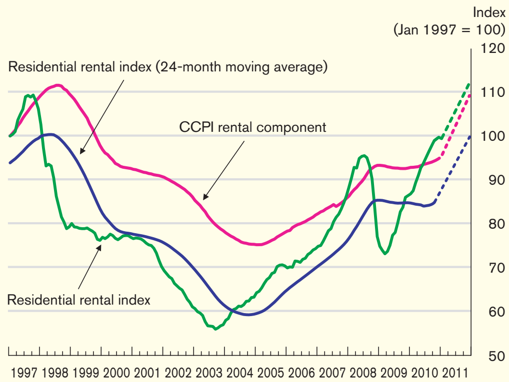
Nevertheless, the inflation rate of all main components of the consumer price index started to move upwards from August 2010. In particular, the annualised three-month-on-three-month inflation rate of the tradable goods component bounced up from 0.0% in August 2010 to 9.0% in January 2011, driven by the sharp rise in basic food prices, which amounted to 12.7% in January (Chart 3.12). The increase in the inflation rate of the services price component (i.e. non-tradable excluding rentals) was comparatively modest, rising from 1.7% in August 2010 to 3.1% in January 2011, reflecting

Chart 3.13
Service price inflation excluding rent



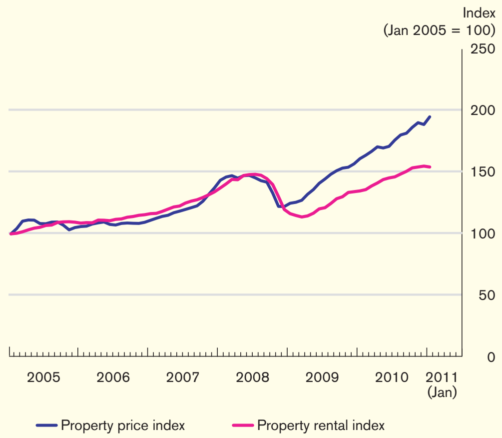
Sources: C&SD and staff estimates.

Chart 3.14
CCPI rental component and market rents



Note: CCPI rental component is excluding the effects of one-off special relief measures.
Sources: Rating and Valuation Department (R&VD), C&SD and staff estimates.

Chart 3.15
Residential property price and rental indices



Source: R&VD.

a steady pass-through of the increase in retail rentals to final prices (Chart 3.13). Finally, the pace of increase in the rental component rose from 2.3% in August 2010 to 5.2% in January 2011, as the pass-through of the increase in residential rentals to consumer prices gained momentum.

Therefore, inflation is expected to be a major risk factor in 2011. Domestically, increasing rental costs are expected to be the main driving force for rising inflation. The increase in residential rentals, cumulated to 35.8% from its trough in early 2009, is expected to continue to pass through into the rental component of the CCPI, probably at an accelerated pace in 2011, based on the high correlation between the 24-month moving average of rental and the rental component of the CCPI (Chart 3.14), driving the inflation rate higher. Labour cost pressures are also expected to increase, with the output gap projected to be positive in 2011. Wage and payroll growth will probably pick up, due to the imposition of a statutory minimum wage scheduled in May, and increased demand for a sharper pay rise in the economy in general. Labour productivity growth may also start to slow, due to the strong pace of employment growth in recent months, further pushing up labour cost pressures. Externally, import price pressures are likely to stay firm, as food and commodity prices are expected to remain high, due to strong demand from emerging economies as well as disrupted supplies. Commodity prices may be boosted further in an environment of abundant global liquidity. Finally, import prices will receive some support from the expected appreciation of the renminbi. Box 2 analyses the impact of various external factors on inflation in Hong Kong.

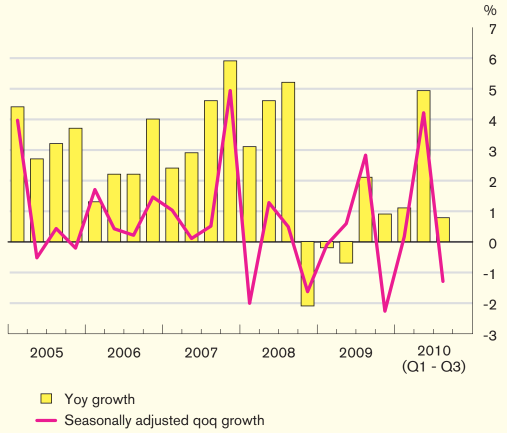
3.6 Rental costs

Property rentals increased during the review period (Chart 3.15). In January, rentals rose by 0.5% over the previous three months, while the corresponding rate of increases were 3.7% in September and 4.7% in June. Following the policy measures launched in October and November to reduce speculative activities in the housing market, property prices cooled slightly, but bounced back shortly afterwards, according to the Centa-City leading index. With resilient property prices in the background, property rentals have already passed the pre-crisis level.

The possibility that property rentals will climb further alongside property prices cannot be ruled out at this stage. The impact of the pass-through of high rentals into the CCPI is expected to be at an accelerated pace during the year, as mentioned above.

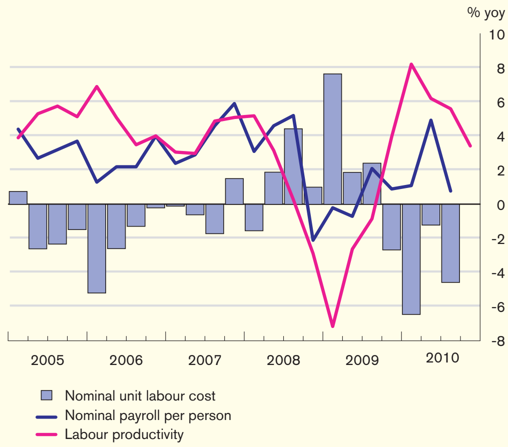
3.7 Labour costs

Chart 3.16
Nominal payroll per person



Source: C&SD.

Chart 3.17
Unit labour cost and labour productivity



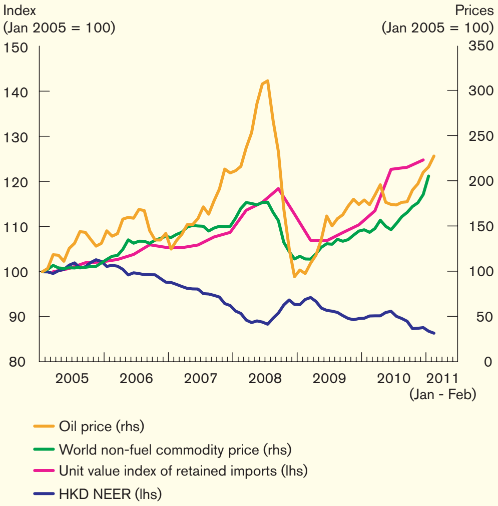
Sources: C&SD and staff estimates.

Reflecting the pick-up in economic activity, the growth in overall labour earnings was largely maintained during the review period. In nominal terms, the year-on-year growth in payroll per person remained positive at 4.9% in Q2 and 0.8% in Q3 (Chart 3.16). In real terms, however, payroll per person declined by 1.5% year on year in the third quarter, as growth in nominal payroll was outpaced by that of inflation. On a seasonally adjusted quarter-on-quarter comparison, nominal payroll per person increased at a strong rate of 4.2% in Q2 and then dropped by 1.3% in Q3, while real payroll per person also recorded similar growth rates. Despite the quarter-on-quarter drop in Q3, overall earnings were still higher than the level six months ago, and the same holds true for most sectors, except for the information and communication, and social and personal services sectors.

The positive year-on-year growth of nominal payroll per person in both Q2 and Q3 did not pose significant labour cost pressures on inflation, as labour productivity growth was greater during that period. As a result, the nominal unit labour cost dropped by 1.2% in Q2 and by 4.6% in Q3, compared with a year ago (Chart 3.17).

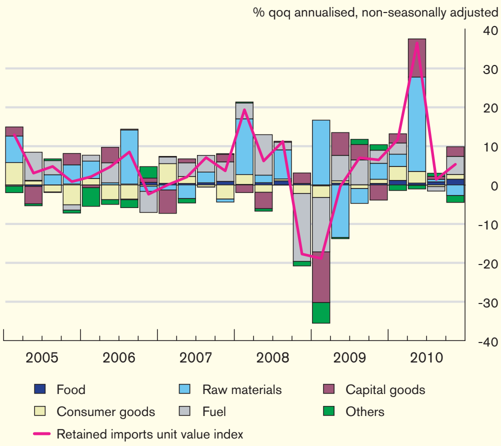
While labour cost pressures have so far remained mild, it is likely that pressures will be more visible in 2011. In particular, the implementation of a statutory minimum wage will increase pressure on wage rates. The robust growth momentum, improving labour market conditions, and rising inflationary pressures in the economy have also led to more intense calls for higher pay rises in the economy in general. This could push up labour earnings even further. In addition, the strong

Chart 3.18
Commodity and import prices



Sources: C&SD and IMF.

Chart 3.19
Contributions to import price inflation



Sources: C&SD and staff estimates.

pace of job creation in recent months may cause labour productivity growth to slow, which will in turn lead to a faster increase in unit labour costs.

3.8 Commodity and import prices

Import prices edged up in the second half of 2010. The quarter-on-quarter annualised rate of increase slowed considerably from 36.5% in Q2 to 1.4% in Q3, then accelerated to 5.3% in Q4, due to sharper rises in both oil and other commodity prices (Chart 3.18). Analysed by components' contribution, the positive contribution from food, raw materials and capital goods in Q3 were partially offset by the drag from consumer goods and fuel import prices (Chart 3.19). In Q4, the contribution from these components was all positive, except for raw materials.

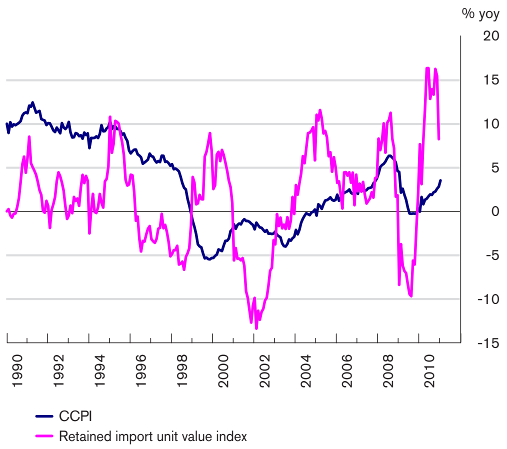
Upward pressure on import price inflation is expected to remain firm in the near term. In particular, food import prices are likely to continue to rise, due to the renminbi appreciation, rising food prices on the Mainland, and adverse weather conditions in various parts of the world in 2010. Other commodity prices will be supported by vibrant economic growth in emerging and developing economies, as well as the improved outlook for advanced economies. The expectation that monetary policy in major advanced economies will remain expansionary and interest rates will remain low may also further boost commodity prices.

Box 2
Impact analysis of external factors on inflation in Hong Kong

Inflationary pressures in the Hong Kong economy are likely to become more visible in 2011. Strong economic growth and the surge in property prices in 2010 are expected to drive up consumer prices. The concerns in the inflation outlook are further heightened with recent developments in the external economic environment:

First, commodity prices may move even higher in 2011 due to adverse weather conditions and political developments in the Middle East. Secondly, the Mainland's inflationary pressures have been increasing, driven by rising food prices and labour costs. And these pressures may remain throughout the year. Thirdly, the renminbi could continue to appreciate and strengthen further. This box assesses the potential impact of changes in these external factors on inflation in Hong Kong.

Chart B2.1
Consumer price and import price inflation



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

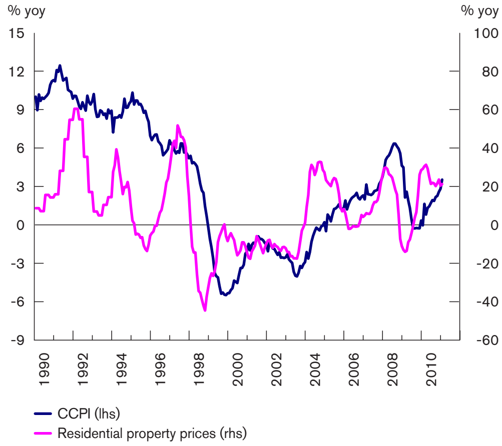
Transmission channels of inflation

The above external factors can affect consumer price inflation in Hong Kong mainly through their impact on import prices, pressures in aggregate demand and inflation in asset markets. The specific importance of each factor on inflation depends on its origin and the dynamics in the process, as reflected by the structure of the Hong Kong economy.

The impact from the import price channel on overall inflation is likely to be small, as spending by consumers in Hong Kong on goods is significantly smaller than their spending on services. Indeed, during the past two decades, there has been no high correlation between consumer price inflation and import price inflation, except in 2008, when high inflation was in large part driven by a global commodity price surge (Chart B2.1).

On the aggregate demand channel, the impact of a renminbi appreciation, for example, may have opposite and offsetting effects on different aggregate demand components. On the one hand, the appreciation will promote inbound tourism and exports of services while,

Chart B2.2
Consumer price and housing price inflation



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

Table B2.A
Scenario analysis

Scenarios	Assumptions in the scenario
(i)	Increase in international food prices by 16% from the baseline level.
(ii)	Rise in oil price by 28% from the baseline.
(iii)	Increase in the Mainland's inflation by 2.4 percentage points from the baseline of 4.5%.
(iv)	Appreciation of the renminbi by 8% against the US dollar relative to the baseline.

Note: Scenarios are one-standard deviation shocks to the level of the variables. In Scenario (i), a 16% increase from baseline means international food price index increases from 168.6 in baseline to 195.6. In Scenario (ii), a 28% rise in oil price means oil price increases from US$91.1 per barrel in the baseline to US$116.8 per barrel.

Table B2.B
Impact on the CCPI under various scenarios (percentage points of annual inflation)

Scenarios	CCPI index	Basic food in CCPI	Rental in CCPI	Others in CCPI
(i)	0.14	0.13	0.01	**
(ii)	0.14	**	0.01	0.13
(iii)	0.29	0.29	**	**
(iv)	0.62	0.46	0.12	0.04

Note: ** denotes negligible impact.
Source: Staff estimates.

on the other, the appreciation will drag down re-exports, as the renminbi is less competitive internationally.

Finally, the impact through the asset price channel is likely to be more important, as the rental component is a major element of the CCPI (26% of the CCPI basket). In fact, consumer price inflation has been closely correlated with housing price inflation since the late 1990s, although with some lags (Chart B2.2).

Scenario analysis

In order to analyse how changes in various external factors affect Hong Kong's inflation, we use the HKMA in-house forecasting model to quantify the impact of such factors on inflation transmitted through the above-mentioned channels. A scenario analysis is conducted using this model to compare the results of different scenarios against our baseline projection, which serves as a benchmark. The baseline projections for inflation and output growth are both estimated at 4.5% in 2011, in line with the latest forecasts of the Government Economist.

The baseline projection is built on a number of assumptions regarding output and inflation in Hong Kong's major trading partners, oil prices, the Hong Kong dollar nominal effective exchange rate (NEER), and the Hang Seng Index. Conditional on this baseline projection, we alter the assumptions on the exogenous variables of interest to investigate how the projected inflation will change as a result, with the magnitude of the induced change being interpreted as the impact of the scenario.[5]

Specifically, we focus our attention on the impact on inflation within the projection horizon of one-year, under different scenarios as described in Table B2.A. The results of our simulations are summarised in Table B2.B.

[5] The size of the change in the exogenous variables of interest from the baseline in these four scenarios is one standard deviation of the corresponding variable over the past 10 years (2000 Q1 to 2010 Q3) except the change in the renminbi nominal exchange rate. In the case of renminbi, the magnitude of the change is the standard deviation during the period covering 2005 Q2 to 2010 Q3, as the renminbi nominal exchange rate against the US dollar was almost unchanged before 2005 Q2.

As shown in Table B2.B, under Scenarios (i), (ii) and (iii), the impacts on the CCPI inflation rate range from 0.14 percentage points to 0.29 percentage points. In Scenarios (i) and (iii), the impacts mainly come from the import price channel of basic food, whereas in Scenario (ii), the impact mostly goes through other components of the CCPI involving oil usage. The somewhat modest impact may reflect the fact that Hong Kong is a service-based economy with relatively low oil intensity, and expenditure on basic food is a relatively small component of the CPI basket (10%).

In Scenario (iv), a renminbi appreciation of 8% would raise Hong Kong's inflation rate by 0.62 percentage points over a one-year horizon. Analysed by components, the rise in the CCPI inflation rate is mainly driven by an increase in the inflation rate of the basic food component. The contribution of the rental component is comparatively moderate, as the pass-through of an increase in property prices and rentals arising from a renminbi appreciation into consumer prices typically picks up speed only after the one-year time horizon.

Conclusion

If any of these surprises considered in this model-based simulation materialises, then consumer price inflation in Hong Kong during 2011 will be 0.14 to 0.62 percentage points higher than the baseline forecast of 4.5%. Much of the effect will come from the impact on basic food prices, since changes in import prices take place without much delay. The potential impact on other components of the CCPI (for example, the rentals) of a faster appreciation of the renminbi, will take longer than the one-year time horizon to become more visible.

4. Monetary and financial conditions

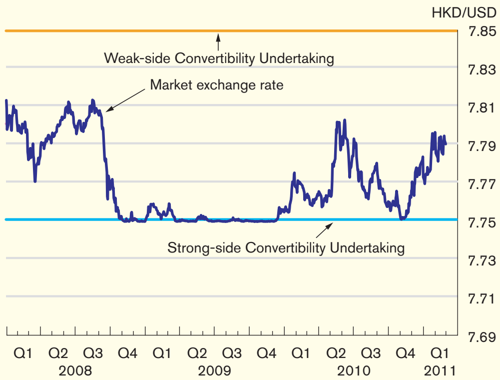
Exchange rate, interest rates and monetary developments

The Hong Kong dollar spot exchange rate strengthened towards the strong-side Convertibility Undertaking of 7.75 between July and early November before weakening towards the end of December. Interest rates stayed low amid additional quantitative easing in the US, and credit growth continued to pick up. The market reacted calmly to the expiry of the temporary Full Deposit Guarantee and Contingent Bank Capital Facility.

4.1 Exchange rate and interest rates

Despite renewed concerns about the European sovereign debt problems, the foreign exchange market functioned normally in the second half of 2010 amid buoyant activity in the local equity market (Chart 4.1). Between July and early November, the Hong Kong dollar spot exchange rate strengthened in an orderly manner towards 7.75, but the strong-side Convertibility Undertaking was not triggered. The strengthening was partly driven by equity-related demand associated with initial public offerings and a lively stock market. In late November and December, the Hong Kong dollar exchange rate weakened, due in part to the repatriation of funds raised earlier in the equity market. The weakening in the exchange rate might also have reflected weaker market sentiment on concerns about credit risks in a number of economies in the euro area. Overall, the exchange rate moved within a narrow range of 7.7511 - 7.7935 in the second half of the year.

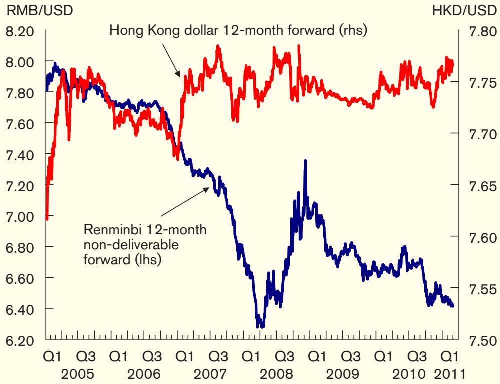
Chart 4.1
Hong Kong dollar exchange rate



Source: HKMA.

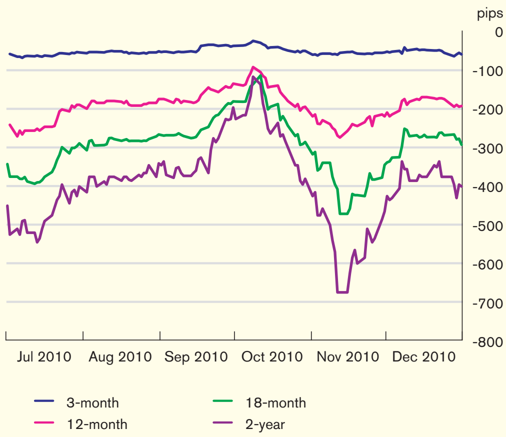
The Hong Kong dollar spot exchange rate weakened further in the first two months of 2011 and closed at 7.7907 on 28 February, partly due to some outflow of funds. The market consensus in February 2011 suggests the spot rate will generally strengthen against the US dollar by the end of February 2012, partly reflecting market expectations of a weaker US dollar against other currencies.

Chart 4.2
Hong Kong dollar and renminbi forward exchange rates



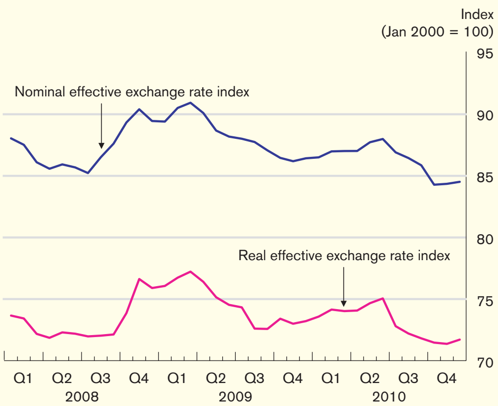
Sources: HKMA and Bloomberg.

Chart 4.3
Hong Kong dollar forward discounts



Sources: HKMA and Bloomberg.

Chart 4.4
Nominal and real effective exchange rates



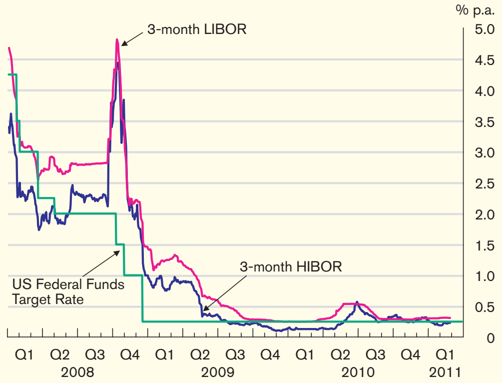
Note: Monthly average figures. Real effective exchange rate index is seasonally adjusted.

Sources: HKMA staff estimates and C&SD.

The Hong Kong dollar forward exchange rates continued to fluctuate during the second half of 2010, while the forward discounts generally narrowed. During the review period, there was little correlation between the Hong Kong dollar and renminbi forward exchange rates (Chart 4.2). While the expectation and announcement of the second US quantitative easing (QE2) led to some widening of the Hong Kong dollar forward discounts in October and early November, the forward discounts had narrowed noticeably by early December (Chart 4.3).

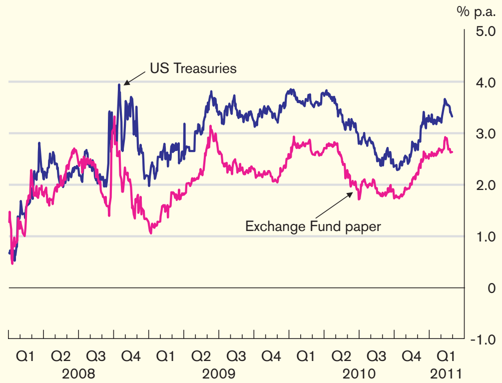
In the second half of 2010, both the trade-weighted nominal and real effective exchange rate indices of the Hong Kong dollar declined, consistent with a general depreciation of the US dollar against other currencies (Chart 4.4). The US dollar weakened in effective terms as the market priced in the QE2. Since Hong Kong's headline inflation rate was in line with the weighted average of its trading partners, the increases in domestic inflation did not exert a significant impact on Hong Kong's real effective exchange rate or external price competitiveness.

Chart 4.5
Interest rates of the Hong Kong dollar and US dollar



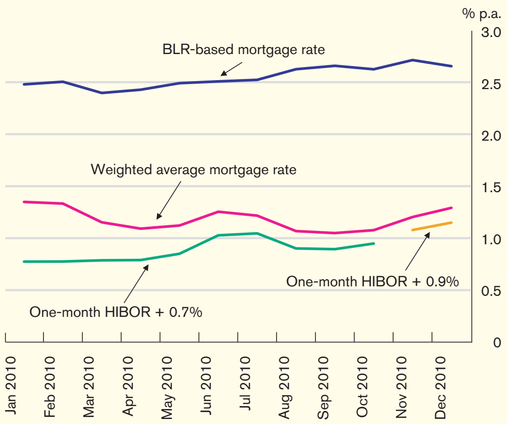
Source: CEIC.

Chart 4.6
Yield difference between 10-year and 3-month government bonds



Source: HKMA.

Chart 4.7
Mortgage interest rates for newly approved loans in 2010



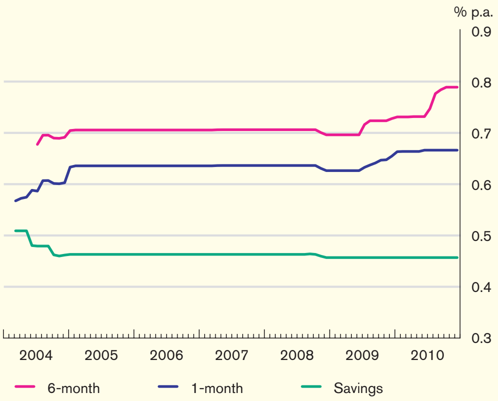
Source: HKMA staff estimates.

The money market functioned normally and low interest rates persisted. The market remained calm when the temporary Full Deposit Guarantee and the Contingent Bank Capital Facility provided by the Exchange Fund expired, as scheduled, at the end of 2010. This suggested the HKMA's exit strategies over the past two years were successful. Since early July, term HIBORs have moved closer to their US dollar counterparts, resulting in narrower Hong Kong dollar-US dollar interest rate discounts. Underpinned by low US dollar interest rates and ample liquidity in the local interbank market, the HIBORs generally stayed below 1% with small fluctuations due to occasional increases in equity-related demand (Chart 4.5).

At the longer end, yields of longer-term Exchange Fund paper increased alongside their US dollar counterparts, leading to a steeper Hong Kong dollar nominal yield curve towards the end of 2010 (Chart 4.6).

At the retail level, the BLRs remained unchanged at either 5.0% or 5.25%, while the weighted average interest rates for newly approved mortgage loans increased slightly towards the end of the year (Chart 4.7). The BLR-based mortgage rates generally increased in the second half as banks narrowed their discounts. The HIBOR-based mortgage rates also increased in November as some banks changed their mortgage rates from a low of HIBOR plus 0.7% to HIBOR plus 0.9%, following the announcement of a series of measures by the Government and the HKMA. Survey data indicate that the proportion of newly approved mortgage loans priced with reference to HIBOR increased from 83.9% in June to 90.0% in December.

Chart 4.8
Renminbi deposit interest rates in Hong Kong



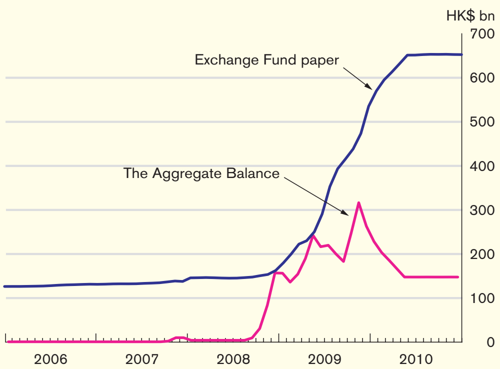
Source: HKMA.

The Hong Kong dollar deposit interest rate offered by major banks remained stable at near-zero levels. Depositors reacted calmly to the expiry of the temporary Full Deposit Guarantee at the end of the year, partly reflecting the stabilising effect of the enhanced Deposit Protection Scheme that came into effect on 1 January 2011. Under the new scheme, the protection limit has been raised from $100,000 to $500,000, covering about 90% of depositors. On the other hand, some banks raised their renminbi deposit interest rates, especially for large deposits with longer maturities (Chart 4.8). The rapid development of the renminbi banking business in Hong Kong has increased demand for renminbi funds by the banks.

Data in January and February 2011 point to interbank and deposit interest rates remaining little changed at low levels. While the market still expects the US Federal Reserve to keep the Federal Funds Target Rate unchanged in the near future, local interest rates could be affected by fund-raising activities in the stock market as well as global financial conditions. The consensus forecasts in March 2011 suggest the three-month HIBOR will rise to around 0.6% in 12 months.

4.2 Money and credit

Chart 4.9
Monetary Base components

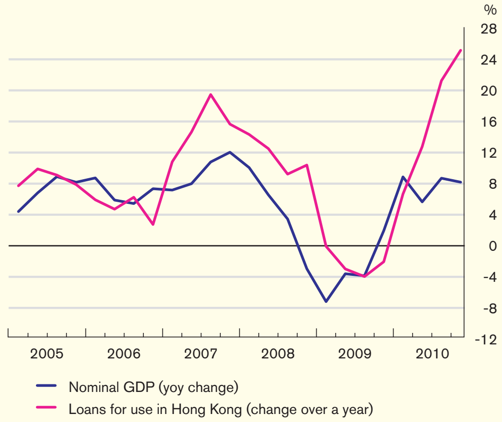


Source: HKMA.

During the second half of 2010, the Convertibility Undertakings were not triggered and the Monetary Base was little changed, with small fluctuations due to seasonal demand for banknotes. As well, the HKMA has not issued additional Exchange Fund Bills since June 2010. The total issue since September 2008 has reached $502.4 billion, leading to a corresponding contraction in the Aggregate Balance. After declining to $148.6 billion on 12 May 2010, the Aggregate Balance stabilised at around this level for the remainder of the year, accounting for about 15% of the Monetary Base (Chart 4.9).

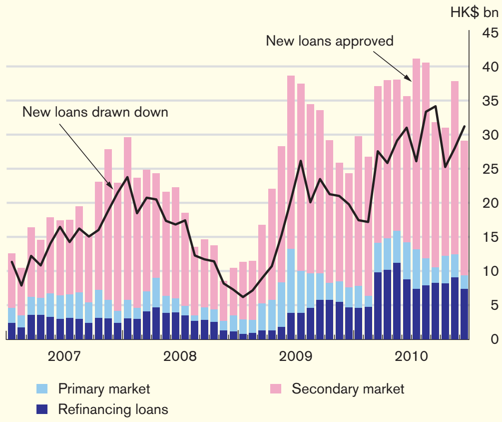
Loans for use in Hong Kong continued to grow at a brisk pace in the second half, supported by low interest rates, better growth prospects, a buoyant property market and occasional surges in demand associated with IPO

Chart 4.10
Loans for use in Hong Kong and nominal GDP



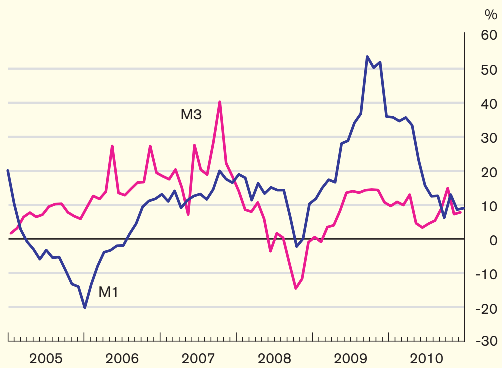
Sources: HKMA and C&SD.

Chart 4.11
Mortgage loans



Source: HKMA.

Chart 4.12
Year-on-year growth in monetary aggregates



Note: Hong Kong dollar M1 is seasonally adjusted.
Source: HKMA.

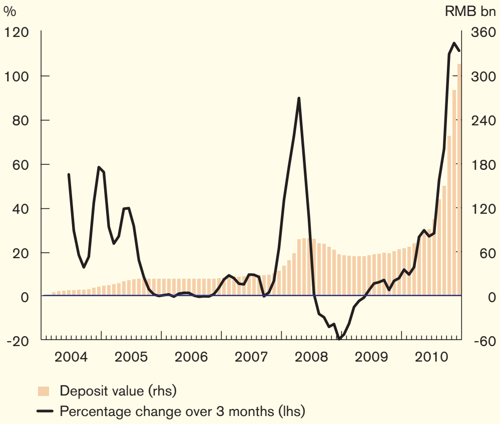
activities. While Hong Kong saw a more severe contraction in credit than other regional economies during the global financial crisis, it has experienced a more pronounced recovery in credit since the second half of 2009. At the end of December 2010, domestic loans had grown by 25.1% from a year earlier, much faster than the year-on-year nominal GDP growth of 8.1% in Q4 (Chart 4.10).

Analysed by economic use, the increase in domestic loans was generally broad-based in the second half. Property-related loans, trade finance and loans to wholesale and retail trade were the major contributors. On the mortgage front, survey data show that new loans drawn down fluctuated at high levels, while the property market policy measures announced in August and November had a more visible impact on new loans approved (Chart 4.11). Refinancing activities remained vibrant partly because existing mortgagors shifted to HIBOR-based products. The strong growth in loans to wholesale and retail trade was driven by business expansion on the back of brisk inbound tourism and favourable labour market conditions.

Credit demand is expected to remain robust in 2011. According to the HKMA Survey on Credit Condition Outlook, the proportion of the surveyed AIs expecting domestic loan demand to "increase considerably" in the next three months rose to 9% in December from 5% in September, although almost half of the surveyed AIs expected the loan demand to "remain stable".

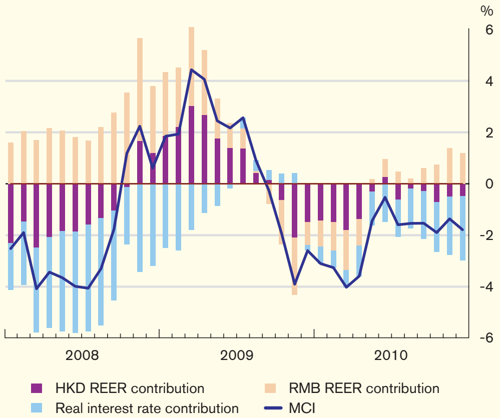
Alongside the expansion in loans, Hong Kong dollar monetary aggregates expanded in the last six months of 2010, with year-on-year growth in M3 and the seasonally adjusted M1 averaging at 7.9% and 10.1% respectively (Chart 4.12). Analysed by the asset-side counterpart of Hong Kong dollar M3, the growth in broad money was mainly driven by increases in domestic credit and net foreign currency assets which signalled some net inflow of funds.

Chart 4.13
Renminbi deposits in Hong Kong



Source: HKMA.

Chart 4.14
MCI



Note: MCI is a weighted sum of the real interest rate and the four-quarter changes in the Hong Kong dollar and renminbi real effective exchange rates.

Source: HKMA staff estimates.

Representing the main components of local currency money supply, Hong Kong dollar deposits generally trended upwards in the second half of the year, following a zigzag but essentially flat path in the first half. Foreign currency deposits also rose as renminbi deposits expanded rapidly. Total renminbi deposits in Hong Kong increased from RMB89.7 billion at the end of June to RMB314.9 billion at the end of December (Chart 4.13), accounting for 5.4% of Hong Kong's total deposits and 11.5% of its foreign currency deposits at the end of December. Much of the increase was supported by a rise in renminbi receipts by corporate customers through trade settlement transactions. Corporate customers now account for more than 50% of the total renminbi deposits.

Monetary conditions were less expansionary in the second half of the year with the Monetary Conditions Index (MCI) remaining largely flat following a rebound in June (Chart 4.14). A lower real interest rate resulting from a rise in domestic inflation made local monetary conditions more expansionary, but its impact was partly offset by a stronger REER of the renminbi. The contribution of the real exchange rate of the Hong Kong dollar remained small.

Capital flows

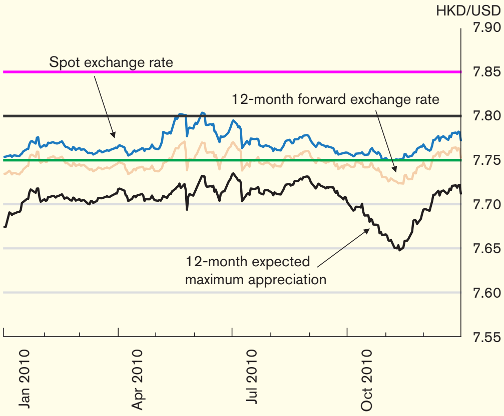
Against the backdrop of additional quantitative easing in the US and vibrant stock market activities in Hong Kong, the Hong Kong dollar spot exchange rate strengthened between July and early November, but the strong-side Convertibility Undertaking was not triggered. As interest rate cycles may start turning in the major advanced economies in the period ahead, fund flows will likely remain volatile.

4.3 Capital flows

Increased demand for Hong Kong dollar assets

Following some Hong Kong dollar selling pressures in Q2 amid the European sovereign debt crisis, the demand for the Hong Kong dollar strengthened between July and early November, as shown by various price indicators (Chart 4.15). First, the Hong Kong dollar spot exchange rate against the US dollar strengthened from 7.7843 on 30 June to 7.7511 on 4 November. Secondly, while moving within a narrow range, the Hong Kong dollar forward discounts widened in October and early November. Thirdly, market sentiment shifted towards a stronger Hong Kong dollar between September and early November, with the expected rate of maximum appreciation calculated based on currency option prices having risen markedly.

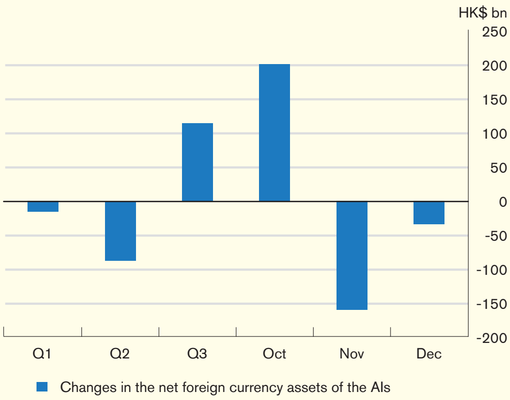
Chart 4.15
Exchange rates and expected maximum appreciation of the Hong Kong dollar based on currency option prices



Sources: Bloomberg, JP Morgan and HKMA staff estimates.

The stronger demand for the Hong Kong dollar was also visible in the movements in the net Hong Kong dollar liabilities of the banking system. Hong Kong dollar deposits increased by about HK$260 billion from July to November, while the net foreign currency assets of the AIs increased notably between July and October (Chart 4.16).[6] However, the strong-side Convertibility Undertaking was not triggered during this period, which contrasted with the period between 2008 Q4 and 2009 Q4 when the strong-side Convertibility Undertaking was repeatedly triggered and the Monetary Base tripled.

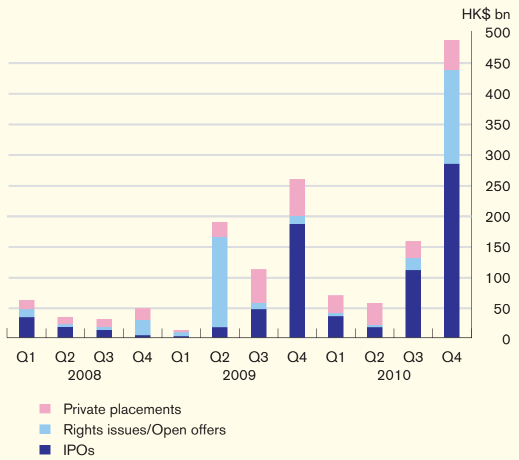
Chart 4.16
Changes in the net foreign currency assets of the AIs in 2010



Note: A positive value indicates inflows.
Source: HKMA.

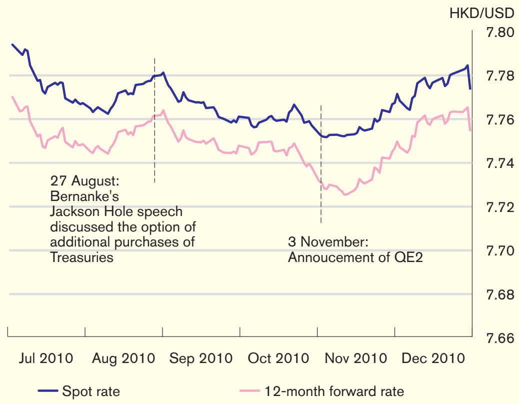
6 It should be noted that changes in the net foreign currency assets of the AIs, or the equivalent of their net Hong Kong dollar liabilities, include the effects of valuation changes like price and exchange-rate changes, and, therefore, are only a proxy for net Hong Kong dollar fund flows.

Chart 4.17
Equity funds raised in Hong Kong



Note: Figures excluding warrants exercised, consideration issues and share option schemes.
Source: Hong Kong Exchanges and Clearing Limited.

Chart 4.18
Hong Kong dollar exchange rates



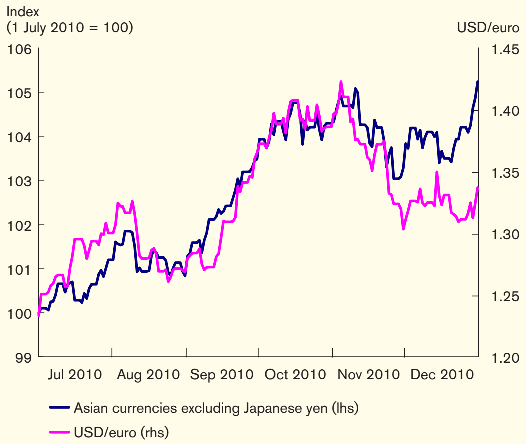
Source: HKMA.

Increased equity-related demand can partly explain the strengthening of the Hong Kong dollar exchange rates between July and early November. The amount of capital raised in the equity market increased markedly in the second half compared with the first, which might have fuelled foreign investors' demand for Hong Kong dollars (Chart 4.17). A market survey which investigates the international allocation of equity funds shows that the demand for Mainland-related stocks, including H-shares and red-chips listed in Hong Kong, rebounded strongly in Q3. The Hang Seng Index (HSI) recovered from around 20,000 at the end of June to a peak of close to 25,000 in early November.

The strengthening of the Hong Kong dollar exchange rates may also be due to speculation about further monetary easing by the US Federal Reserve. Signs of additional monetary easing in the US emerged in August, and the US Federal Reserve announced on 3 November a second round of large-scale Treasury bond purchases, widely known as QE2. The Hong Kong dollar spot and forward exchange rates strengthened visibly in anticipation of QE2 (Chart 4.18), and the widening of the Hong Kong dollar forward discounts also gained momentum shortly before the bond purchase launch.

However, in late November and December, the Hong Kong dollar spot and forward exchange rates weakened (Chart 4.18). The net foreign currency assets of AIs also declined, signalling weaker demand for Hong Kong dollar assets by the non-bank private sector. Nevertheless, the Hong Kong dollar selling pressures appeared to be mild, as the weak-side Convertibility Undertaking was not triggered.

Chart 4.19
Exchange rates

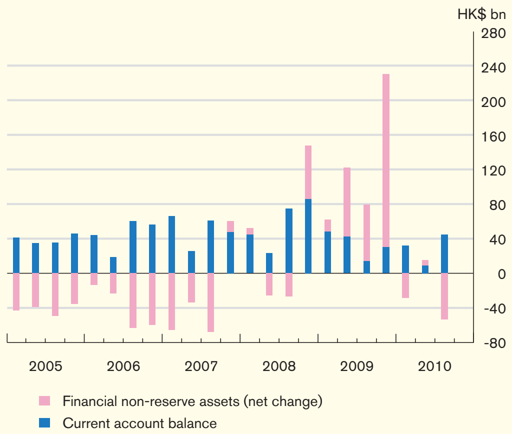


Note: Bloomberg-JP Morgan Asia Dollar Index. A higher index value represents a general appreciation of Asian currencies excluding Japanese yen.

Source: Bloomberg.

Market information suggests that the weakening of the Hong Kong dollar exchange rates was due partly to a repatriation of IPO proceeds out of the Hong Kong dollar following vibrant fund-raising activities in the equity market. It might also be attributable to risk aversion arising from renewed concerns over European sovereign debt problems. European countries with a relatively fragile fiscal position continued to see high long-term interest rates and default risk premia on their government bonds despite recent consolidation measures. As a result, the euro depreciated against the US dollar in November, undermining market sentiment and boosting safe-haven buying of the US dollar. At around the same time, most Asian currencies softened before recovering towards the end of December, signalling some outflows from the region (Chart 4.19).

Chart 4.20
Cross-border capital flows



Source: C&SD.

Balance of Payments and cross-border capital flows

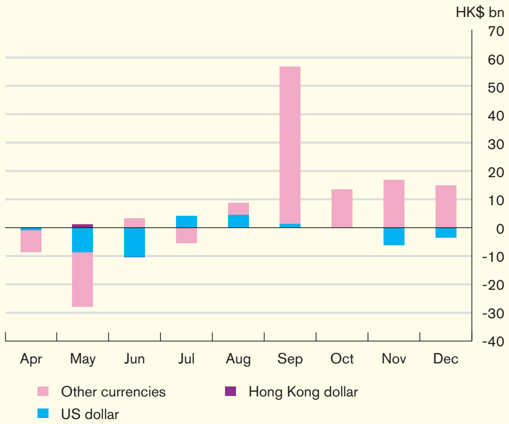
Cross-border flows became more active in the third quarter, with a rise in the current account surplus and a larger private financial net outflow (Chart 4.20). The current account surplus increased to HK$44.3 billion (9.8% of GDP) in Q3, after generally trending downwards since 2009 Q1 (Table 4.A). This improvement was due to a narrowing in merchandise trade deficits while surpluses of service trade persisted. On the other hand, as net portfolio and direct investment outflows exceeded net investment inflows relating to loans and deposits ("other" investment), the third quarter alone saw a private financial net outflow of HK$53.6 billion (or 11.8% of GDP), larger than the total net outflow of HK$22.6 billion in the first half.

Table 4.A
Balance of Payments account by standard component

	2008	2009	2010		
(% of GDP)			Q1	Q2	Q3
Current Account	**13.6**	**8.3**	**7.5**	**2.1**	**9.8**
Capital and Financial Account	**-13.8**	**-9.5**	**-8.8**	**1.7**	**-12.6**
Capital transfers	1.0	2.2	2.8	1.6	2.6
Financial non-reserve assets (net change)	**1.0**	**21.9**	**-6.8**	**1.4**	**-11.8**
Direct investment	4.2	-5.5	-3.0	3.1	-6.6
Portfolio investment	-17.6	-20.3	-20.4	-24.3	-23.3
Financial derivatives	3.8	1.5	1.8	2.6	1.4
Other investment	10.6	46.2	14.7	20.0	16.7
Reserve assets (net change)	**-15.8**	**-33.6**	**-4.8**	**-1.3**	**-3.4**
Net errors and omissions	**0.2**	**1.2**	**1.3**	**-3.8**	**2.8**

Source: C&SD.

Chart 4.21
Monthly changes in banks' holdings of government debts issued outside Hong Kong in 2010



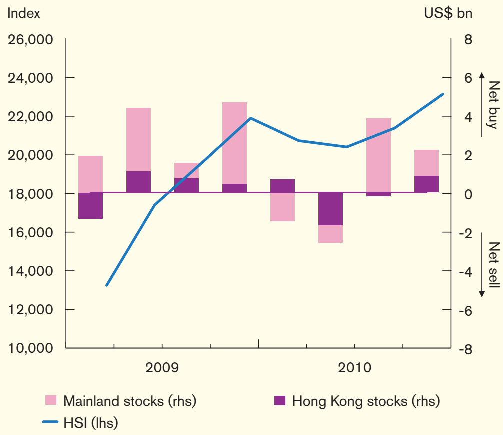
Source: HKMA.

Table 4.B
Cross-border portfolio investment flows

(HK$ bn)	2008	2009	2010 Q1	2010 Q2	2010 Q3
By Hong Kong residents					
Equity securities	-142.3	-199.2	-89.6	-145.4	-13.8
Debt securities	-53.4	-204.5	-10.6	80.3	-86.1
By non-residents					
Equity securities	136.1	73.6	6.0	-31.5	-17.7
Debt securities	-235.5	-2.3	8.7	-4.5	12.0

Note: A positive value indicates capital inflows.
Source: C&SD.

Chart 4.22
Market survey of equity-related flows



Note: "Mainland stocks" include H-shares and red-chips listed on the Hong Kong Stock Exchange and those shares listed on the Mainland stock markets.
Sources: CEIC and EPFR Global.

The net portfolio investment outflow in Q3 was mainly driven by the sizable debt portfolio investments abroad, with Hong Kong banks buying non-resident money market instruments amounting to about HK$90 billion. The banking sector's balance sheet data reveal that AI's holdings of government debts issued outside Hong Kong increased markedly in September and these debt instruments were mainly denominated in non-US dollar foreign currencies (Chart 4.21). A small portion of these debt investments abroad may be related to the purchase of Mainland bonds.[7] On 17 August, the PBoC announced the pilot scheme for the Renminbi Clearing Bank and other eligible institutions outside the Mainland to use their renminbi funds to invest in the Mainland's interbank bond market.

Net equity portfolio investments also recorded outflows in Q3, but their size was smaller than that of debt outflows. During the quarter, non-residents reduced their holdings of Hong Kong-based shares by HK$17.7 billion (Table 4.B). However, equity flows by non-residents in the BoP statistics do not capture transactions like non-resident subscriptions for H-shares IPOs in Hong Kong. As such, market survey data can supplement BoP statistics by filling this gap. In fact, there was substantial net foreign buying of Mainland-related stocks including H-shares in Q3, signalling foreign inflows, instead of outflows, in the local stock market (Chart 4.22).

[7] Statistics of banks' external claims vis-a-vis Mainland China show that Hong Kong banks increased their holdings of Mainland debt securities by about HK$12 billion in Q3.

Table 4.C
Cross-border flows relating to currency and deposits, and loans

(HK$ bn)	2008	2009	2010 Q1	2010 Q2	2010 Q3
By Hong Kong residents					
Currency and deposits	309.1	542.1	48.3	109.5	-207.6
Loans and trade credits	23.6	202.2	-40.8	-65.0	-101.6
By non-residents					
Currency and deposits	-26.3	73.0	58.5	28.8	389.4
Loans and trade credits	-120.7	-49.8	9.6	10.5	3.2

Note: A positive value indicates capital inflows.
Source: C&SD.

Investments relating to deposits and loans continued to record net inflows in Q3 (Table 4.C). Flows of interbank deposits between the Mainland and Hong Kong were one of the main contributors to the large two-way deposit flows, partly reflecting the rapid development of the renminbi banking business in Hong Kong. In particular, the signing of a revised Clearing Agreement between the PBoC and the Renminbi Clearing Bank on 19 July further strengthened Hong Kong's renminbi business platform and promoted the development of renminbi money and bond markets in Hong Kong. As global economic activity continued to improve, external loans and trade finance extended by residents to non-residents expanded successively in the first three quarters (Table 4.C). Market information suggests that Hong Kong was active in the Asian loan market during 2010 as banks were able to offer more competitive interest rates to foreign borrowers.

Outlook for capital flows

While better economic performance of the regional economies relative to the advanced economies will continue to provide incentives for capital inflows, market concerns about inflationary pressures and further monetary tightening in these economies pose some uncertainties to the direction of international capital flows. At the same time, global financial conditions remain vulnerable to the sovereign debt problems in Europe and geopolitical tensions in the Middle East and North Africa. There are also early signs that the interest rate cycles in the major advanced economies may start to turn in the period ahead, given rising headline inflationary pressures. All these factors indicate that the direction of Hong Kong dollar flows will be highly uncertain in 2011, and vigilance is warranted against associated risks.

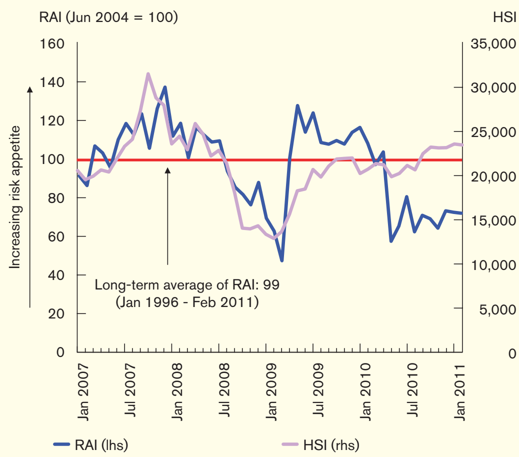
Asset markets

Local equity prices reached a peak in early November, and then lost momentum towards the end of the year. Given limited market volatility and downside risks, local equities may continue to attract international investors in the current low interest rate environment, which could increase the volatility of capital flows.

4.4 Equity market

The Hong Kong equity market rallied after the summer break on the back of a robust Mainland economy, better growth prospects for the world economy and ample global liquidity. Driven by a strong pick-up in fund raising activities, better-than-expected corporate earnings growth and continued expectations of renminbi appreciation, the HSI rose to a 29-month high at just below 25,000 in early November. Arguably, the introduction of the second round of quantitative easing in the US helped boost confidence and support demand for risky assets around the world, including local equities. However, the market lost momentum towards the end of 2010, as profit-taking pressure emerged amid concerns over the monetary tightening in Mainland China and the elevated sovereign risk of the peripheral European economies.

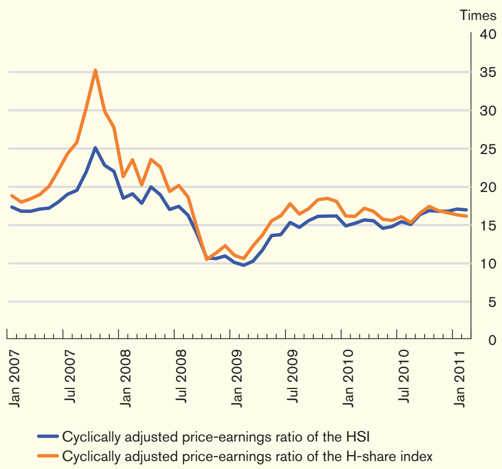
Chart 4.23
Risk appetite index (RAI) of the HSI



Sources: Staff estimates *(HKMA Working Paper 05/2007)* and Bloomberg.

Overall, the HSI and the H-share index gained 13.6% and 9.7% respectively from September 2010 to February 2011. Among the sub-indices, the HSI-Finance increased by 13.1%, reflecting notable gains of Mainland banks and insurance companies. The HSI-Properties sub-index also rose by 6.9%, despite government measures to cool the market. Small-cap stocks (15.7% growth) outperformed mid-cap (8.1%) and large-cap (11.6%) stocks during the review period.

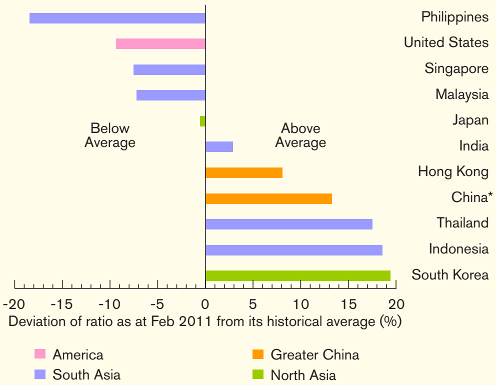
Chart 4.24
Cyclically adjusted price-earnings ratios of the HSI and H-share index



Source: Staff estimates.

Despite the rally, investors remained cautious, with the risk appetite index staying significantly below the historical average (Chart 4.23). The valuation of local equities increased slightly, with the cyclically adjusted price-earnings ratios of HSI and H-share constituent stocks edging up to 16.8 and 15.9 times respectively at the end of February 2011 (Chart 4.24).

Chart 4.25
Price-earnings ratios of US and Asian markets

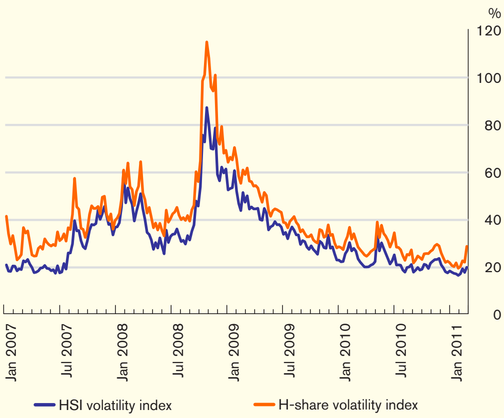


* China is proxied by H-shares since foreign investors cannot freely invest in Mainland A-shares. The Mainland B-shares market is not used due to its small market capitalisation and illiquidity.

Note: Historical averages are median values over sample periods that vary from one market to another, the longest started in 1981 and the shortest in 2003.

Sources: Staff calculations, CEIC and Bloomberg.

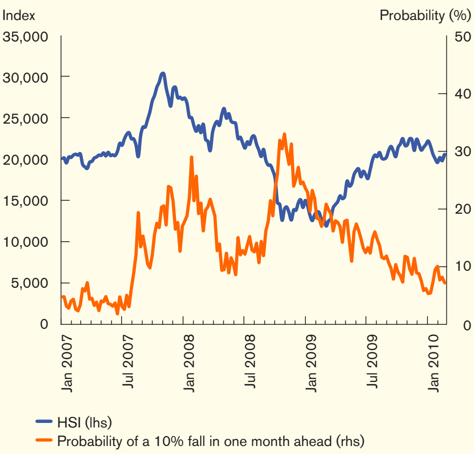
Chart 4.26
Volatility indices of the HSI and H-share Index



Note: HSI volatility index is calculated by Hang Seng Indexes Company Limited while H-share volatility index is estimated by our staff.

Sources: Bloomberg and staff estimates.

Chart 4.27
Option-implied probability of a 10% fall in the HSI in one month ahead



Sources: Bloomberg and staff estimates.

Compared with other Asian markets, they are still on the low side (Chart 4.25).

Implied volatilities have returned to pre-global financial crisis levels, as shown by the HSI and H-share volatility indices (Chart 4.26). More importantly, the downside risk appears limited as the estimated probability of a 10% fall in the HSI in one month ahead – implied by market option prices – dropped markedly to the lowest level since the onset of the sub-prime crisis (Chart 4.27).

If bond yields remain low globally and emerging markets are still expected to outperform mature markets, the low market volatility and limited downside risk to local equities (as perceived by market participants) are likely to attract yield-seeking investors to increase their exposure to the local market. This type of capital flow tends to be more sensitive to interest rate changes, hence potentially more volatile. Indeed, alarm bells are already ringing as a result of the recent pick-up in inflation in various parts of Asia and Europe, and inflation expectations in the US. In particular, the uncertainties over whether there are tougher measures in the pipeline to tighten bank credit further on the Mainland will cast a shadow over the outlook for local equities.

Property markets

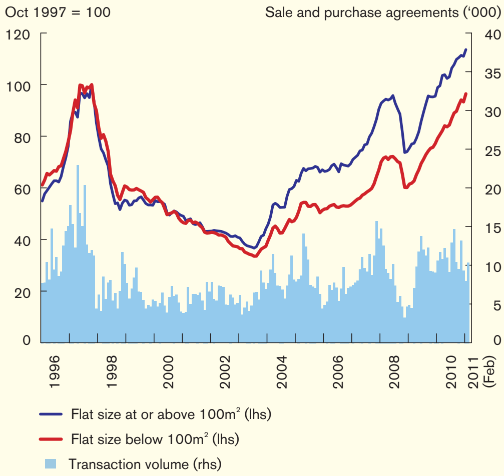
The residential property market boom continued, with housing prices rising further and trading activities remaining lively. And, there are signs the commercial and industrial property markets are following the trend.

4.5 Property markets

Residential property market

The residential property market has continued to flourish. In the secondary market, housing prices picked up sequentially by 10.4% in the second half of 2010, resulting in an increase of 20.4% for 2010 as a whole and 54.8% since December 2008. Essentially, price rises that were concentrated in the luxury end of the market during most of 2009 have extended to the mass market. The price of small and medium sized flats (with a saleable area below 100 m^2) rose by 20.9% in 2010, faster than the increase of 16.2% for large flats. Residential property trading was highly active, with 135,778 sale and purchase agreements being lodged with the Land Registry, the highest number since 1997. The current cycle of active transactions, which began in 2009 Q2, has been long by historical standards (Chart 4.28).

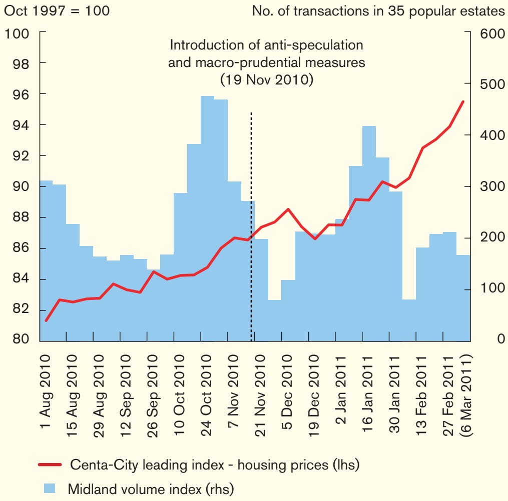
Chart 4.28
Residential property prices and transaction volume



Sources: R&VD and Land Registry.

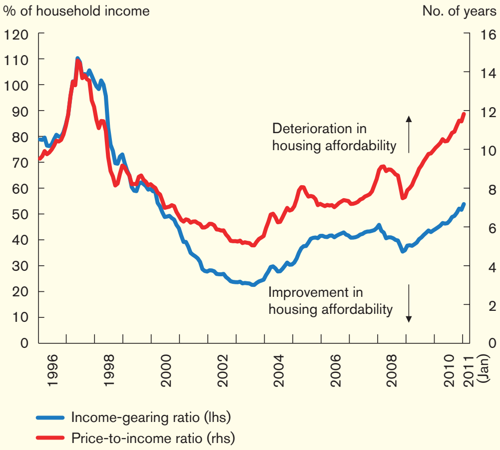
The Government and the HKMA introduced a series of measures to promote a healthy and stable development of the housing market and safeguard banking stability. Macro-prudential measures taken by the HKMA include a further tightening of AIs' underwriting standards for mortgage loans to prevent excessive lending. On 19 November, the cap on the loan-to-value (LTV) ratio was reduced from 70% to 60% for owner-occupied residential properties with a value of HK$8 million or above, but below HK$12 million, and from 60% to 50% for those with a value of HK$12 million or above. The maximum LTV ratio for all non-owner occupied residential properties was lowered to 50% across the board regardless of property values. The 50% ceiling on

Chart 4.29
Residential property prices and transaction volume estimated by realties



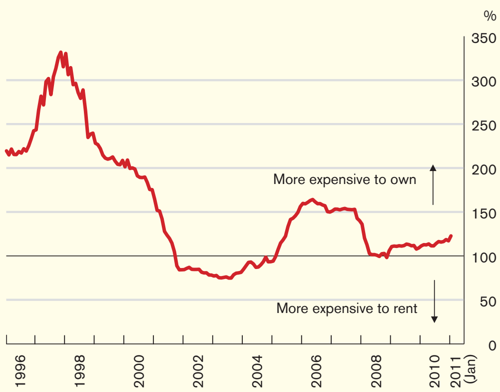
Sources: Midland Realty and Centaline Property Agency Limited.

Chart 4.30
Indicators of housing affordability



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

Chart 4.31
Buy-rent gap*



* Ratio of the cost of purchasing and maintaining a flat to that of renting it.

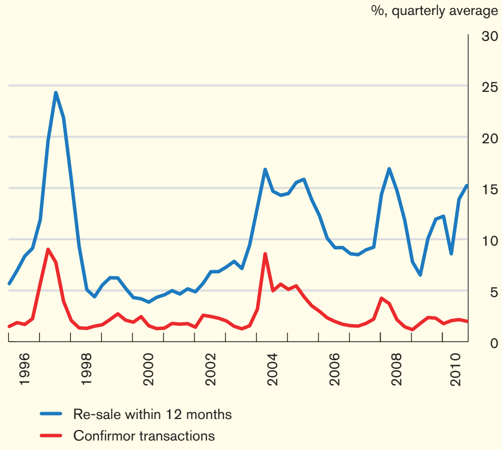
Sources: R&VD, C&SD and staff estimates.

the debt servicing ratio (DSR) continues to apply to mortgage applicants, while AIs are required to stress-test applicants' repayment ability. And, last November, the Government introduced a Special Stamp Duty at 5 - 15% of property value to discourage speculative activities. These measures, particularly the more recent ones, have had some effect in calming trading activities and dampening the run-up in housing prices. However, there have been new signs of a resurgence in the property market, according to the provisional records of major real estate agencies (Chart 4.29).

Housing affordability has further deteriorated as increases in housing prices continued to outpace income growth. The HKMA's estimated income-gearing ratio (the ratio of mortgage payment for a typical 50 m^2 flat to median income of households living in private housing) reached 54% in January, compared with 44% a year ago. In parallel, the housing price-to-annual-income ratio also increased visibly during the same period, from 10.1 to 11.8 (Chart 4.30). The comparable income-gearing and price-to-income ratios for the luxury segment also rose.[8] The buy-rent gap or the cost of owner-occupied housing (comprising mortgage repayment and the foregone interest on home equity) relative to rentals picked up steadily (Chart 4.31), mainly reflecting the slower pace of increases in housing rentals than prices.

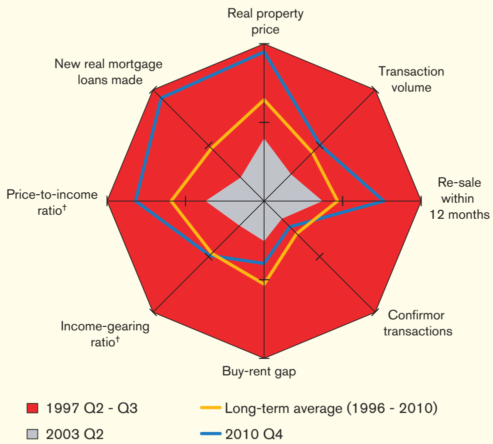
8 The ratios for the luxury segment are calculated based on the average price of a 150m^2 flat and the 95th percentile of income of households residing in private housing.

Chart 4.32
Confirmor transactions and re-sale activities with a buy-hold-and-sell period of less than 12 months



Source: Centaline Property Agency Limited.

Chart 4.33
Graphical analysis of the housing market



† Income based on median income of households residing in private housing.

Sources: R&VD, Land Registry, C&SD, Centaline Property Agency Limited and staff estimates.

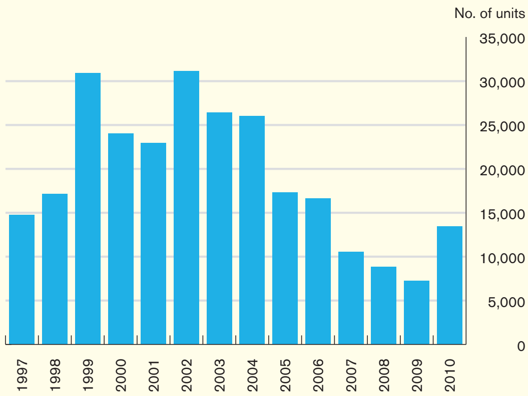
For speculative and investment activities, the often-quoted confirmor transactions as a percentage of total secondary market transactions remained below 2% for most of 2010 (Chart 4.32). However, alternative indicators such as re-sale activities with a buy-hold-and-sell period of less than 12 months increased notably in early 2010 and throughout the second half of the year. The divergence in the trends of these indicators was in part due to the low interest rate environment that has greatly reduced the cost of holding properties for a period longer than a confirmor transaction would normally have allowed. On the other hand, both confirmor transactions and re-sale activities are expected to drop in the near future with the introduction of the Special Stamp Duty and tighter macro-prudential measures that have markedly raised the cost of engaging in short-term trading activities. The impact of the ban on confirmor transactions for first-hand uncompleted flats, introduced in August 2010, will likely be more noticeable in the forthcoming statistics.[9]

Lending conditions remained broadly accommodative, with mortgage interest rates staying mostly around 1%. Mortgages priced off of the HIBOR (typically the one-month HIBOR plus 0.8 - 1 percentage point, capped at the best lending rate minus 2.5 percentage points) continued to draw favourable market response, and the proportion of such loans in newly approved mortgage loans rose further from 83.9% last June to 92.2% in January. Underpinned by surging housing prices and active transactions, outstanding mortgage loans for residential properties increased by 8.4% from six months earlier to HK$795.5 billion in December.

Discussion of the latest property market conditions is summarised in a graphical framework covering eight of the housing market related indicators. The peak and trough levels of these indicators since 1997 and their recent developments are presented as octagons in Chart 4.33. Indicators in the top left quadrant – real property prices, new real mortgage loans made and price-income ratio were approaching their peak levels of 1997. Indicators with interest rate loadings – the buy-rent gap and income-gearing ratio, however,

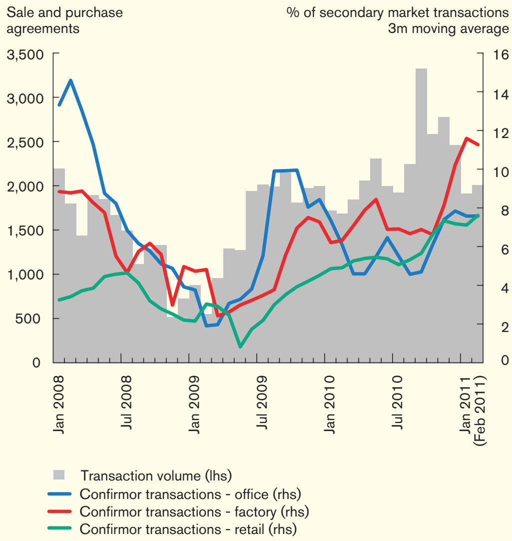
[9] The ban applies to first-hand uncompleted flats approved for pre-sale on or after 13 August 2010.

Chart 4.34
Actual completion of new private residential units



Source: Transport and Housing Bureau.

Chart 4.35
Transaction volume and confirmor transactions



Sources: CEIC, Land Registry, Centaline Property Agency Limited and staff estimates.

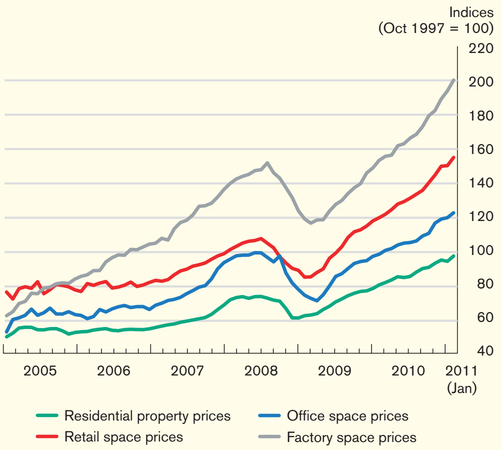
remained modest because of the very low interest rate environment, although the latter has already surpassed its long-term average level. Overall transaction volume, while still somewhere below its peak of 1997, reached a decade-high, with the duration of sustaining such a high transaction volume considered to be long by historical standards. Although confirmor transactions were contained, re-sale activities with a buy-hold-and-sell period of less than 12 months increased significantly. Taken together, the octagonal graphical framework highlights the risks of over-stretching in the residential property market that warrants vigilance by both the public and policymakers.

The supply of new flats increased in 2010, the first time in eight years. Actual completion of new private residential units rose from a low of 7,200 in 2009 to 13,400 in 2010 (Chart 4.34). Over the medium term, supply of new flats is expected to increase further with the Government proactively boosting land supply. It is estimated that housing land available for sale under the 2011/12 Application List and the Sale by Tender List can provide about 16,000 units, higher than the estimated 9,000 units in the 2010/11 Application List. Potential supply will increase further through lease modifications, land exchange and private treaty grants, particularly with the implementation of the MTRCL's above-station projects and the Urban Renewal Authority's redevelopment plans.

Commercial and industrial property markets

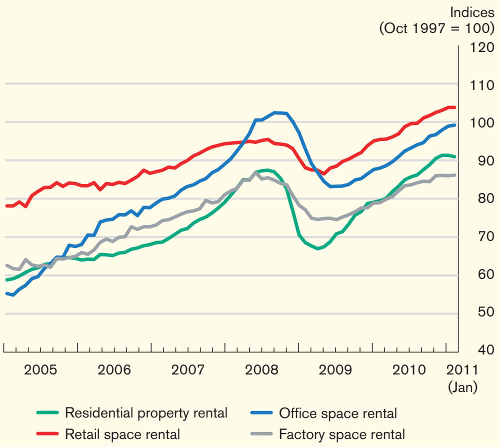
The commercial and industrial property markets generally followed the buoyant development in the residential market. Trading activities flourished, particularly in the second half of 2010 (Chart 4.35). For the year as a whole, a decade-high total of 26,961 sale and purchase agreements were lodged with the Land

Chart 4.36
Price indices by property type



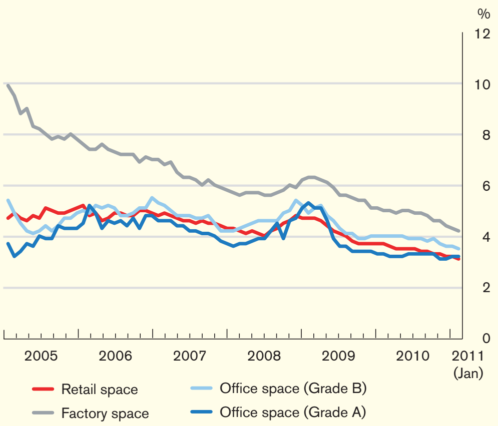
Source: R&VD.

Chart 4.37
Rental indices by property type



Source: R&VD.

Chart 4.38
Rental yields by property type



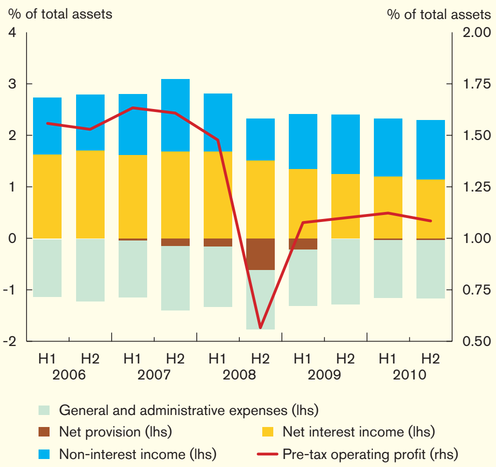
Source: R&VD.

Registry. Confirmor transactions, as a percentage of total secondary market transactions, also increased distinctly in the latter part of the year, indicating an intensification of speculative activities. Prices of commercial and industrial properties rose by 14 - 17% in December from June, while rentals picked up at a less aggressive pace (Charts 4.36 and 4.37). Rentals of retail and factory space increased by 4.2% and 2.8% respectively in the second half, while office space rentals rose by 6.1%, underpinned by expanding demand, optimistic hiring sentiment and a tight vacancy rate. Overall, rental yields for commercial and industrial properties edged lower to around 3 - 4% (Chart 4.38). It was against this background that the HKMA extended the macro-prudential measures for mortgage lending in November to cover industrial and commercial properties, reducing the ceiling on the loan-to-value ratio to 50%.

5. Banking sector performance

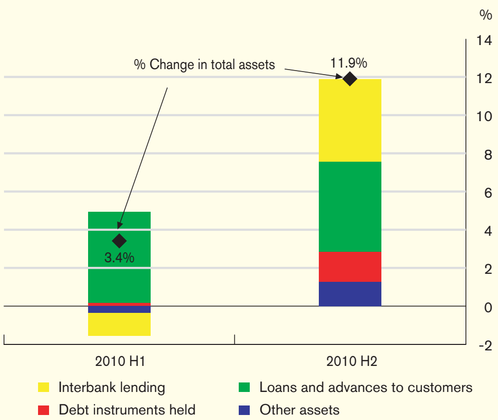
Retail banks registered healthy profits, with strong liquidity and capital positions by international standards. Underpinned by the enhanced Deposit Protection Scheme, the banking sector saw a smooth on-schedule withdrawal of the temporary full deposit guarantee. However, record low net interest margins and rapid credit growth, particularly in Mainland-related exposure and property lending, have raised concerns about increased latent credit risk amid excessive liquidity. In response to the perceived increased risk, the HKMA implemented another round of prudential measures in mid-November. The current proposal for positive mortgage data sharing should also help strengthen banks' credit risk management.

Chart 5.1
Profitability of retail banks



Note: Semi-annually annualised figures.
Source: HKMA.

Chart 5.2
Contribution to asset growth of retail banks



Sources: HKMA and staff estimates.

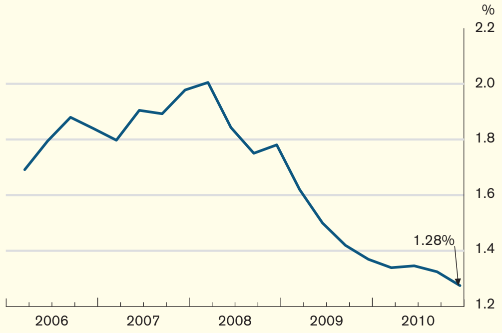
5.1 Profitability and capitalisation

Profitability

The aggregate pre-tax operating profit of retail banks[10] grew by 8.3% in the second half of 2010 compared with the first half, mainly attributable to higher non-interest income. The return on assets, however, decreased marginally (Chart 5.1) due to stronger growth in total assets (Chart 5.2) than that in profits and reflecting a narrowed net interest margin (NIM).

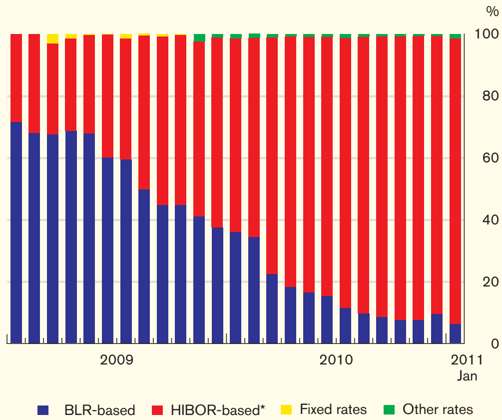
[10] Throughout this chapter, figures for the banking sector relate to Hong Kong offices only, except where otherwise stated.

Chart 5.3
Net interest margin of retail banks



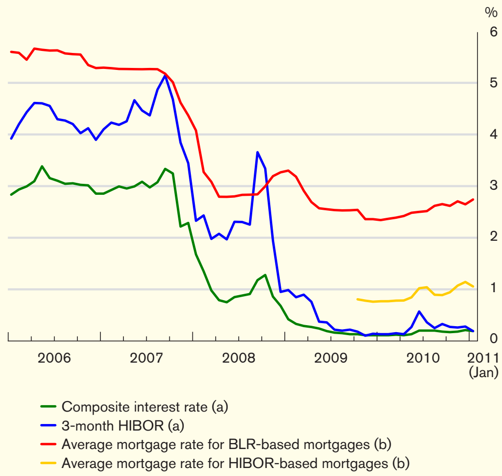
Note: Quarterly annualised figures.
Source: HKMA.

Chart 5.4
Share of newly approved mortgages by reference interest rates



* Including "Other rates" before November 2009.
Source: HKMA.

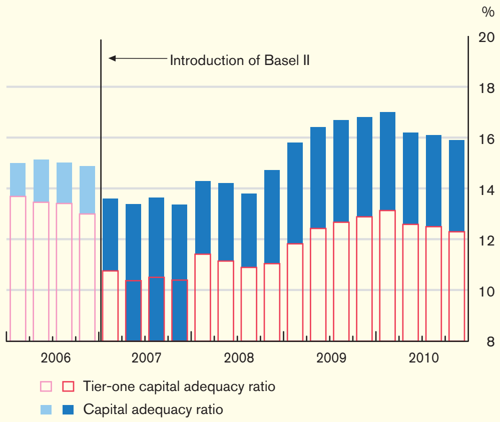
Chart 5.5
Interest rates



Notes:
(a) End-of-period figures.
(b) Period-average figures for newly approved loans.
Sources: HKMA and staff estimates.

Low effective mortgage rates continued to weigh on the NIM (Chart 5.3), which reached a record low of 1.28% in 2010 Q4. Although some banks increased their HIBOR-based mortgage rates in 2010 Q4, most new mortgages continued to be underwritten using HIBOR-based plans (Chart 5.4). Their effective mortgage rates, however, were generally less than 1.2%, significantly lower than those of traditional BLR-based mortgages (Chart 5.5). Despite the unusually low average cost of funds (around 0.2% as reflected by the composite interest rate), such HIBOR-based mortgages may only generate a thin interest margin of less than 1%.

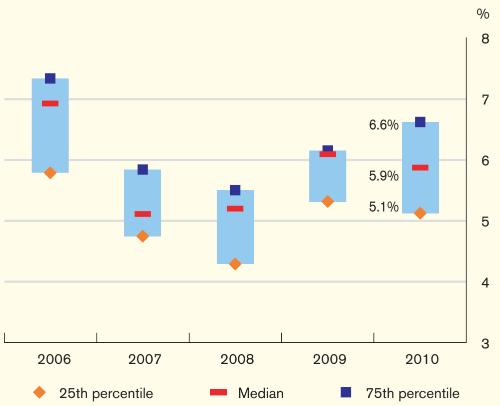
Chart 5.6
Capitalistion of locally incorporated AIs



Notes:
1. Consolidated positions.
2. With effect from 1 January 2007, a revised capital adequacy framework (Basel II) was introduced for locally incorporated AIs. The capital adequacy ratios from March 2007 onwards are therefore not directly comparable with those up to December 2006.

Source: HKMA.

Chart 5.7
Leverage ratio of banks in Hong Kong



Notes:
1. Consolidated positions.
2. The sample contains 10 selected listed banks in Hong Kong.
3. Leverage ratio is defined as the ratio of tier-one capital to total assets.
4. A higher value indicates lower leverage.
5. For 2010, interim results are used as full-year results were not available at the time of conducting the analysis.

Sources: Bankscope and banks' annual and interim reports.

Capitalisation

Capitalisation of the banking sector was strong and well above international standards. The consolidated capital adequacy ratio of locally incorporated AIs decreased marginally to 15.9% at the end of December 2010 from 16.2% at the end of June, while the tier-one capital adequacy ratio edged down to 12.3% from 12.6% (Chart 5.6).

A leverage ratio measured by tier-one capital to total assets, which is a supplementary measure to risk-based capital ratios, also showed the sound capital positions of banks in Hong Kong, with a median of 5.9% (Chart 5.7) at the end of June.

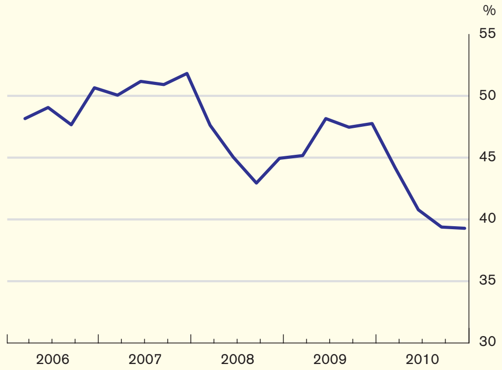
Favourable sentiment in the domestic equity market continued to lend support to banks' fund-raising activities in Hong Kong. Some banks issued new equity successfully, and the fresh capital should help them to sustain asset growth. It also reduces the potential impact of new regulatory standards, although this is likely to be small given banks' already strong capitalisation and the long phase-in period for Basel III.[11] For the economy as a whole, the regulatory reforms are anticipated to bring a positive long-term effect, which is estimated to range from 2.1% to 2.8% in real annual GDP.[12]

To maintain their relative financial strength among counterparts, it is likely that more banks in Hong Kong will issue new equity in the near term. However, their capital raising plans could be adversely affected if there is a reversal of sentiment in the global capital market, either due to a failure of rollover of bank debt in some advanced economies or intensification of the European sovereign debt crisis. Nevertheless, the relatively strong financial position of the Hong Kong banking sector should support the banks' capital raising activities.

[11] The HKMA does not expect major problems for banks in Hong Kong in complying with the new regulatory standards, although some may need to adjust their liquidity profiles or the composition of their liquid assets. See HKMA circular "Implementation of Basel III in Hong Kong" issued on 26 January 2011, which is available on the HKMA website.

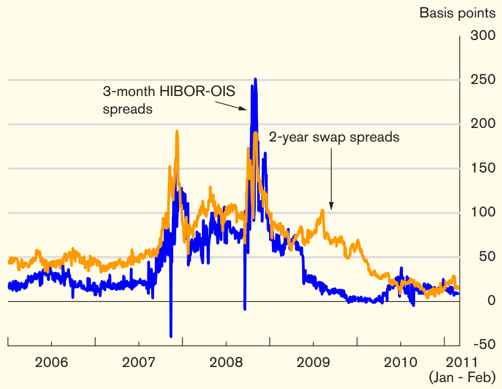
[12] For details, see E. Wong et al. (2010), "An assessment of the long-term economic impact of the new regulatory reform on Hong Kong", *HKMA Research Note 05/2010.*

Chart 5.8
Liquidity ratio of retail banks



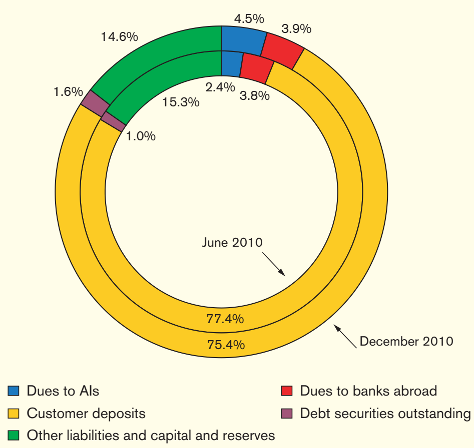
Note: Quarterly average figures.
Source: HKMA.

Chart 5.9
3-month HIBOR-OIS spreads and 2-year Hong Kong dollar swap spreads



Source: Bloomberg.

Chart 5.10
Liabilities structure of retail banks



Notes:
1. Figures refer to the percentage of total liabilities (including capital and reserves).
2. Debt securities comprise negotiable certificates of deposit and all other negotiable debt instruments.

Source: HKMA.

5.2 Liquidity and funding

The liquidity condition of the banking system remained sound, despite a modest decline in the average liquidity ratio. For retail banks, the ratio decreased slightly to 39.3% in 2010 Q4, after falling to 39.4% in Q3 from 40.8% in Q2 (Chart 5.8). The fall was due mainly to banks' reallocation of assets from more liquid instruments (such as interbank claims) into less liquid assets (for example, loans and advances). Nevertheless, the average liquidity ratio remained well above the regulatory minimum of 25%.

Increased uncertainties in some European banking systems, stemming from renewed concerns about the European sovereign debt crisis, so far have had only an insignificant and short-lived impact on domestic interbank liquidity. The spread between the three-month HIBOR and its corresponding overnight index swap (OIS) rate[13] narrowed to nine basis points at the end of February 2011, after widening to 25 basis points in late December 2010 from 14 basis points at the end of August (Chart 5.9).

Longer-term funding liquidity was broadly stable. The two-year Hong Kong dollar swap spread increased moderately from a low level of four basis points in late October 2010 to 15 basis points at the end of February 2011.[14 & 15]

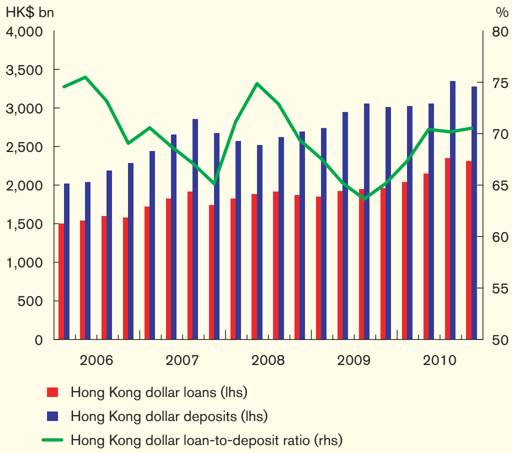
In spite of strong loan growth, the large customer deposit base (Chart 5.10) of retail banks has helped to keep their loan-to-deposit ratios at low levels. The Hong Kong

13 An OIS is an interest rate swap in which the floating leg is linked to an index of daily overnight rates. The two parties agree to exchange at maturity, on an agreed notional amount, the difference between interest accrued at the agreed fixed rate and interest accrued at the floating index rate over the life of the swap. The fixed rate is a proxy for expected future overnight interest rates. As overnight lending generally bears lower credit and liquidity risks, the credit risk and liquidity risk premiums contained in the overnight index swap rates should be small. Therefore, the HIBOR-OIS spread generally reflects the credit and liquidity risks in the interbank market.

14 Swap spreads are differences between "fixed-for-floating" interest rate swap rates and corresponding Exchange Fund paper yields of the same maturity.

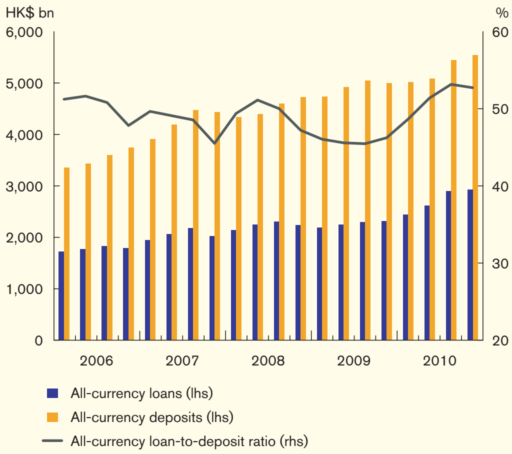
15 The determinants of variations in the Hong Kong dollar swap spreads are investigated in C. Hui and L. Lam (2008), "What drives Hong Kong dollar swap spreads: Credit or liquidity?", *HKMA Working Paper 10/2008*.

Chart 5.11
Hong Kong dollar loan-to-deposit ratio of retail banks



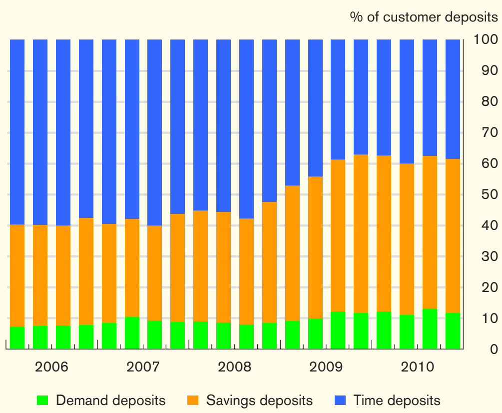
Source: HKMA.

Chart 5.12
All-currency loan-to-deposit ratio of retail banks



Source: HKMA.

Chart 5.13
Structure of customer deposits of retail banks

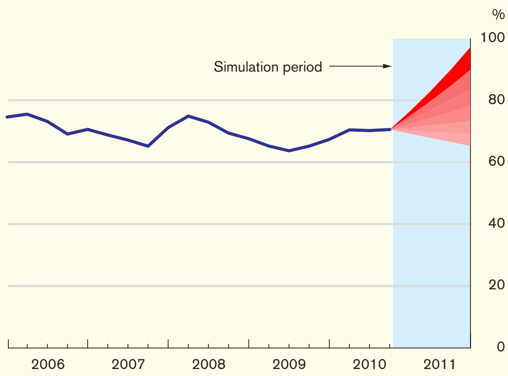


Source: HKMA.

dollar loan-to-deposit ratio edged up by 0.1% to 70.5% in 2010 Q4 from 70.4 % in Q2 (Chart 5.11), while the all-currency loan-to-deposit ratio increased to 52.8% in Q4 from 51.4% in Q2 (Chart 5.12).

While there has been ample liquidity in the banking sector, recent changes in the composition of customer deposits since 2008 Q3 may suggest that the level of deposits would become more sensitive to capital flows. In particular, the share of time deposits in total customer deposits decreased from 57.8% in 2008 Q3 to 38.6% in 2010 Q4, while that of savings deposits and demand deposits rose to 49.8% from 34.3% and to 11.6% from 7.9% respectively (Chart 5.13). As the average maturity of deposits of retail banks may have reduced, the impact of capital outflows on their liquidity could be larger.

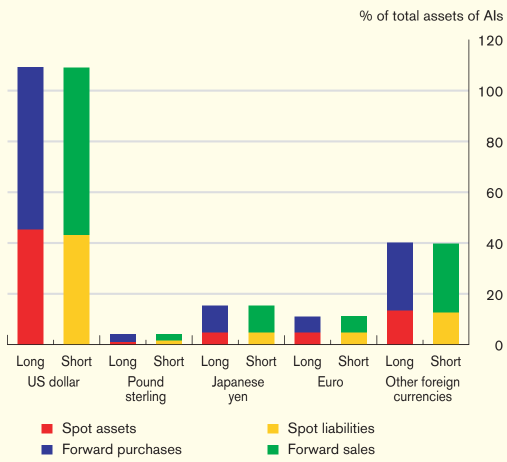
Chart 5.14
Hong Kong dollar loan-to-deposit ratios of retail banks in different scenarios of deposit changes



Notes:
1. Hong Kong dollar loan growth in 2011 is assumed to be 18%, which is comparable to the annual growth in 2010.
2. Annual growth of Hong Kong dollar deposits is assumed to follow a normal distribution with a mean of 6.3% and a standard deviation (s.d.) of 6.9%. The assumptions are based on the statistical property of the time series for Hong Kong dollar deposits from 1999 Q1 to 2010 Q4.
3. The fan chart presents possible changes in the Hong Kong dollar loan-to-deposit ratio of retail banks in 2011 in seven scenarios of deposit changes; from an annual decline of 14.5% (i.e. mean minus 3 s.d.s) to an annual growth of 27.2% (i.e. mean plus 3 s.d.s), with an increment of 1 s.d. for each scenario.

Sources: HKMA and staff estimates.

Chart 5.15
The foreign currency positions



Note: Structural assets and liabilities, such as investment in fixed assets and premises, overseas branch capital, investments in overseas subsidiaries and related companies and loan capital, are excluded for the calculations.

Source: HKMA.

Rigorous assessment of the impact of this may be difficult due partly to limited data indicative of the stickiness of deposits. However, a simple scenario analysis suggests that if the loan growth momentum continues, the Hong Kong dollar loan-to-deposit ratio could increase sharply from the current level in the event of an outflow of deposits (Chart 5.14). Banks should, therefore, remain cautious about the impact of reversals of fund flows on their liquidity.

The expiry of the temporary full guarantee of customer deposits at the end of 2010 so far has had an insignificant systemic impact. Specifically, no significant shifts of customer deposits across banks or from the domestic banking sectors to overseas have been observed based on information to the end of January 2011. The smooth withdrawal of the blanket deposit guarantee is underpinned by the enhanced Deposit Protection Scheme, which came into operation on 1 January 2011.

Foreign currency position

The foreign currency position reflects banks' ability to meet obligations denominated in foreign currencies and their exposure to associated risk. Data on the long and short positions for major currencies indicate that foreign currency risk may not be of significant concern (Chart 5.15). The aggregate net open position (i.e. the long position minus short position) of all AIs for all currencies was HK$34 billion (0.3% of total assets of all AIs) at the end of December 2010.

The rapid development of the offshore renminbi market in Hong Kong continued during the assessment period. Partly reflecting this, renminbi deposits surged by around 250% in the second half of 2010, after increasing by 43% in the first half. The rapid development of renminbi business indicates that banks in Hong Kong are potentially more exposed to foreign exchange risk associated with banks' renminbi open positions. Therefore, banks should prudently manage expansion of their renminbi business.[16]

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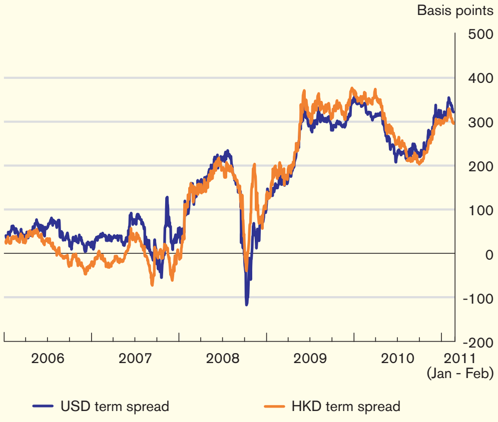
[16] The HKMA issued further guidance in its circular of 23 December 2010 on the handling of renminbi cross-border trade settlement by AIs participating in renminbi business, as well as the maintenance of renminbi net open positions. The circular is available on the HKMA website.

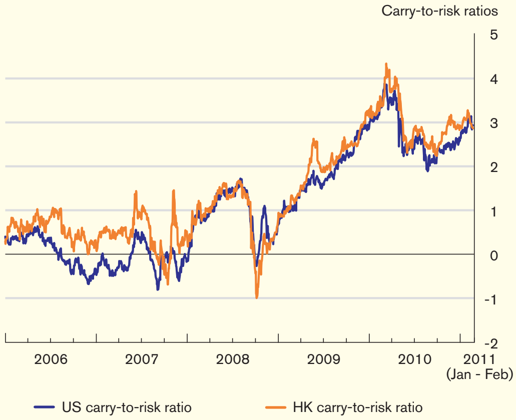
Chart 5.16
Term spreads of Hong Kong and US dollars



Note: Term spreads are defined as 10-year swap rates minus three-month money market rates of the respective currencies.

Sources: Staff estimates based on data from Bloomberg.

Chart 5.17
Carry-to-risk ratio of Hong Kong and US dollars



Notes:
1. Carry-to-risk ratio is defined as the differential between 10-year swap rates and three-month money market rates divided by three-month/10-year swaption-implied volatility of the respective currencies.
2. A higher value indicates a higher risk-adjusted return for borrowing short-term (e.g. three-month) funds to buy long-term (e.g. 10-year) interest bearing securities.

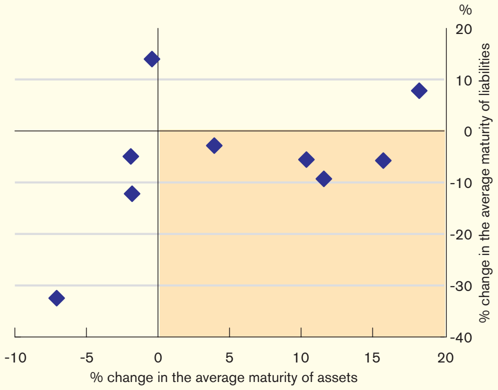
Sources: Staff estimates based on data from Bloomberg.

5.3 Interest rate risk

The last *Report* highlighted a potential interest rate risk stemming from widened spreads between long- and short-term interest rates for the US and Hong Kong dollars. Banks may be tempted to take higher interest rate risks under prevailing monetary conditions by borrowing more short-term funds to acquire longer-term interest bearing assets. This activity would be prone to a greater maturity mismatch.

Such risk persisted in the assessment period, as the spreads continued to stay at a high level (Charts 5.16 and 5.17). Data on the maturity profiles of some listed Hong Kong banks suggest that, although the average maturity of liabilities decreased for most banks, partly reflecting recent changes in the deposit composition,

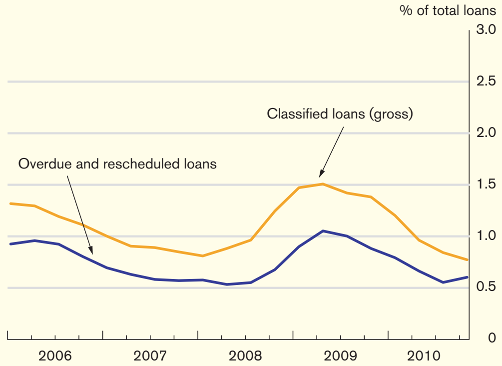
Chart 5.18
Change in average maturities of assets and liabilities



Notes:
1. Data exclude those assets and liabilities with undated maturity.
2. Data refer to banks' consolidated positions.
3. Percentage changes refer to changes from the end of December 2008 to the end of June 2010.

Sources: Staff estimates based on data from banks' annual and interim reports.

Chart 5.19
Asset quality of retail banks



Notes:
1. Classified loans are those loans graded as "substandard", "doubtful", or "loss".
2. Figures relate to retail banks' Hong Kong office(s) and overseas branches.

Source: HKMA.

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

	Sep 2010	Dec 2010
Increased considerably	5	9 ↑
Increased somewhat	47	43 ↓
Remain stable	43	48 ↑
Decreased somewhat	5	0 ↓
Decreased considerably	0	0 —

Source: HKMA.

slightly more than half of the banks increased their average maturity of assets (Chart 5.18). As a result, the systemic impact may remain moderate.

Looking ahead, as long-term government bond yields in some developed economies are set to rise further, banks should be vigilant in monitoring and managing the potential mark-to-market loss for their financial investments.

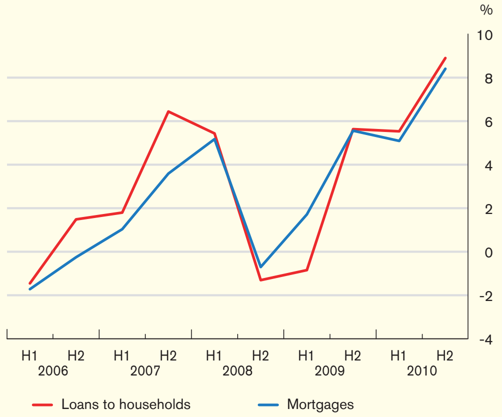
5.4 Credit risk

The credit risk to the banking sector remained low. The classified loan ratio decreased further to 0.77% at the end of December 2010 from 0.96% at the end of June. The ratio of overdue and rescheduled loans rose slightly to 0.60% at the end of December, after falling to 0.55% at the end of September from 0.66% at the end of June (Chart 5.19).

The banking sector continued to record strong loan growth, with domestic lending[17] by AIs rising by 11.1% in the second half, after increasing by 12.6% in the first half. The near-term prospects for strong loan growth remain positive. The results of the HKMA Opinion Survey on Credit Condition Outlook in December 2010 (Table 5.A) indicate that all surveyed AIs expect the domestic loan demand to be either stable or to increase in the next three months.

[17] Defined as loans for use in Hong Kong plus trade-financing loans.

Chart 5.20
Half-yearly growth of loans to households and mortgages by AIs



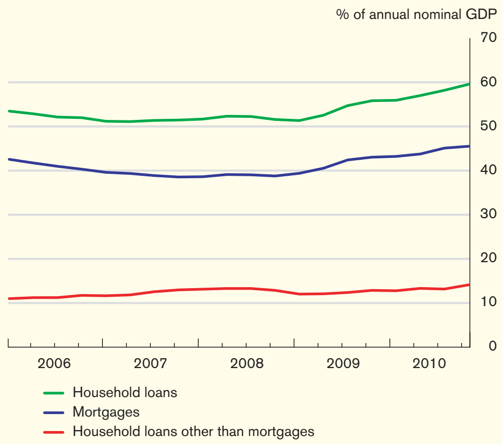
Note: Mortgages include lending under the Home Ownership Scheme, the Private Sector Participation Scheme and the Tenants Purchase Scheme.

Source: HKMA.

Chart 5.21
Half-yearly growth of unsecured household loans by AIs

Source: HKMA.

Chart 5.22
Household debt leverage



Note: Household debt leverage is defined as the ratio of loans to the sum of nominal quarterly GDP for the latest four quarters.

Source: Staff estimates.

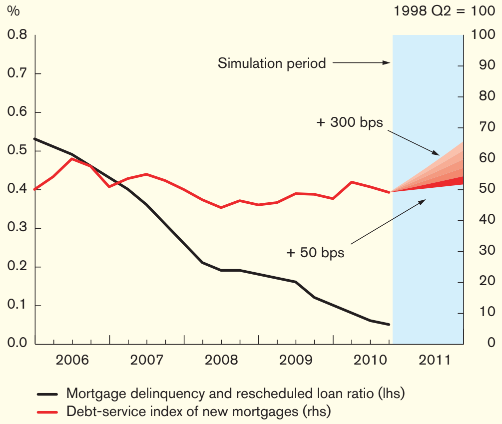
Household exposures

Household loans[18] rose by 8.9% in the second half, driven mainly by significant growth in mortgage lending (Chart 5.20). Unsecured household lending also grew notably. Credit card lending increased by 17.9%, after decreasing by 0.9% in the first half. Other personal loans increased by 7.3% (Chart 5.21).

As a result of strong growth in household loans, household leverage, measured by the ratio of household loans to GDP, rose significantly to 59.6% in 2010 Q4 from 57.0% in Q2 (Chart 5.22).

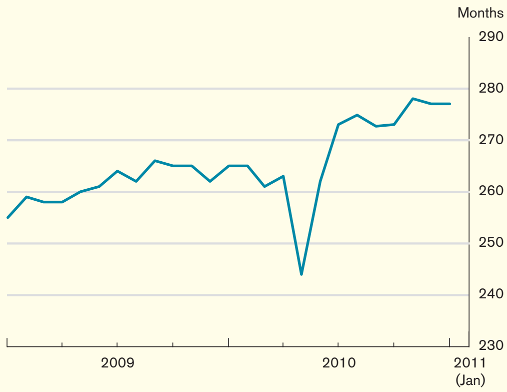
[18] Loans to households constitute lending to professional and private individuals, excluding those for business purposes. Mortgage lending accounts for a major proportion of household loans, while the remainder comprises mainly unsecured lending through credit card lending and other personal loans for private purposes. At the end of 2010, the share of household lending in domestic lending was 31.4%.

Chart 5.23
Household debt-service burden of new mortgages



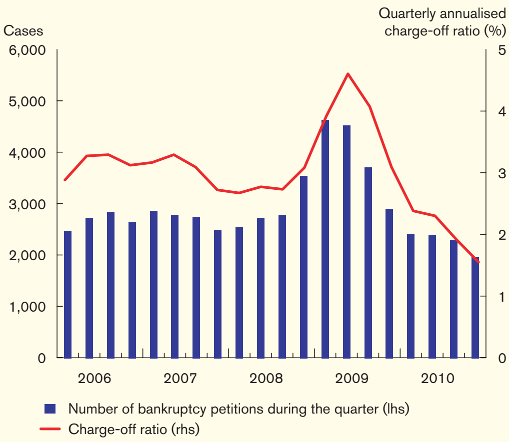
Note: The calculation of the index is based on the average interest rate for BLR-based mortgages.
Sources: HKMA and staff estimates.

Chart 5.24
Average contractual life of newly approved mortgages



Source: HKMA.

Chart 5.25
Charge-off ratio for credit card lending and bankruptcy petitions



Sources: Official Receiver's Office and HKMA.

Nevertheless, indicators generally signalled lower household sector credit risk. The three-month delinquency and rescheduled loan ratio of banks' mortgage portfolios fell in the same period to a record low of 0.05% in December (Chart 5.23).

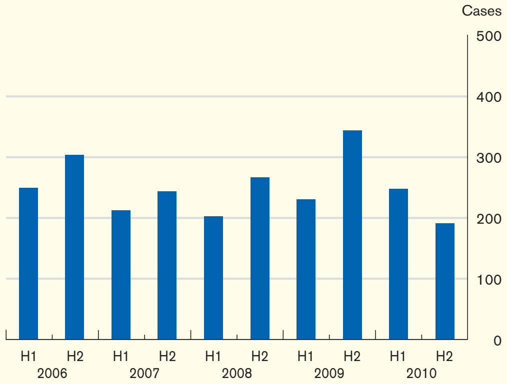
The debt-service index of new mortgages reduced from 52.3 in 2010 Q2 to 49.0 in Q4, reflecting a rise in median household income. It also reflected that new mortgages were generally underwritten with longer tenors than previously (Chart 5.24). Mortgages with longer tenors, however, imply that debt-service burdens of borrowers will become more sensitive to interest rate movements.

Although the current level of households' debt-service burdens may not be alarmingly high, a reversal of low interest rates coupled with income reductions could lead to a sharp increase in the burden and thus credit risk. Box 3 assesses the risk in this context. The main findings suggest that the prudential measure of reducing the limit on debt servicing ratios of borrowers to 50%[19], significantly enhances households' resilience to a double shock in the form of higher interest rates and lower income.

The credit risk of unsecured household loans improved further, with the quarterly annualised charge-off ratio for credit card lending falling to 1.56% in 2010 Q4 from 2.31% in Q2 (Chart 5.25). Statistics on the number of bankruptcy petitions also pointed to lower credit risk (Chart 5.25).

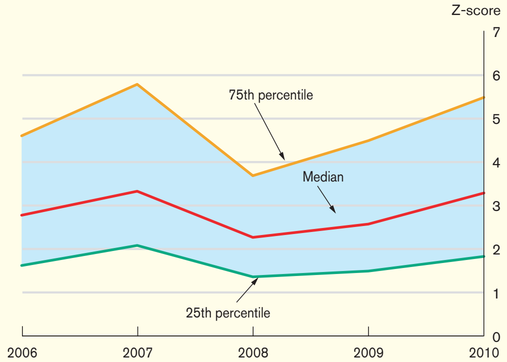
19 For details, see the HKMA press release "Prudential measures for residential mortgage loans" issued on 13 August 2010, which is available on the HKMA website.

Chart 5.26
Number of winding-up orders of companies



Source: Official Receiver's Office.

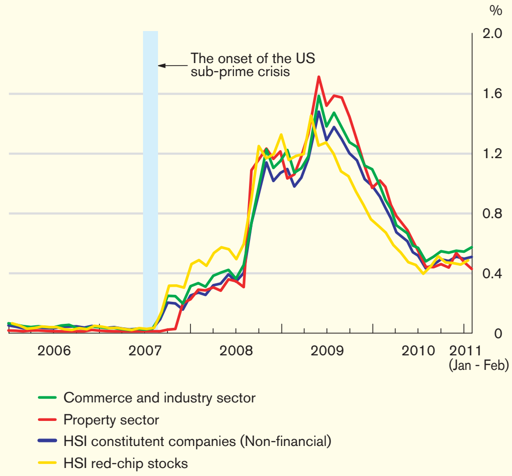
Chart 5.27
Bankruptcy risk indicators of listed non-financial companies: Altman's Z-score



Note: A lower Z-score indicates a higher likelihood of a company default.

Sources: Staff estimates based on data from Bloomberg.

Chart 5.28
Estimated aggregate default probability of the HSI non-financial constituent companies



Sources: Staff estimates based on data from Bloomberg.

Although strong domestic economic performance is a main contributor to the continuous improvement in the charge-off ratio for credit card lending, the assessment in Box 4 indicates that the introduction of the positive data sharing of consumer credit data in Hong Kong in 2003 has also reduced the default risk structurally. This finding lends strong support to the current proposal to expand the present credit data sharing system to include the sharing of both positive and negative credit data on residential and non-residential mortgage lending.

Corporate exposures[20]

Loans to corporations[21] grew by 12.2% in the second half of 2010, after growing by 16.4% in the first half. They accounted for 68.3% of the domestic lending at the end of 2010.

The various indicators for the credit risk of Hong Kong's corporate sector are generally suggestive of a healthy financial condition for Hong Kong's corporate sector. The number of compulsory winding-up orders of companies declined to 191 in the second half, representing a decline of 22.7% over the previous six months (Chart 5.26).

Altman's Z-score[22], a credit risk measure based on accounting data, showed a further improvement in the financial health of the non-financial corporate sector[23] (Chart 5.27). In line with this, the estimated aggregate default probability of the HSI non-financial constituent companies, a market-based indicator, hovered at a low level, ending on 0.51% in February 2011 (Chart 5.28).

20 Excluding interbank exposures.

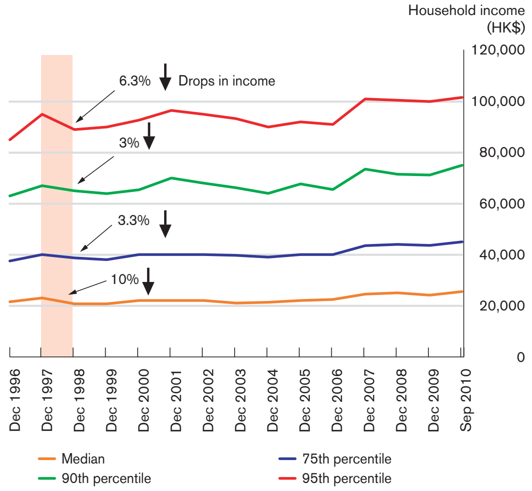
21 Loans to corporations comprise domestic lending except lending to professional and private individuals.

22 See E. Altman (2000), "Predicting Financial Distress of Companies: Revisiting the Z-scores and ZETA models", *Working Paper, New York University*. The Z-score is a typical credit risk measure to assess the health of the corporate sector based on an array of financial ratios reported in companies' financial statements. The accounting ratios used to derive the Z-score are working capital/total assets, retained earnings/total assets, earnings before interest and taxes/total assets, market value of equity/book value of total liabilities, and sales/total assets.

23 Non-financial corporations refer to companies listed on the Hong Kong Main Board and the Growth Enterprise Market, excluding H-share companies, investment companies, and those engaged in banking, insurance and finance. The 2010 figures are preliminary. They are subject to revisions and should be used with caution.

Box 3
Assessing the effectiveness of the limit on debt servicing ratios under interest rate and income shocks

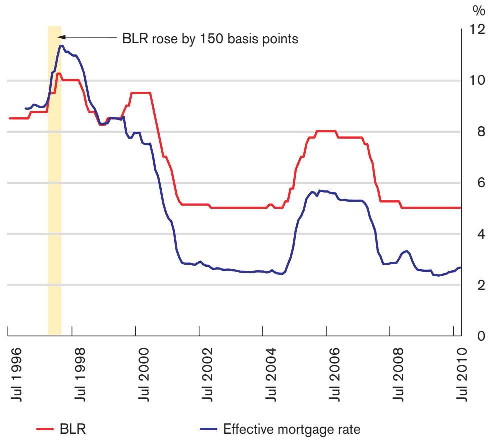
Chart B3.1
Monthly income of households residing in private permanent housing



Note: Year-end positions, except for 2010 figures where Q3 position is shown.

Source: C&SD.

Chart B3.2
BLR and effective mortgage rate



Source: HKMA.

Income and interest rates are two predominant risk factors affecting debt servicing ratios (DSRs). Historically, these two factors could move towards unfavourable directions at the same time. For example, during the Asian financial crisis, while the median household income[24] dropped by around 10% (Chart B3.1), there was a significant increase in the Best Lending Rate (BLR) by 150 basis points (Chart B3.2).[25] A household with an initial DSR of 60% before the crisis could have experienced an increase in the DSR to higher than 70% under the shocks. A sharp increase in the ratio could have significant impact on households' debt-servicing burden and default risk.

As part of the prudential measures launched in August 2010, the HKMA required AIs to standardise the ceiling on DSRs to 50%.[26] To assess the effectiveness of this limit on DSRs in enhancing the resilience of mortgagors to adverse income and interest rate shocks, this box conducts simulations on household income and HIBORs in a one-year horizon based on their historical movements.[27] With the simulated future paths of these two factors, the DSRs of households for the following two scenarios are then computed.[28]

24 Throughout the assessment, household income refers to monthly income of households residing in private permanent housing.

25 The BLR increased from 8.75% in September 1997 to 10.25% in January 1998.

26 For details, see the HKMA press release "Prudential measures for residential mortgage loans" issued on 13 August 2010, which is available on the HKMA website.

27 For simplicity, yearly percentage changes in household income and yearly percentage point changes in the three-month HIBOR are assumed to follow the normal distribution. These two variables are further assumed to be independent to each other.

28 Main assumptions include: (1) there is a lower bound of 0% for the three-month HIBOR; (2) a one percentage-point change in the three-month HIBOR would translate into a 0.71 percentage-point change in the BLR; and (3) there is a lower bound of 5% for the BLR.

- **Scenario A** assumes a range of DSR limits of 50 - 60%, with the upper end of this range being confined to high income households (i.e. the situation before the implementation of the new prudential measures on 13 August 2010); and

- **Scenario B** assumes a DSR limit of 50% (i.e. the current measures).

In all scenarios, the mortgage amount from banks is assumed to be the maximum amount of credit that a homebuyer can obtain in the respective scenarios.

The main findings are:

(1) The 50% limit on DSRs effectively prevents homebuyers from being excessively exposed to the property market, with its impact on higher income households (for example, income higher than the 75th percentile) being more significant. If a DSR of 65% is taken as a distressed threshold, there will be less than 2% chance that the DSRs of higher income households will exceed this threshold in the one-year horizon (see Scenario B in Table B3.A). This compares with the estimate of around 10% in Scenario A (i.e. before the use of the 50% limit). The analysis suggests that the 50% limit on DSRs can enhance the resilience of households to adverse income and interest rate shocks.

Table B3.A
Estimated probability (%) of having a DSR > 65% under the shocks in one year

Household income (HK$)	Percentile of household income	Scenario A : With 50 - 60% limit on DSR	Scenario B: With 50% limit on DSR
101,600	95th	9.59	1.64
75,000	90th	9.35	1.57
45,000	75th	9.26	1.54
25,500	50th	2.13	1.62

Sources: C&SD and staff estimates.

Table B3.B
Estimated probability (%) of having a DSR > 65% under the shocks in one year with a hypothetical scenario of reducing the DSR limit to 40%

Household income (HK$)	Percentile of household income	DSR limit = 50% (A)	DSR limit = 40% (B)	Difference = (B) - (A)
101,600	95th	1.64	0.07	**-1.56**
75,000	90th	1.57	0.06	**-1.51**
45,000	75th	1.54	0.05	**-1.49**
25,500	50th	1.62	0.06	**-1.56**

Sources: C&SD and staff estimates.

(2) We also assess the extent to which households' resilience to adverse shocks will be enhanced if the maximum DSR is hypothetically reduced from 50% to 40%. The results in Table B3.B suggest that the enhancement depends largely on what level a DSR should be regarded as distressed. Although it appears there is no generally accepted international

benchmark for a distressed DSR, a preliminary analysis shows that a sensible level may fall into the range of 60% to 70%.[29] If a DSR higher than 65% is regarded as a threshold, a further reduction of the DSR limit from the current level of 50% to 40% would reduce the probability of having a DSR higher than the threshold by around 1.6%.

[29] As a reference, a DSR greater than 55% may be regarded as not affordable in the US, according to the guideline of the "Making Home Affordable Plan" that provides eligible homeowners the opportunity to modify their mortgages to make them more affordable and avoid foreclosure. Under the plan, borrowers who have a DSR greater than 55% are required to seek housing counselling to set up an action plan to reduce debt to an affordable level. However, the DSR of 55% in the US is expressed as a percentage of gross monthly income (i.e. before-tax income), which is not directly comparable to that for other countries due to differences in income tax rates. If the ratio is expressed as a percentage of after-tax income ("the adjusted DSR"), it would be around 72%, assuming an average income tax rate of 24% for mortgagors in the US. Suppose the adjusted DSR of 72% is taken as a benchmark, the corresponding DSR (expressed as a percentage of before-tax income) for Hong Kong is estimated to be around 64%, assuming an average income tax rate of 12% for mortgagors in Hong Kong.

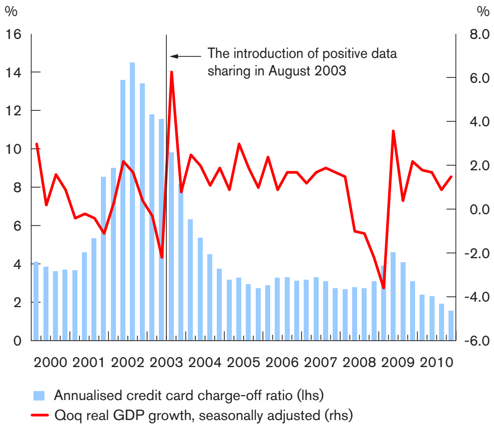
Box 4
Does positive credit data sharing reduce the default rate of retail lending?

The positive credit data sharing scheme was introduced in Hong Kong in 2003 to enhance the completeness and accuracy of credit risk assessments. As a measure to further improve the risk management of banks relating to mortgage loans, a proposal was put forward by the financial industry[30] and supported by the HKMA to expand the data coverage to include the sharing of both positive and negative mortgage data on residential and non-residential properties.

Against this background, this box assesses the potential benefits of positive consumer credit data sharing by drawing on the experience of the Hong Kong scheme's introduction in 2003. In particular, the box estimates the effect of the scheme on reducing the default risk of credit card lending in Hong Kong.

Chart B4.1 shows the average charge-off ratio of credit card lending and real GDP growth in Hong Kong. It is clear that following the scheme's launch in August 2003, the charge-off ratio declined significantly. This seems to suggest the scheme can improve credit risk management of the banking sector.[31] However, the extent to which the reduction in the charge-off ratio was attributable to the scheme cannot be shown graphically as the economic recovery that began in the third quarter of 2003 could also have contributed to the improvement in the charge-off ratio.

Chart B4.1
Credit card charge-off ratio and economic growth



Sources: HKMA and C&SD.

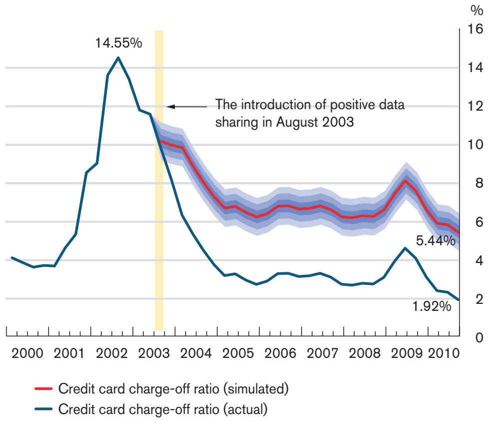
[30] The proposal was submitted by the Consumer Credit Forum, a joint forum of the Hong Kong Association of Banks, The DTC Association (The Hong Kong Association of Restricted Licence Banks and Deposit-taking Companies), HKSAR Licensed Money Lenders Association and the Finance Houses Association of Hong Kong.

[31] For an early assessment on this, see "Benefits of sharing positive consumer credit data", *HKMA Quarterly Bulletin*, March 2006.

To quantify the impact of the scheme, we estimate a quarterly error-correction model using data for the period 2000 Q1 – 2010 Q3. The model assumes there is a positive long-run relationship between the average charge-off ratio of credit card lending[32], the number of personal bankruptcy orders made and the unemployment rate in Hong Kong. The inclusion of the unemployment rate as an explanatory variable is to control for differences in macroeconomic conditions over time. In addition, a dummy variable is included in the model to estimate the structural effect of the introduction of the scheme on the charge-off ratio. The model is estimated by the Engle-Granger method.[33]

On the whole, all variables appear to be significant factors in explaining the charge-off ratio of credit card lending, as all the coefficients are estimated to be significant with expected signs. The estimated coefficient of the dummy variable suggests that the introduction of the scheme in August 2003 has structurally reduced the annualised credit card charge-off ratio of the banking industry by around 3.5 percentage points, after controlling for differences in macroeconomic conditions (measured by the unemployment rate) over time. A counter-factual simulation analysis suggests that if the scheme had not been introduced in 2003, the charge-off ratio in 2010 Q3 could range from 4.45% to 6.43% compared with the actual level of 1.92% (Chart B4.2).

Chart B4.2
Simulated credit card charge-off ratio



Note: The simulation counter-factually assumes that the positive data sharing in August 2003 had not been implemented.

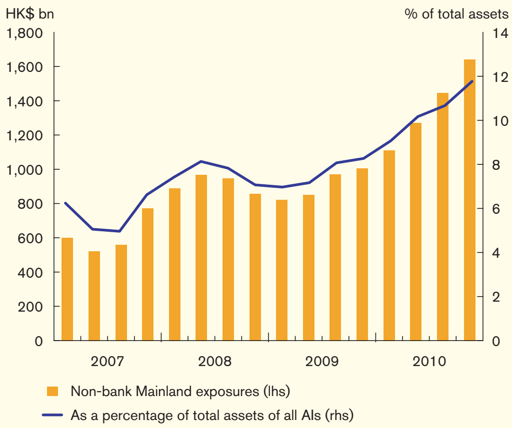
Sources: HKMA and staff estimates.

This analysis suggests that positive credit data sharing has substantially reduced the default rate of retail lending in Hong Kong. Therefore, if the current proposal is adopted, the broader scope of credit data sharing should help further improve the credit risk management of the banking industry. The proposed changes are also likely to enhance banking stability in Hong Kong because of increasing concerns about the overheating in the property market and its potential impact on the banking sector.

32 The aggregate annualised charge-off ratio of credit card lending of surveyed banks participating in the HKMA Survey on Credit Card Lending.

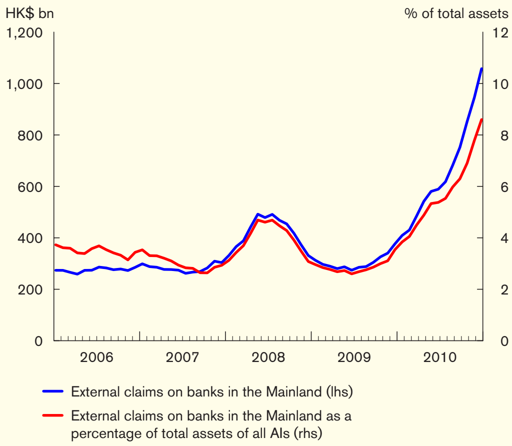
33 See R. Engle and C. Granger (1987) "Co-integration and error correction: Representation, estimation and testing", *Econometrica*, 55(2), pages 251 - 276.

Chart 5.29
Non-bank Mainland exposures of AIs



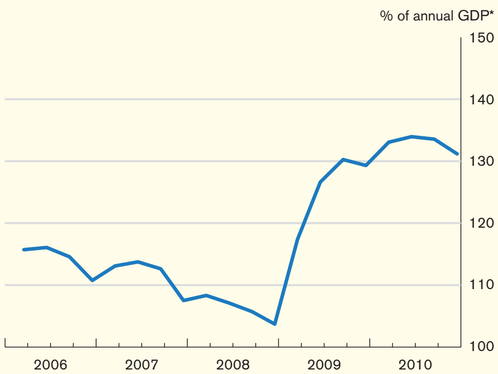
Note: Figures include exposures booked in AI's banking subsidiaries in Mainland China.
Source: HKMA.

Chart 5.30
External claims on banks in the Mainland



Source: HKMA.

Chart 5.31
Credit-to-GDP ratio in Mainland China



* Defined as the sum of quarterly nominal GDP for the latest four quarters.
Sources: IMF International Financial Statistics and CEIC.

Mainland exposures

The banking sector has shown a significant shift in its credit portfolio towards Mainland-related business in recent years (Chart 5.29), and 2010 was no exception.

Retail banks' total non-bank Mainland exposures[34] rose to HK$1,183 billion (13.2% of their total assets) at the end of December from HK$920 billion (11.4% of total assets) six months earlier. For the banking sector as a whole, the total amount of non-bank Mainland exposures increased to HK$1,642 billion (11.8% of total assets) from HK$1,273 billion (10.2% of total assets) in the same period.

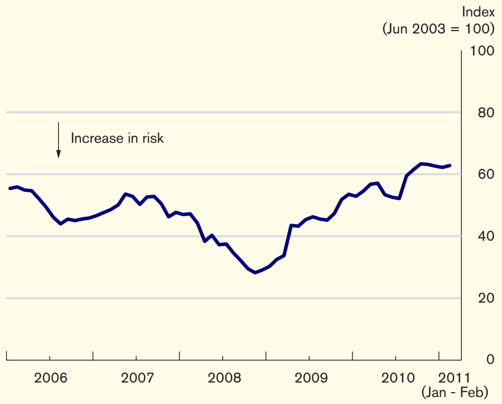
The strong growth in the Hong Kong banking sector's total external claims on banks in Mainland China remained unabated. These claims increased by 79% to HK$1,061 billion (8.6% of total assets of the banking sector) at the end of December from HK$592 billion at the end of June, after growing by 56% in the first half (Chart 5.30).

Overall, around one-fifth of the total assets of the Hong Kong banking sector are directly exposed to Mainland Chinese entities (including banks and non-bank customers), indicating that banking stability in Hong Kong is becoming increasingly dependent on the Mainland economy in general and its banking system in particular.

Recent developments in the Mainland banking sector may raise concerns about risks of developing long-term vulnerabilities. Credit growth has significantly outpaced economic expansion in the past two years (Chart 5.31). Strong credit growth and rising property prices indicate the risk of a credit bubble spiral forming, which could indirectly affect the credit risk of Hong Kong banks' exposure to Mainland banks. In view of this, the trend of increasing exposure to banks on the Mainland merits closer attention.

[34] Including exposures booked in the retail banks' banking subsidiaries in Mainland China.

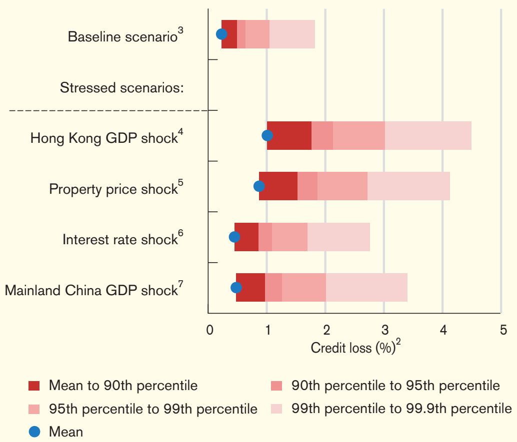
Chart 5.32
Distance-to-default index for the Mainland corporate sector



Notes:
1. Distance-to-default index is defined as the simple average of the estimates for non-financial constituent companies (i.e. excluding investment companies and those engaged in banking, insurance and finance) of the Shanghai Stock Exchange 180 A–share index.
2. A higher value of the index indicates a lower level of default risk.

Source: Staff estimates.

Chart 5.33
The mean and value-at-risk statistics of simulated credit loss distributions[1]



Notes:
1. The assessments assume the economic conditions in 2010 Q4 as the current environment. The Monte Carlo simulation method is adopted to generate the credit loss distribution for each scenario.
2. Measured as a percentage of the loan portfolios.
3. The baseline scenario assumes no shock throughout the two-year period.
4. Reductions in Hong Kong's real GDP by 2.3%, 2.8%, 1.6%, and 1.5% respectively in each of the four consecutive quarters starting from 2011 Q1 to 2011 Q4.
5. Reductions in Hong Kong's real property prices by 4.4%, 14.5%, 10.8%, and 16.9% respectively in each of the four consecutive quarters starting from 2011 Q1 to 2011 Q4.
6. A rise of real interest rates (HIBORs) by 300 basis points in the first quarter (i.e. 2011 Q1), followed by no change in the second and third quarters and another rise of 300 basis points in the fourth quarter (i.e. 2011 Q4).
7. A fall in Mainland China's real GDP quarter on quarter by 4.0% in 2011 Q1.

Source: Staff estimates.

The credit risk of Hong Kong banks' exposure to Mainland corporates remained stable, with the aggregate distance-to-default[35] index for the non-financial corporate sector continuing at a comfortable level (Chart 5.32). However, the financial health of the Mainland Chinese corporate sector will be heavily influenced by the pace and magnitude of future monetary tightening.

Macro stress testing of credit risk[36]

Reflecting strong economic fundamentals, results of macro-stress testing on retail banks' credit exposure show that the ability of the Hong Kong banking sector to weather macroeconomic shocks has further improved.

Chart 5.33 presents the simulated future credit loss rate of retail banks in 2012 Q4 under four specific macroeconomic shocks[37], using information up to 2010 Q4 (For details of the shocks considered, see the notes under Chart 5.33). The expected credit loss rate under the stressed scenarios is estimated to range from 0.45% (interest rate shock) to 1.01% (Hong Kong GDP shock), compared with the estimated range of 0.45% to 1.03% in the last *Report*.

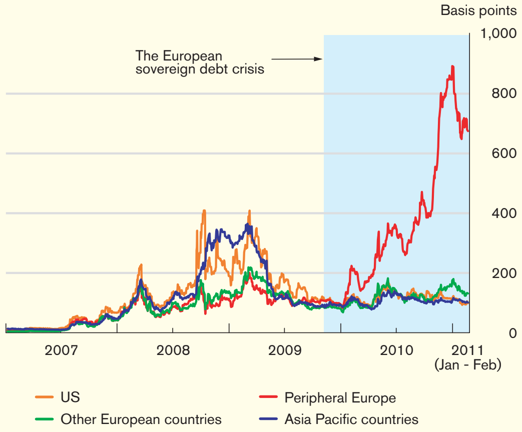
Taking into account tail risk, the maximum credit loss rate of retail banks (at the 99.9% confidence level) under the stressed scenarios ranges between 2.76% (interest rate shock) and 4.49% (Hong Kong GDP shock). The estimated tail risk is smaller than that of the last assessment (from 2.84% to 4.50%).

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

36 Macro stress testing refers to a range of techniques used to assess the vulnerability of a financial system to "exceptional but plausible" macroeconomic shocks. Details of the model adopted in this exercise can be found in J. Wong et al. (2006), "A framework for stress testing banks' credit risk," *Journal of Risk Model Validation*, Vol. 2(1), pages 3 - 23. An updated framework is used for the current estimations.

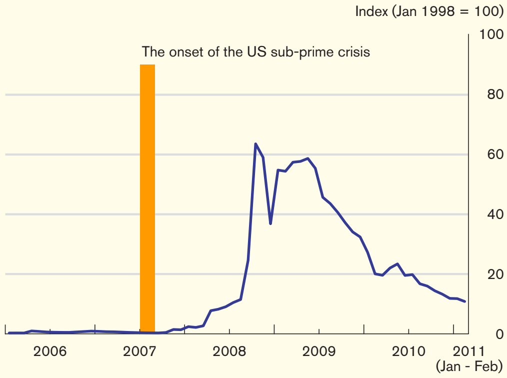
37 These shocks are calibrated to be similar to those occurring during the Asian financial crisis, except for the Mainland China GDP shock.

Chart 5.34
Credit default swap spreads of banks in the US, Europe, and Asia



Notes:
1. Median of 5-year CDS spreads of the respective groups
2. Peripheral Europe includes Greece, Ireland, Italy, Portugal and Spain.
Source: Bloomberg.

Chart 5.35
The banking distress index



Source: Staff estimates based on data from Bloomberg.

5.5 Systemic risk of the banking system

Assessments generally reveal a low level of systemic risk to the Hong Kong banking sector, although signs of higher risk have appeared.

Financial markets have signalled that increased uncertainties in the external environment have not led to higher systemic risk to banking sectors in Asia, including Hong Kong. Specifically, while credit default swap (CDS) spreads for banks in debt-ridden European economies remained high, those for Asian banks stayed intact (Chart 5.34). On the domestic front, the banking distress index[38] for Hong Kong, a market-based systemic risk indicator, decreased to 11 in February 2011 from 17 at the end of August 2010 (Chart 5.35), reflecting an optimistic market view of Hong Kong's banking stability. However, continued vigilance is required as worries linger about the spill-over effect of the European sovereign debt crisis on the global banking system.

The optimistic market view was broadly consistent with the latest assessment results of the composite early warning system.[39] The estimated banking distress probability remained within the range of the lowest fragility category.[40] Strong domestic economic fundamentals continued to be a main contributor to low systemic risk.

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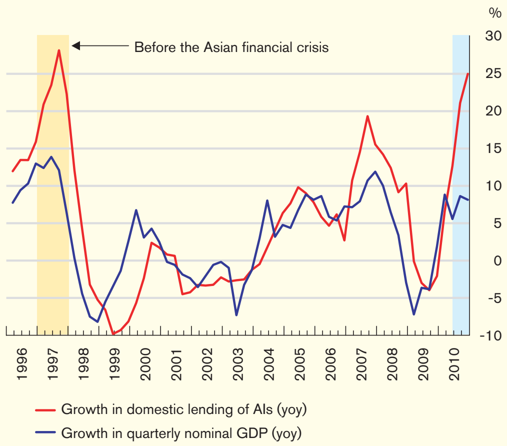
[38] The banking distress index was referred to as the multiple default risk index of the banking system in Hong Kong in the previous Reports. For details, see I. Yu et al. (2006), "Assessing the risk of multiple defaults in the banking system", *HKMA Research Memorandum 06/2006*.

[39] The composite early warning system is capable of estimating banking distress probability based on 10 leading indicators. These include macroeconomic fundamentals, currency crisis vulnerability, default risk of banks and non-financial companies, asset price misalignments, credit growth, and the occurrence of banking distress in other Asia-Pacific economics. For details, see J. Wong et al. (2010), "Predicting banking distress in the EMEAP economies", *Journal of Financial Stability*, Vol. 6(3), pages 169 - 179.

[40] The composite early warning system is a four-level risk rating system. A. Demirgüc-Kunt and E. Detragiache (2000), "Monitoring Banking Sector Fragility: A Multivariate Logit Approach", *World Bank Economic Review*, Vol. 14(2), pages 287 - 307, have been followed in the selection of the upper bounds of each of the four fragility classes so that type I error associated with the bounds are 10%, 30%, 50% and 100% respectively.

Chart 5.36
Credit growth and nominal GDP growth in Hong Kong



Sources: C&SD and HKMA.

However, the latent systemic impact of rapid credit growth may be greater now. Domestic lending has increased significantly faster than the Hong Kong nominal GDP growth since 2010 Q2 (Chart 5.36). This indicates that the current credit boom may be partially driven by Mainland-related lending and lending for financing asset market activities. Prevailing strong loan growth coupled with the unusually low interest margins of banks in Hong Kong has raised concerns about excessive risk-taking in a high liquidity environment. Under these conditions, a forward looking approach to manage the latent credit risk of lending portfolios and sound underwriting standards become critically important in safeguarding banking stability.

In the six months to the end of December, the risks of a credit-asset price spiral forming may have increased, because of the upward movement in property-related lending and of property prices. To avoid the banking system being overly exposed to the property market, the HKMA implemented another round of prudential measures in mid-November 2010 by further reducing the maximum loan-to-value ratios for mortgage lending. Box 5 assesses the effectiveness of this macro-prudential tool in reducing systemic risk, based on Hong Kong's experience and econometric analyses of panel data from 13 economies. The main findings suggest that the tool can strengthen the banking system's resilience to property price volatilities.

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

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

	Dec 2009	Sep 2010	Dec 2010
Interest rate			
1-month HIBOR[2] (quarterly average)	0.08	0.24	0.22
3-month HIBOR (quarterly average)	0.15	0.33	0.29
BLR[3] and 1-month HIBOR spread (quarterly average)	4.92	4.76	4.78
BLR and 3-month HIBOR spread (quarterly average)	4.85	4.67	4.71
Composite interest rate[4]	0.11	0.18	0.21
		Retail banks	
Balance sheet developments[5]			
Total deposits	-1.0	7.0	1.9
Hong Kong dollar	-1.4	9.6	-2.2
Foreign currency	-0.4	3.0	8.4
Total loans	0.6	10.7	1.1
Domestic Lending[6]	-1.1 [r]	10.0 [r]	0.4
Loans for use outside Hong Kong[7]	20.2 [r]	16.3 [r]	6.6
Negotiable instruments			
Negotiable certificates of deposit (NCD) issued	0.8	10.9 [r]	28.5
Negotiable debt instruments held (excluding NCD)	5.7	3.9 [r]	0.3
Asset quality[8]			
As percentage of total loans			
Pass loans	96.74	97.72	97.95
Special mention loans	1.88 [r]	1.43	1.28
Classified loans[9] (gross)	1.38 [r]	0.84	0.77
Classified loans (net)[10]	0.92 [r]	0.50	0.45
Overdue > 3 months and rescheduled loans	0.88	0.55	0.60
Profitability			
Bad debt charge as percentage of average total assets[11]	0.11	0.03	0.03
Net interest margin[11]	1.48	1.34 [r]	1.32
Cost-to-income ratio[12]	49.7	49.7	49.8
Liquidity ratio (quarterly average)	47.8	39.4 [r]	39.3
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.03	0.02	0.01
Credit card lending			
Delinquency ratio	0.34	0.22	0.20
Charge-off ratio — quarterly annualised	3.10	1.92	1.56
— year-to-date annualised	3.71	2.13	1.91
		All locally incorporated AIs	
Capital adequacy ratio (consolidated)	16.8	16.1	15.9

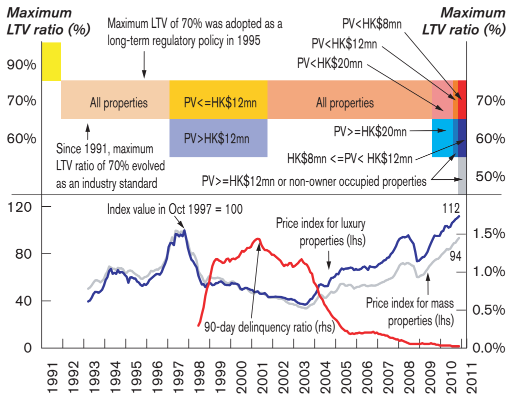
Notes:

1. Figures are related to Hong Kong office(s) only unless otherwise stated.
2. With reference to the Hong Kong dollar Interest Settlement Rates 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-bearing liabilities, which include deposits from customers, amounts due to banks, negotiable certificates of deposit and other debt instruments, and Hong Kong dollar non-interest-bearing demand deposits on the books of banks. Further details can be found in the HKMA website.
5. Quarterly change.
6. Loans for use in Hong Kong plus trade finance.
7. Includes "others" (i.e. unallocated).
8. Figures are related to retail banks' Hong Kong office(s) and overseas branches.
9. Classified loans are those loans graded as "substandard", "doubtful" or "loss".
10. Net of specific provisions/individual impairment allowances.
11. Year-to-date annualised.
12. Year-to-date figures.

[r] Revised figure.

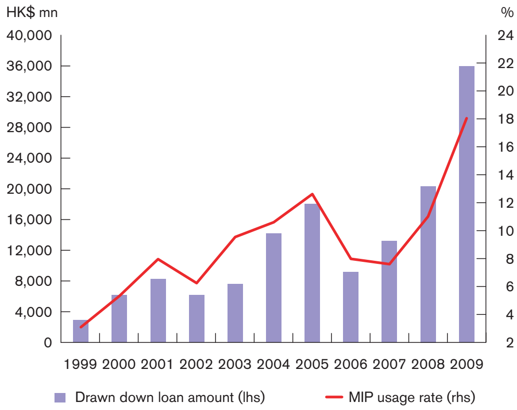
Box 5
Loan-to-value ratio as a macro-prudential tool – Hong Kong's experience and cross-country evidence[41]

Chart B5.1
The LTV policy, real property prices and mortgage delinquency ratio in Hong Kong



Note: "PV" in the upper panel refers to property value.
Source: HKMA.

Chart B5.2
Annual drawn down loan amount and usage rate of the MIP in Hong Kong



Note: MIP usage rate is defined as the ratio of mortgage loan amount drawn down under the MIP to total mortgage loan amount drawn down in the Hong Kong banking sector.
Source: HKMC.

This box assesses the effectiveness and potential drawback of maximum loan-to-value ratios (i.e. LTV policy) as a macro-prudential tool based on Hong Kong's experience and econometric analyses of panel data from 13 economies. It also provides empirical evidence of the effectiveness of mortgage insurance programmes (MIPs)[42] in reducing the liquidity constraints that may be generated by the policy.

Chart B5.1 presents major developments of the LTV policy in Hong Kong (see also Table B5.A). In the wake of the Asian financial crisis, Hong Kong's property prices fell sharply – by more than 40% in the year from September 1997 to September 1998. Despite the fall, the subsequent mortgage delinquency ratio never exceeded 1.43%, a low level by international standards (see the lower panel of Chart B5.1). This observation alone may suggest that the LTV ratio was effective in reducing the responsiveness of the mortgage delinquency rate to property price declines.

One concern for policymakers is that the LTV policy may impose significant liquidity constraints on homebuyers.[43] In 1999, the Hong Kong Mortgage Corporation (HKMC)[44] launched an MIP aimed at promoting wider ownership of homes in Hong Kong. Under the MIP, mortgage loans of up to 90% LTV ratio are available for homebuyers who

41 The box is a shortened version of E. Wong et al. (2011), "Loan-to-value ratio as a macro-prudential tool – Hong Kong's experience and cross-country evidence", *HKMA Working Paper 01/2011*.

42 MIP refers to insurance that aims to protect lenders from losses due to mortgage payment default by borrowers. In some jurisdictions, such insurance is also called lenders mortgage insurance.

43 See for example, the *Financial Services Authority of the UK* (2009), "The Turner Review: A regulatory response to the global banking crisis".

44 The HKMC was established in 1997 and is owned by the Hong Kong Government. Its primary missions include: (1) to enhance the stability of the banking sector through the offering of a reliable source of liquidity, thereby reducing the concentration and liquidity risks of mortgage lending of the banks; (2) to promote wider home ownership in Hong Kong; and (3) to facilitate the growth and development of the debt securities and mortgage-backed securities markets in Hong Kong.

Table B5.A
Major developments of the LTV policy in Hong Kong

Year	Major developments
Before 1991	"Residential mortgage" was defined in the Third Schedule of the Banking Ordinance as a mortgage where, among other things, "the principal sum does not exceed 90% of the purchase price or the market value of the property, whichever amount is the lower".
Nov 1991	The maximum LTV ratio of 70% was adopted by the banking industry and has since been fully endorsed by the Office of the Commissioner of Banking (the bank supervisory authority in Hong Kong before the establishment of the HKMA) as a long-term regulatory policy.
Jan 1997(1)	The HKMA recommended that a maximum LTV ratio of 60% should be adopted for "luxury" property with a value of more than HK$12 million.
2001	The maximum LTV ratio for the purchase of "luxury" property (with a value of more than HK$12 million) was restored to 70%.
Oct 2009(2)	All AIs were required to reduce the maximum LTV ratio for properties with a value of HK$20 million or more from 70% to 60%.
Aug 2010(3)	(i) Applying a maximum LTV ratio of 60% to properties with a value at or above HK$12 million. (ii) For properties valued below HK$12 million, the 70% LTV guideline will continue to apply, but the maximum loan amount is capped at HK$7.2 million. (iii) Lowering the maximum LTV ratio for properties which are not intended to be occupied by the owners to 60%.
Nov 2010(4)	(i) Lowering the maximum LTV ratio for properties with a value at HK$12 million or above from 60% to 50%. (ii) Lowering the maximum LTV ratio for residential properties with a value at or above HK$8 million and below HK$12 million from 70% to 60%, but the maximum loan amount is capped at HK$6 million. (iii) Maintaining the maximum LTV ratio for residential properties with a value below HK$8 million at 70%, but the maximum loan amount is capped at HK$4.8 million. (iv) Lowering the maximum LTV ratio for all non-owner-occupied residential properties, properties held by a company and industrial and commercial properties to 50%, regardless of property values.

Notes:

1. See HKMA Guideline No. 5.9.3 "Criteria for property lending" issued on 28 January 1997, which is available on the HKMA website.
2. See HKMA circular "Prudential measures for residential mortgage loans" issued on 23 October 2009, which is available on the HKMA website.
3. See HKMA press release "Prudential measures for residential mortgage loans" issued on 13 August 2010, which is available on the HKMA website.
4. See HKMA press release "Prudential supervisory measures for mortgage lending" issued on 19 November 2010, which is available on the HKMA website.

meet certain eligibility criteria. The MIP is designed to protect participating banks from credit losses on the portion of loans over the threshold of 70% LTV ratio in the event of default by mortgagors. Since the introduction of the MIP, the continued increase in the usage rate from 1999 to 2009 (Chart B5.2) demonstrates that the MIP has assisted a large number of homebuyers in overcoming liquidity constraints.

However, a question arises as to whether the MIP will significantly offset the effectiveness of the LTV policy because it enables households to assume higher leverage ratios, which will increase the risk of mortgage defaults and keep banks at risk of a maximum credit loss of 70% of property values.

To shed light on this issue and also to provide further cross-county evidence of the effectiveness of the LTV policy, econometric analyses of panel data from 13 economies are conducted. The economies are Australia, Canada, Greece, Hong Kong, Korea, Malaysia, the Philippines, Portugal, Singapore, Spain, Thailand, the US and the UK. The sample covers the period 1991 Q1 – 2010 Q2. The economies are separated into three groups: (i) with both LTV policy and MIP, (ii) with LTV policy but no MIP, and (iii) no LTV policy.[45] A fixed effects model, which postulates that the change in the mortgage delinquency ratio is correlated with real property price growth and real GDP growth, is then estimated. In the model, the ratio of aggregate mortgage debt to GDP and the change in interest rate are included to control for cross-country differences in the aggregate

[45] Economies with LTV policy include Hong Kong, Korea, Malaysia and Singapore.

level of household leverage and monetary conditions respectively.[46] To facilitate statistical comparisons between the three groups of economies, the estimated coefficient for property price growth and that for real GDP growth are assumed to differ across the groups. The main findings are summarised below:

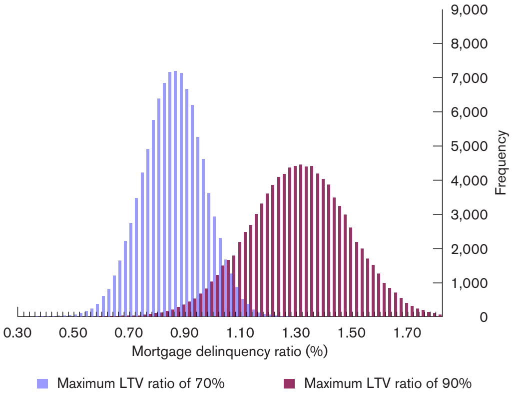
(i) The estimated sensitivity of the mortgage delinquency ratio to property prices for economies with LTV policies is negative and lower (in absolute terms) than that of economies without LTV policies. A test indicates that the difference is statistically significant, suggesting that the LTV policy reduces the vulnerability of banking systems to property price shocks.

(ii) The mortgage default risk for economies with the LTV policy is also estimated to be less responsive to macroeconomic fluctuations than those without the policy. However, the difference is tested to be statistically insignificant.

(iii) Empirical results suggest that MIPs are not a significant factor affecting the sensitivity of the mortgage delinquency ratio to property prices for economies with the LTV policy. A similar statistical result is found when the sensitivity of the mortgage delinquency ratio to real GDP growth is examined. This indicates that the MIP should not reduce the effectiveness of the LTV policy.

[46] Other institutional factors such as recourse rules and personal bankruptcy regulations are likely to affect mortgage defaults. The effect of such factors on the mortgage delinquency ratio is assumed to be captured by the fixed-effect coefficients of the countries.

Chart B5.3
Simulated distributions of the mortgage delinquency ratio for Hong Kong with a hypothetical shock of 40% decline in property prices



Note: The result is based on a 100,000-trial simulation.
Source: Staff estimates.

To further visualise the effect of the LTV policy on banking stability, a simulation exercise is conducted for Hong Kong's banking sector. The simulation counter-factually assumes that a relaxation of the maximum LTV ratio from 70% to 90% were to occur some time before 1997. All banks are assumed to aggressively exploit this relaxation to expand their business by extending mortgage loans to cover 90% of the property value (i.e. an average of 90% of the LTV ratio). A shock of a 40% decline in real property prices is then imposed in the simulation.[47] The simulated impact on the delinquency ratio of mortgage loans is shown in Chart B5.3. The simulation results suggest that if the maximum LTV ratio were to have been relaxed from 70% to 90% before 1997, the delinquency ratio after the 40% decline in property prices in 1997 - 1998 would have been 1.7% (at the 95% confidence level), compared with the actual level of 0.84% at the end of 1998.[48]

Our findings suggest that the LTV policy is effective in reducing systemic risk stemming from the boom-and-bust cycle of property markets. On the other hand, the significant usage of the MIP in Hong Kong indicates that the liquidity constraints generated by the LTV policy may be material. Nevertheless, our analysis suggests that MIPs can mitigate this drawback without undermining the effectiveness of the tool.

47 The shock is comparable to that occurred in Hong Kong during 1997 - 1998.

48 This result is largely consistent with the empirical finding of a previous study. For details, see J. Wong et al. (2004) "Residential mortgage default risk in Hong Kong", *HKMA Research Memorandum*, November 2004.

Glossary of terms

Aggregate Balance

The sum of balances in the clearing accounts and reserve accounts maintained by commercial banks with the central bank. In Hong Kong, this refers to the sum of the balances in the clearing accounts maintained by the banks with the HKMA for settling interbank payments and payments between banks and the HKMA. The Aggregate Balance represents the level of interbank liquidity, and 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 (CCPI)

The headline 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 bearing liabilities, which include deposits from customers, amounts due to banks, negotiable certificates of deposit and other debt instruments, and Hong Kong dollar non-interest bearing demand deposits on the books of banks. Data from retail banks, which account for about 90% of the total customers' 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

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. 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 (EFBN)

Debt instruments issued by the HKMA for the account of the Exchange Fund. Introduced in March 1990, the Exchange Fund Bills and Notes programme has expanded over the years, with a maturity profile ranging from three months to 15 years. 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.

Liquidity Ratio

All authorized institutions in Hong Kong are required to meet a minimum monthly average liquidity ratio of 25%. This is calculated as the ratio of liquefiable assets (e.g. marketable debt securities and loans repayable within one month subject to their respective liquidity conversion factors) to qualifying liabilities (basically all liabilities due within one month). The method of calculation and its components are specified in the Fourth Schedule to the Banking Ordinance.

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 balance of the clearing accounts of banks kept with the HKMA, and Exchange Fund Bills and Notes.

Monetary Conditions Index (MCI)

An index that shows the overall monetary conditions of an economy. It is defined as a weighted sum of some measures of real interest rate and real effective exchange rates, with the weights reflecting their relative effects on aggregate demand or inflation.

Mortgage Delinquency Ratio

The ratio of total amount of loans overdue for more than three months to total outstanding loans. It is obtained from the Residential Mortgage Survey, which is a monthly survey covering 23 authorized institutions.

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

3m moving average	Three-month moving average
3m-on-3m	Three-month-on-three-month
ASEAN	Association of Southeast Asian Nations
AIs	Authorized Institutions
BIS	Bank for International Settlements
bn	Billion
BLR	Best lending rate
BoP	Balance of Payments
CCPI	Composite Consumer Price Index
CDS	Credit default swap
CIs	Certificates of Indebtedness
CIP	Covered interest parity
C&SD	Census and Statistics Department
CPI	Consumer Price Index
DSR	Debt servicing ratio
EFBN	Exchange Fund Bills and Notes
EU	European Union
FAI	Fixed-asset investment
GDP	Gross Domestic Product
HIBOR	Hong Kong Interbank Offered Rate
HKD	Hong Kong dollar
HKMA	Hong Kong Monetary Authority
HKMC	Hong Kong Mortgage Corporation
HKSAR	Hong Kong Special Administrative Region
HSI	Hang Seng Index
IMF	International Monetary Fund
IPO	Initial public offering
LIBOR	London Interbank Offered Rate
lhs	Left-hand scale
LTV	Loan-to-value
MCI	Monetary Conditions Index
MIPs	Mortgage insurance programmes
mn	Million
MTRCL	MTR Corporation Limited
NCD	Negotiable Certificates of Deposit

NDF	Non-deliverable forward
NEER	Nominal effective exchange rate
NIEs	Newly industrialised economies
NIM	Net interest margin
OIS	Overnight index swap
p.a.	Per annum
PBoC	The People's Bank of China
PMI	Purchasing Managers' Index
PPI	Producer Price Index
QBTS	Quarterly Business Tendency Survey
qoq	Quarter-on-quarter
R&VD	Rating and Valuation Department
RAI	Risk Appetite Index
REER	Real effective exchange rate
repo	Repurchase agreement
rhs	Right-hand scale
RMB	Renminbi
RRR	Reserve requirement ratio
SHIBOR	Shanghai Interbank Offered Rate
SMEs	Small and medium-sized enterprises
S&P 500	Standard & Poor's 500 Index
TOPIX	Tokyo Stock Price Index
US	United States
USD	US dollar
WTI	West Texas Intermediate
yoy	Year-on-year

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Hong Kong Monetary Authority
55th Floor, Two International Finance Centre,
8 Finance Street, Central, Hong Kong
Telephone: (852) 2878 8196
Facsimile: (852) 2878 8197
E-mail: hkma@hkma.gov.hk
www.hkma.gov.hk

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