HONG KONG MONETARY AUTHORITY
香港金融管理局

HALF-YEARLY MONETARY AND FINANCIAL STABILITY REPORT

September 2010

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

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

Economic recovery in Hong Kong held up well in the first half of 2010, despite worsening global financial conditions. The Linked Exchange Rate system continued to function normally; the Hong Kong-dollar exchange rate weakened orderly away from the strong-side Convertibility Undertaking, reflecting net fund outflows. The equity market was under downward pressure but the property market was buoyant. The banking system remained robust, and saw major policy breakthroughs in the development of a renminbi offshore market in Hong Kong.

The main risks to monetary and financial stability in the local economy continue to be incentives for excessive leverage in an environment of prolonged low interest rate and rising inflation. Banks should guard against erosion in underwriting standards, be alert to interest-rate and liquidity risks associated with volatile capital flows, and manage their expansion in renminbi business prudently.

The external environment

Global economic recovery has continued but growth appears to be losing momentum in the advanced economies. The optimism associated with the initial strong rebound from the trough of the crisis has given way to doubts about the ability of the private sector to sustain growth without policy support. There is increasing worry, however, about the effectiveness of the further expansionary policies since the demand for credit by the private sector is constrained by the apparent lack of progress in reducing existing debt, and fiscal policy space is constrained by concerns over the sustainability of public debt.

In Asia, the pace of recovery has remained strong, with the region's output level in the second quarter already surpassing that before the global financial crisis. Demand from Mainland China has continued to provide support to exports of its trading partners, although the growth momentum has softened from its strong performance in the previous quarters amid stabilisation measures for the property market and the dissipating effects of fiscal stimulus.

Global financial conditions came under renewed strain over the past six months, in the wake of the escalating sovereign debt crisis in Europe and signs of a slowdown in the US economic growth. The uncertainty surrounding the euro debt crisis quickly spilled over to the global interbank and credit markets throughout the second quarter. Global equities began the review period on a strong note as underpinned by the optimism about a broadening US economic recovery, but the rally was short-lived. Movements in major currencies were dictated by the development of the euro debt crisis and the US economic outlook over the period.

The outlook for global growth and financial conditions remains highly uncertain, reinforcing the expectation that the expansionary monetary policy stance in advanced economies will continue for an extended period of time. With the expected divergent economic performances between advanced and Asian economies, the environment conducive to capital inflows to Asia is therefore likely to be maintained.

The domestic economy

The Hong Kong economy staged a strong recovery from the global financial crisis in the first half of 2010, driven by solid domestic demand. Sequential momentum however weakened slightly from a quarter-on-quarter growth of 2.1% to 1.4% amidst slower inventory accumulation.

The labour market also improved in the first half. The seasonally adjusted three-month moving average unemployment rate fell to 4.4% in the first quarter, and increased slightly in the second quarter before easing markedly to 4.3% in July. The improvement in the labour market has brought the unemployment rate closer to its trend level. Our estimates also suggest that the output gap has turned slightly positive in the second quarter.

Indeed, inflationary pressure appears to be building up gradually. On a quarterly annualised basis, the underlying inflation increased from 2.0% in the final quarter of 2009 to 2.9% in the first quarter of 2010, before easing back to 2.0% in the second quarter. Inflationary pressure is likely to remain moderate in the rest of the year, but an upside risk could come from a faster-than-expected pass-through from market rentals of residential properties to the rental component of the CPI, if the property market rally continues.

Looking ahead, the Hong Kong economy is expected to grow at a moderate pace through the end of the year, with domestic demand losing some strength and external demand tapering off. In particular, the domestic inventory cycle is about to have run its course, while factors that have temporarily boosted the external demand, such as fiscal stimuli of the advanced economies, are fading. Market consensus projects real GDP to grow modestly on a sequential basis in the second half of 2010, putting the increase over the whole year at 5.6%.

Monetary conditions and capital flows

After staying close to the strong-side Convertibility Undertaking for 15 months, the Hong Kong-dollar spot exchange rate softened to around 7.78 in the first half of 2010. As the strong-side Convertibility Undertaking was not triggered, the Monetary Base changed little during the first half, while the pace of issuance of additional Exchange Fund Bills slowed in the second quarter. Local money market functioned normally amid the European sovereign debt crisis, yet the slight increase in the US-dollar interbank interest rates caused by the crisis did transmit to the domestic interbank interest rate market. At the longer end, yields of Exchange Fund notes declined alongside their US-dollar counterparts, resulting in a flatter Hong Kong-dollar yield curve towards the end of June. At the retail level, banks kept their lending and deposit rates stable, although certain banks raised their term-deposit interest rates in May and June, especially for large-size deposits with longer maturities.

Domestic loans returned to their pre-crisis peak in the first quarter and grew at a brisk pace of 14.0% in the second quarter compared with a year earlier, faster than the 5.9% increase in nominal GDP. Compared with the 1997 - 98 Asian financial crisis, the initial impact of the global financial crisis on domestic credit was more severe but the recent credit recovery was much quicker. While property-related loans continued to be a major contributor, the increase in domestic loans was broad-based. Despite an expansion in loans, Hong Kong-dollar broad money M3 was essentially trendless during the first half of 2010. The increase in domestic credit was partly offset by outflows of funds as indicated by a decline in net foreign-currency assets of the banking system during the second quarter.

Indeed, the strong inflows into the Hong Kong dollar observed during the period from the fourth quarter of 2008 to the final quarter of 2009 came to a halt. In contrast to the total inflows of around HK$690 billion from late 2008 to 2009, changes in the net foreign-currency assets of the authorized institutions (AIs) and the Exchange Fund combined indicated receding net Hong Kong-dollar inflows of HK$41.1 billion in the first quarter and net outflows of HK$76.5 billion in the second quarter. The absence of large inflows of funds into the Hong Kong dollar in the first quarter might partly be explained by the less buoyant IPO activity amid increased volatility in the stock market, a repatriation of IPO proceeds out of the Hong Kong dollar, and capital outflows amid tightening concerns in Mainland China. The emergence of Hong Kong-dollar outflows in the second quarter reflected in part concerns about Europe's sovereign debt crisis, which heightened investors' risk aversion and prompted safe-haven flows into US-dollar assets, particularly US Treasuries.

The directions of fund flows are highly uncertain for the rest of 2010. While global financial conditions remain volatile, fund-raising activities in the stock market, better growth prospects of Hong Kong and the Mainland, and appreciating pressure on the renminbi may continue to attract fund flows into the Hong Kong dollar.

Asset markets

Local equity market remained under pressure in the first half of 2010 amid ongoing concerns over a possible slowdown in the Mainland economy and uncertainty in the European sovereign debt crisis. The benchmark Hang Seng Index (HSI) fell to its ten-month low of 18,985 points in late May and then recovered in light of the People's Bank of China's announcement of increasing renminbi exchange-rate flexibility and relatively stabilised macro-financial conditions in the euro area. The price-earnings ratio of the HSI constituent stocks fell from a level of 18.4 times in February to 15.8 times in August, slightly above the long-term average of 14.9 times. Nevertheless, market sentiment was weak as the index of investors' appetite for taking more risk on stock hovered at a relatively low level after falling significantly in May 2010 to the lowest level since March 2009. Looking ahead, the market is likely to remain volatile mainly due to the risk of a weaker-than-expected recovery in the global economy.

The residential property market remained broadly buoyant, with housing prices continuing to increase and transaction volume remaining high. Notwithstanding a relatively flat second quarter as sentiments were dampened by the weak land auction results and tightening rules on new home sales, there has been a renewed sharp rise in residential property prices moving into the third quarter.

While housing prices in the mass market remained on average 13.6% below the peak of 1997, prices in the luxury segment have already surpassed the 1997 peak by 6.5%. Nevertheless, reflecting the pass-through effect of the upper-middle and luxury segment on the mass, prices in the mass segment picked up more rapidly this year, with the cumulative increase from early 2009 to July 2010 being roughly the same as that in the luxury segment.

Other relevant indicators also point to risks of overheating in the property market. While indicators with interest-rate loadings, i.e. income-gearing ratio and buy-rent gap remained relatively low by historical standards because of the very low interest-rate environment, real property prices, new real mortgage loans made and price-income ratio were already stretching towards the peak levels of 1997. In particular, the housing price-to-income ratio surged noticeably, due to the much faster increase in housing prices than household income. Overall transaction volume, though still below the peak of 1997, has risen above the long-term average.

Given the overall buoyancy of the housing market and the very low interest-rate environment, the risks and incentives to take on excessive leverage remain high. In response, the Government announced a basket of new measures in August to contain risks in the residential property market, including increasing land supply, curbing speculative activities in the primary market, and improving transparency in property transactions. The HKMA implemented further prudential measures for residential mortgage loans, such as requiring AIs to lower the maximum loan-to-value ratio to 60% for mortgages on properties valued at HK$12 million or above and non-owner-occupied properties. The HKMA has also required AIs to limit the debt servicing ratio (DSR) of mortgage applicants to 50% and to stress-test mortgage applicants' repayment ability by assuming an increase in mortgage rates of at least two percentage points while limiting the stressed DSR to 60%.

Banking sector performance

Banking sector performance continued to improve in the first half of 2010. Underpinned by strong growth momentum of the domestic economy, retail banks registered healthy profits for another half year. Capitalisation and liquidity remained strong by international standards. The balance sheet grew notably, with asset quality registering a broad-based improvement. During the period, the banks also saw a number of important policy breakthroughs in the development of an offshore renminbi market in Hong Kong (see Box 3). Such developments will allow banks to grow their balance sheets with a new range of product lines.

However, there remain significant challenges for the industry. In the near term, while the direct impact of the European sovereign debt crisis on the banking sector is likely to be modest, contagion risk through interbank linkages could be significant (Box 4). At the same time, net-interest income has been constrained by a further reduction in the net interest margin due to intense competition amid the low interest-rate environment. Price competition in the mortgage market underwent a major change as most customers have shifted from traditional best lending rate-priced mortgages to HIBOR-priced mortgages. This has reduced the effective mortgage yield and will continue to exert pressure on banks' profitability at least in the near term.

Despite the strong capitalisation, constrained profits may lead banks to rely more on equity issuance to satisfy their capital needs. Large refinancing needs of banks' debt in some advanced economies in the next two years or so may affect fund raising activities of banks globally, should there be any significant loss of market confidence. The development in the global capital market therefore bears watching closely.

The favourable liquidity conditions have been supported by the strong deposit growth since the fourth quarter of 2008, which are partly attributable to capital inflows. A reversal of capital inflows may result in a reduction in deposits. Banks should therefore be vigilant about the liquidity risks associated with the reversal of capital inflows.

While credit risk indicators signalled a broad-based improvement in the asset quality for both household and corporate loans, some new mortgages may have been underwritten with higher risks but lower returns. Banks' increasing Mainland exposure also warrants close monitoring. A substantial deterioration in the health of the corporate sector and abrupt declines in property prices on the Mainland could have significant implications for asset quality of Hong Kong banks' subsidiaries on the Mainland.

Despite the challenges, systemic risk in the banking sector continues to stay low. Looking ahead, systemic risk will be largely influenced by the volatility of capital flows and interest rates. A possible reversal of capital inflows could expose banks to significant liquidity risks, while an extended period of low interest rates and further capital inflows could lead to overheating in the asset markets and increase the credit risk of loan portfolios. Banks should be vigilant and develop control measures to guard against these risks.

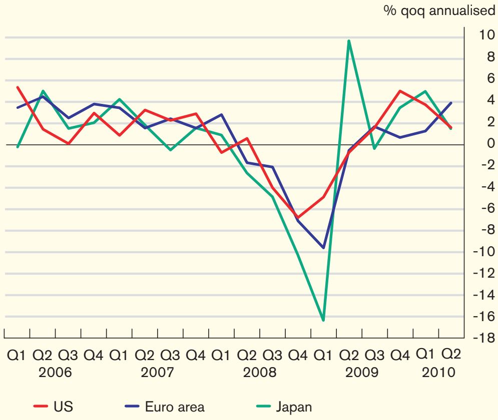
The Half-Yearly Report on Monetary and Financial Stability is prepared by the staff of the Research Department of the Hong Kong Monetary Authority.

2. Global setting and outlook

External environment

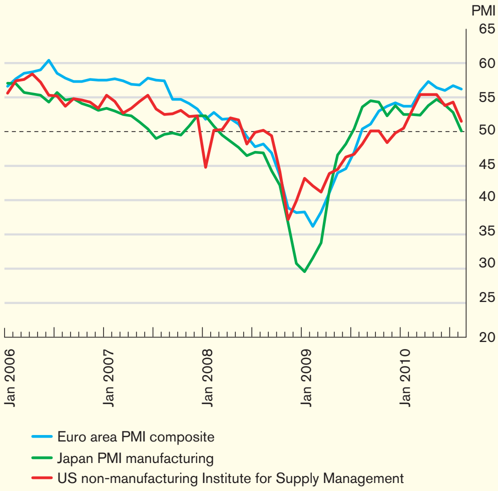
Recovery continued among advanced economies during the first half of 2010, but risks of its momentum wearing off are increasing. This reinforces the expectation that accommodative monetary policy stance in advanced economies will continue for an extended period of time. Given the still-robust growth in Asia, fund flows will continue to be attracted to the region, posing substantial policy challenges to policymakers in reducing inflationary pressures and preventing overheating in asset markets without stifling the economic recovery.

Chart 2.1
US, euro area and Japan: GDP



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

Chart 2.2
US, euro area and Japan: PMI



Source: Bloomberg.

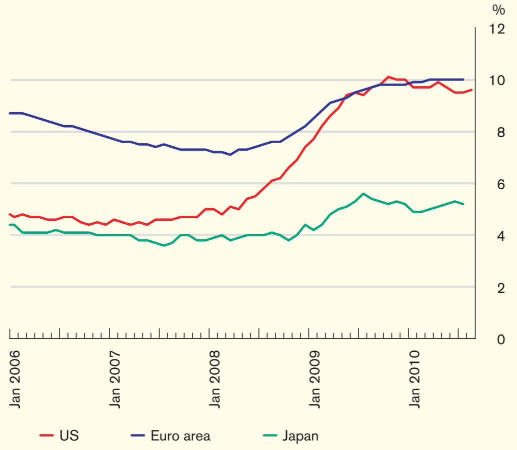
2.1 Real activities and trade

Advanced economies continued to recover in the first half of 2010, although more recent data suggested that the recovery was losing momentum. The US, euro area and Japan grew by 1.6%, 3.9% and 1.5% respectively in Q2 (Chart 2.1).[1]

Since the beginning of this year, the pick-up in economic activity has become more broad-based but with inventory restocking largely completed, the growth momentum has also dissipated. Recent data suggest both retail sales and industrial production have weakened while forward-looking surveys such as the Purchasing Managers' Indices (PMI) have started to trend down to the key 50 level, threatening to dip into the contractionary territory (Chart 2.2). All these are likely to cloud income and job prospects. In the labour market, hiring remained slow and the unemployment

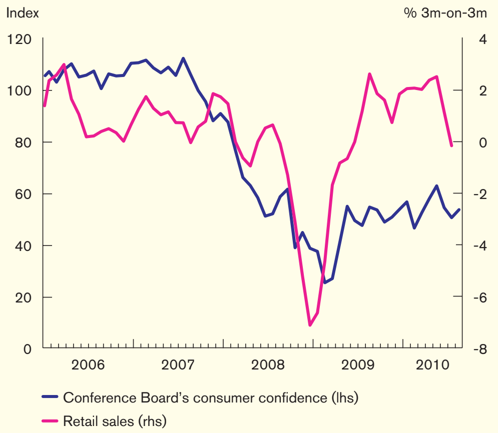
[1] For the US, euro area, Japan and non-Japan Asia (excluding Mainland China), quarterly real GDP percentage changes are on a seasonally adjusted annualised basis, unless otherwise stated.

Chart 2.3
US, euro area and Japan: unemployment rate



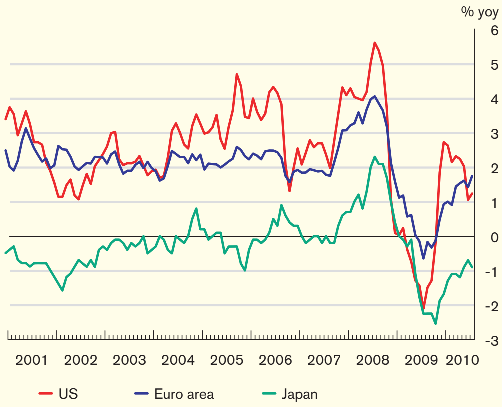
Source: Bloomberg.

Chart 2.4
US retail sales and consumer confidence



Source: Bloomberg.

Chart 2.5
US, euro area and Japan: headline inflation



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

rates were at a near-record-high level at around 10% in the US and the euro area, and more than 5% in Japan (Chart 2.3). Concerns over income and job prospects continued to weigh on consumer sentiment and hence consumer spending (Chart 2.4).

The weak labour market, coupled with excess capacity, has kept inflation pressure well contained. Headline CPI inflation in the US and euro area remained mild and even began to trend lower still, while that in Japan stayed negative (Chart 2.5).

Looking forward, there are considerable uncertainties surrounding the outlook of the major advanced economies, with high unemployment, fiscal constraint and a difficult credit environment posing major downside risks to growth. As the rebound in economic activity has so far been largely supported by fiscal stimulus and ultra-accommodative monetary policy, the underlying strength of the recovery remains weak. Persistently high levels and increased durations of unemployment is likely to undermine consumer confidence and limit household consumption. The sovereign debt overhang in Europe also means that fiscal consolidation is likely to intensify in the foreseeable future. Together with the remaining problems in the financial system, credit conditions, despite very low interest rates and quantitative/credit easing, are likely to remain tight especially for small and medium-sized businesses.

In the face of increasing uncertainties, policymakers are likely to err on the side of protecting the economic recovery and, given the fiscal constraint, accommodative monetary policy may remain in force for some time. In a bid to keep its quantitative easing stance from wearing off prematurely, the US Federal Reserve has recently decided to reinvest its maturing agency debt holdings in Treasury

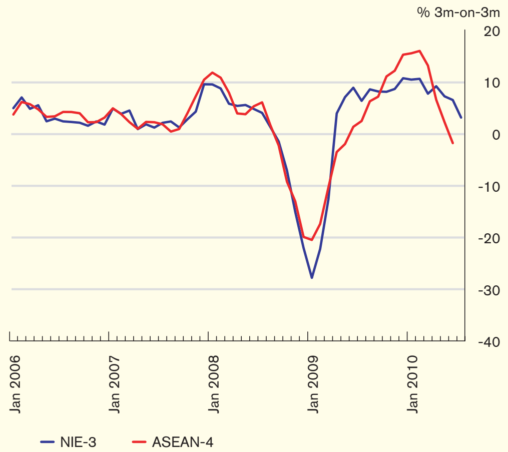
Table 2.A
Asia: real GDP growth

(% qoq annualised)	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2
NIE-3: [1]	**-4.1**	**14.0**	**12.5**	**5.6**	**13.2**	**8.1**
Korea	1.0	9.8	13.4	0.7	8.7	5.8
Singapore	-11.0	18.5	11.1	-1.0	45.7	24.0
Taiwan	-11.3	20.1	11.2	16.7	10.9	7.2
ASEAN-4: [1]	**-3.4**	**7.9**	**6.1**	**10.2**	**9.2**	**4.9**
Indonesia [2]	4.3	4.7	6.3	6.5	5.3	6.5
Malaysia [2]	-14.3	11.8	9.9	12.5	6.6	6.6
Philippines	-6.0	6.0	2.5	6.9	16.1	5.3
Thailand	-7.8	11.9	5.3	17.0	13.9	0.6
East Asia: [1]	**-3.7**	**11.0**	**9.4**	**7.8**	**11.2**	**6.6**

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

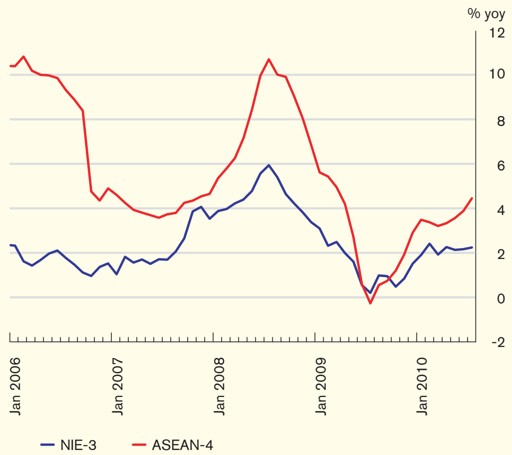
Sources: International Monetary Fund (IMF), CEIC and staff estimates.

Chart 2.6
Asia: merchandise export growth



Sources: CEIC and staff estimates.

Chart 2.7
Asia: consumer price inflation



Sources: CEIC and staff estimates.

securities so as to keep its overall level of holdings constant. Financial markets have looked upon such a move as possibly a precursor to further easing if the outlook deteriorates. If this materialises, the European Central Bank may come under increasing pressure to provide further support to the economy of the euro area amid concerted efforts on fiscal consolidation. In fact, the Bank of Japan is already facing such demand in the wake of the strong Japanese yen.

In contrast to the weakened advanced economies, East Asia has been leading the global economic recovery. In the first quarter of 2010, the region's total output level already surpassed that before the global financial crisis. Growth in the second quarter, though more moderate than in Q1, remained strong. Aggregate real GDP growth slowed to an annualised quarter-on-quarter 6.6% in Q2 from a remarkable 11.2% in Q1 (Table 2.A). Exports, a major driving force behind the strong recovery in its earlier stage, appear to be losing momentum, particularly in the ASEAN-4 economies (Chart 2.6). Nevertheless, robust domestic demand has supported the economic recovery in the region. The negative impact of the European debt problems on Asia's exports has so far been limited, but policymakers and financial markets remain wary about potential contagion through other channels.

On the price front, the pick-up in consumer price inflation has moderated in recent months after a steep climb in the second quarter of 2009 and early 2010 (Chart 2.7). Higher food and commodity prices, widening positive output gaps, capital inflows and credit expansion are all contributing to a build-up in inflationary pressure in the region. In the face of the solid growth momentum and the potential upside risks to inflation, central banks in Korea, Malaysia, Taiwan and Thailand have gradually raised their benchmark

Table 2.B
Asia: Policy interest rates

	Policy interest rate[1]			Cumulative rate hike
	3 Sep 2010 %	Lowest since 12 Sep 2008 %	12 Sep 2008 (before the bankruptcy of Lehman Brothers) %	Percentage points
Indonesia	6.50	6.50	9.25	–
Korea	2.25	2.00	5.25	0.25
Malaysia	2.75	2.00	3.50	0.75
Philippines	4.00	4.00	6.00	–
Taiwan	1.375	1.250	3.625	0.125
Thailand	1.75	1.25	3.75	0.50

Note:

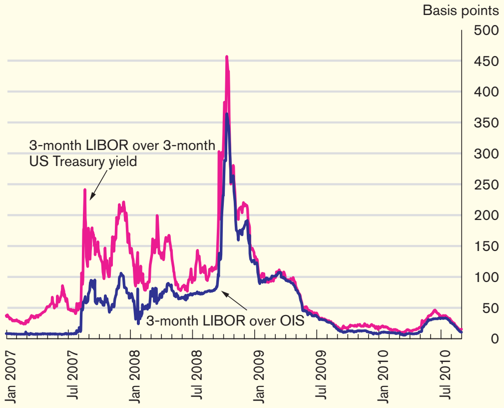
1. Indonesia: BI rate; Korea: overnight call rate; Malaysia: overnight policy rate; the Philippines: overnight reverse repo rate; Taiwan: discount rate; and Thailand: one-day repo rate.

Sources: Bloomberg and staff estimates.

interest rates (Table 2.B). In Singapore, the Monetary Authority of Singapore has shifted its policy band of nominal effective exchange rate to allow a gradual appreciation. Expectations of currency appreciation, coupled with growth and interest-rate differentials, may lead to renewed capital flows into the region. Against this backdrop, policymakers are likely to face substantial challenges in reducing inflationary pressures and preventing overheating in asset markets brought by another wave of capital inflows, without stifling economic recovery amid the uncertain global environment.

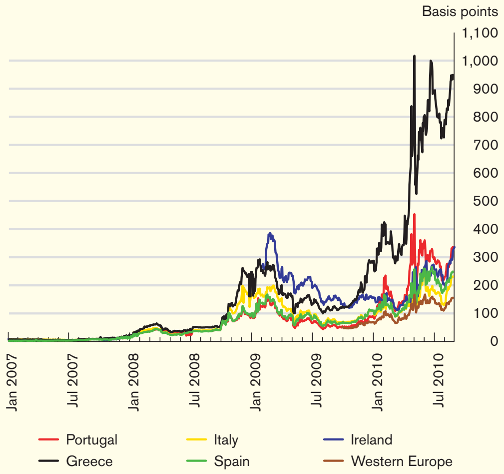
Looking forward, growth in East Asia is expected to be robust, although fiscal stimulus and other temporary factors such as inventory restocking will play a declining role in driving growth. The latest consensus forecasts surveyed in mid-August predict the region's GDP to grow by 6.6% in 2010, compared with 5.0% in February. Despite the higher growth forecast, the CPI is forecast to increase by 3.1% on average, slightly lower than the 3.3% forecast made in February. This favourable outlook, however, is subject to increasing risks posed by advanced economies. The outcome will critically depend on whether the recovery momentum can be sustained in the US, and whether fiscal sustainability can be restored in Europe.

Chart 2.8
Three-month LIBOR over OIS and US Treasury yield



Source: Bloomberg.

Chart 2.9
Five-year sovereign CDS spreads in Europe



Note: Markit iTraxx SOVX Western Europe Index is used for Western Europe. The countries covered are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Norway, Portugal, Spain, Sweden, the Netherlands and the UK.

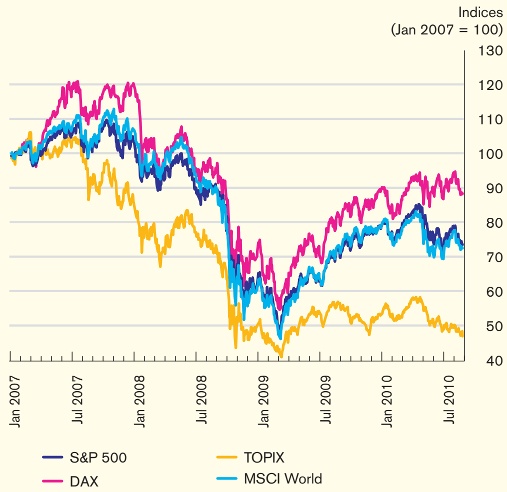
Source: Bloomberg.

2.2 Global financial conditions

Global financial conditions came under renewed strain over the past six months following escalating sovereign debt crisis in Europe and signs of a slowdown in US economic growth. Concerns about the sustainability of the fiscal positions in the heavily indebted euro-area economies intensified in the second quarter, with the contagion from Greece spreading widely to the Western Europe. The mounting sovereign default risk in the euro area consequently triggered a series of credit-rating downgrades on a number of euro-area countries including Greece, Portugal and Spain, with Greece's ratings downgraded to junk status in particular. The uncertainty surrounding the euro debt crisis quickly spilled over to the global interbank and credit markets, as reflected by the widening in the spread of the three-month LIBOR against its corresponding overnight index swap (OIS) and the US Treasury yield, as well as the increases in the sovereign credit default swap (CDS) spreads of the countries in Europe throughout the second quarter (Charts 2.8 and 2.9).

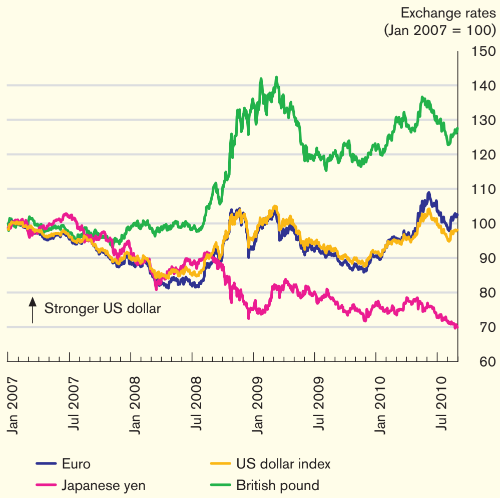
Global equities began the review period on a strong note in light of the optimism about a broadening US economic recovery following the release of positive economic data in the first quarter. The rally was proved to be short-lived, however, as the deteriorating fiscal conditions in the euro area sparked fears about their flow-on effects at a global level and took a deep toll on equity markets. Meanwhile, the disappointing US economic reports including employment and home sales released following the second quarter fuelled worries over a slowing economic recovery, adding further gloom to

Chart 2.10
World equity indices



Source: Bloomberg.

Chart 2.11
US-dollar exchange rates



Source: Bloomberg.

global market sentiments. Overall, the MSCI World Index staged a loss of 4.6% in the past six months (Chart 2.10).

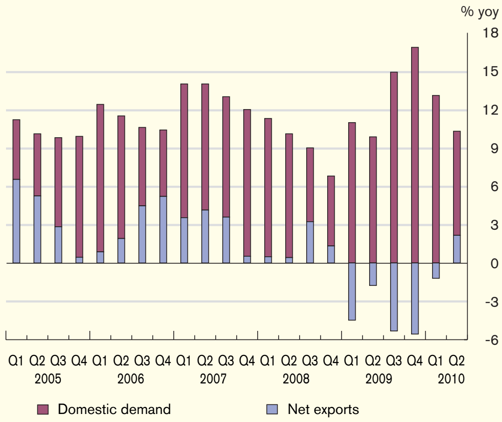
Movements in major currencies were dictated by the development of the euro debt crisis and the US economic outlook over the review period. Amid the worsened sovereign debt crisis in Europe, the US dollar gathered strength on its safe-haven appeal and appreciated considerably against the euro to the highest level in more than four years in early June. However, the uncertain US economic outlook as suggested by weaker-than-expected economic data, along with the upbeat European banks' earnings and less alarming results of the European Union (EU) stress tests, cast a shadow on the US dollar. The dollar index rose by 10.0% in early June from the end of February, but the gain was reduced to 3.5% at the end of August 2010 (Chart 2.11).

The outlook for global financial conditions remains highly uncertain, and continues to pose challenges for policymakers. The downside risk of US economic growth has reinforced market expectations that low policy rates will be maintained for longer than originally anticipated. This, coupled with the recent development of the euro debt crisis, has largely complicated major central banks' full exit from the extraordinary measures taken in response to the financial crisis during 2007 - 2009. Against this backdrop, global financial markets are likely to stay volatile in the short term.

Mainland China

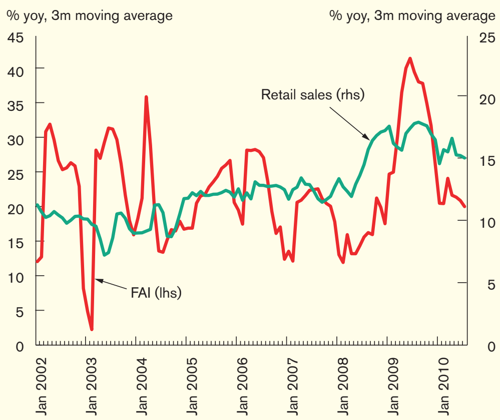
The growth momentum of the Mainland economy softened recently due mainly to weakening infrastructure investment. The property market showed signs of stabilisation as tightening policy measures targeted at soaring housing prices started to bite. Inflationary pressures will likely remain but upside risks are expected to stay manageable in the near term. The People's Bank of China (PBoC) announced a resumption of the managed float regime for the renminbi exchange rate, and has taken important steps to promote a wider use of the currency for international payments.

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 FAI and retail sales



Sources: CEIC and staff estimates.

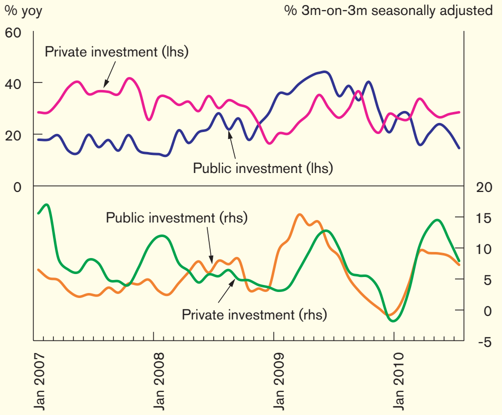
2.3 Output growth, external trade and inflation

Output growth

Real GDP rose by 10.3% year on year in the second quarter after increasing by 11.9% in the previous quarter, reflecting a less favourable base effect as well as the effects of fading fiscal stimulus and tightening policy measures. While domestic demand contributed less to growth than in Q1, the contribution by net exports turned around and registered 2.2 percentage points after staying in negative territory for five consecutive quarters (Chart 2.12). GDP growth posted 11.1% year on year in the first half, 0.6 percentage points higher than in the second half of 2009.

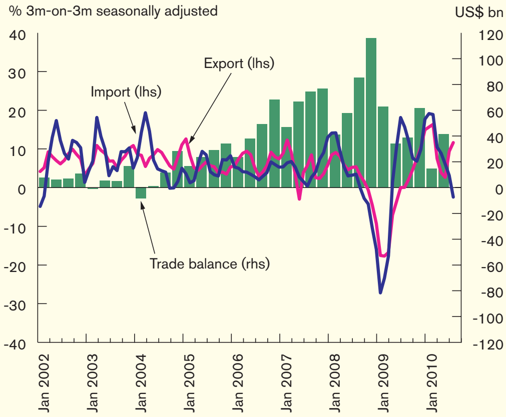
Private consumption held up well, underpinned by improved labour market conditions, renewed income growth and solid consumer confidence. Retail sales rose by around 15 - 16% year on year in real terms in the first half (Chart 2.13). In contrast, real fixed-asset investment (FAI) growth continued to trend down and posted 21.7% year on year in Q2, down about three percentage points from Q1. Investment slowdown can be in large part attributable to the deceleration in public infrastructure

Chart 2.14
Mainland China: FAI growth by sector



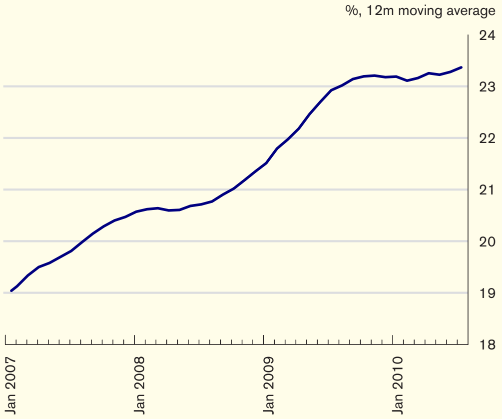
Sources: CEIC and staff estimates.

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 the EU and the US



Sources: CEIC and staff estimates.

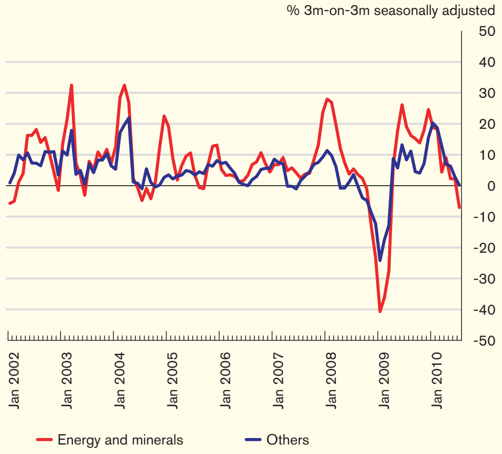
investment, while private investment performed well (Chart 2.14). Real estate investment kept a firm pace, rising by 37.0% in nominal terms in the first half on a year-on-year basis.

GDP growth is likely to ease in the coming months. Consumption is expected to stay firm, whereas domestic investment will moderate further. Affordable housing construction will to some extent stimulate investment, but private housing activities are expected to lose steam reflecting the impact of the tightening policy measures targeted at soaring property prices. The Government's campaign to achieve the energy efficiency target specified in the 11th five-year plan by the end of this year may also affect investment growth. The mean of the consensus forecasts in early August suggests the Mainland economy will grow by 9.9% for 2010 as a whole.

External trade

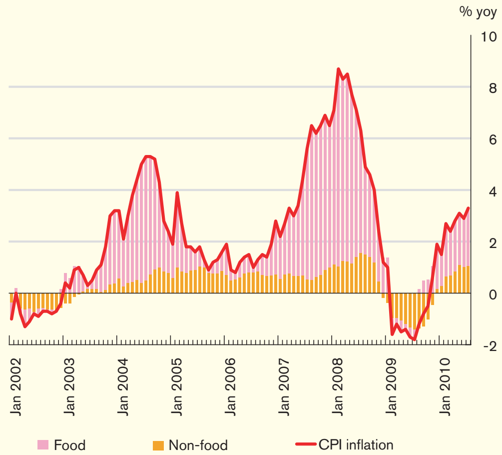
Exports recovered further, with both year-on-year and sequential growth rebounding notably in the second quarter after a fall in the first quarter (Chart 2.15). While global economic recovery has been the driving force for the Mainland's exports, strong export performance in June and July may be attributed in part to exporters' frontloading shipments in anticipation of export tax rebate adjustments coming into effect in mid-July. Exports to emerging markets continued to outpace those to the advanced economies, partly reflecting the uneven pace of recovery across major continents. Meanwhile, the Mainland appears to have maintained its competitiveness in global markets, as the ratio of its exports to the non-oil imports of major economies has stayed stable since mid-2009 after trending up for years (Chart 2.16). Going forward, increasing uncertainties over the global economic outlook, coupled with a weakening euro, will cloud the Mainland's exports prospects. Indeed, the new export order sub-index in the official PMI had declined for three consecutive months before rising slightly in August.

Chart 2.17
Mainland China: imports of major commodities and other products



Sources: CEIC and staff estimates.

Chart 2.18
Mainland China: contributions to CPI inflation



Sources: CEIC and staff estimates.

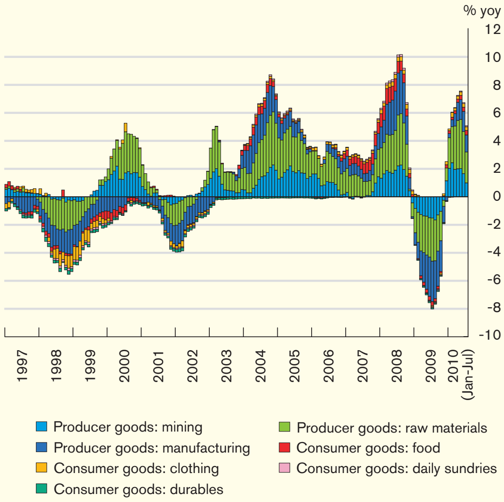
Imports also surpassed their pre-crisis levels over the review period but slowed on both a year-on-year and sequential basis in the second quarter. Imports of both major commodities and other products lost momentum recently, owing to the weakening investment activities on the Mainland (Chart 2.17). In particular, the volume of iron ore and concentrates imports dropped by 0.4% quarter on quarter in Q2, following a decline of 2.3% in Q1. Slowing imports on the Mainland also point to less support to growth of the regional economies going forward, particularly given the increasing importance of intra-regional trade.

Despite a rebound from US$14.1 billion in Q1 to US$41.1 billion in Q2, the Mainland's trade surplus in the first half of the year was about 40% lower than that in the same period of 2009, with the ratio of trade surplus to GDP falling from 4.5% to 2.2%. While import recovery from the crisis has to some extent contributed to the narrowing of the trade surplus, deterioration of the terms of trade has also played an important role as the unit value of the Mainland's imports has been rising at a much faster pace than that of exports since late 2009.

Inflation

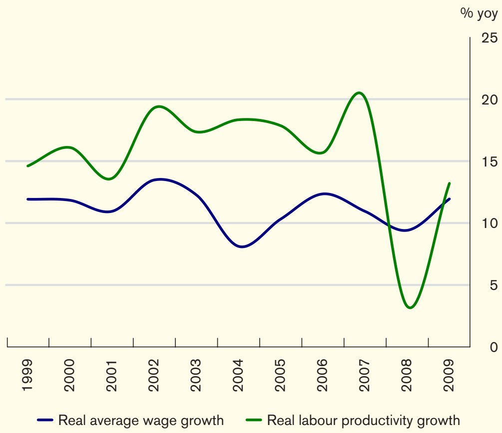
Headline CPI inflation rate continued to trend up on a year-on-year basis and reached 3.3% in July (Chart 2.18). While the food component remained the major contributor to aggregate CPI inflation, non-food-price inflation has also been catching up and contributed over one percentage point in the past few months. In particular, residence costs contributed 0.6 percentage points to the overall inflation in the second quarter, compared with less than 0.4 percentage points in the previous quarter and a negative contribution in the final quarter of 2009. Year-on-year PPI inflation rate dropped

Chart 2.19
Mainland China: contributions to PPI inflation



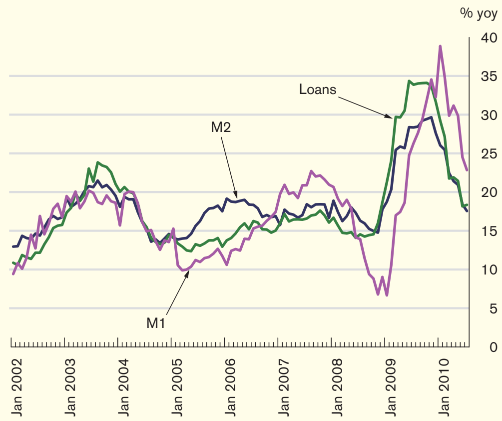
Sources: CEIC and staff estimates.

Chart 2.20
Mainland China: labour productivity and wage in the manufacturing sector



Sources: CEIC and staff estimates.

Chart 2.21
Mainland China: money and loan growth



Sources: CEIC and staff estimates.

further to 4.8% in July after peaking at 7.1% in May, mainly owing to the stabilising commodity prices (Chart 2.19).

Inflationary pressure is likely to remain but upside risks are expected to be contained in the near term in view of the moderating growth momentum and softening commodity prices. Recent natural disasters have added upward pressures to food-price inflation, and empirical evidence shows the impact of temporary supply-side shocks can last long when demand pressures exist.[2] Labour disputes and wage hikes in the manufacturing industry have also raised market concerns over a wage-inflation spiral. As manufacturing labour productivity has recently been growing faster than wages (Chart 2.20), this will not push up unit labour costs and add to the inflationary pressure in the short term.

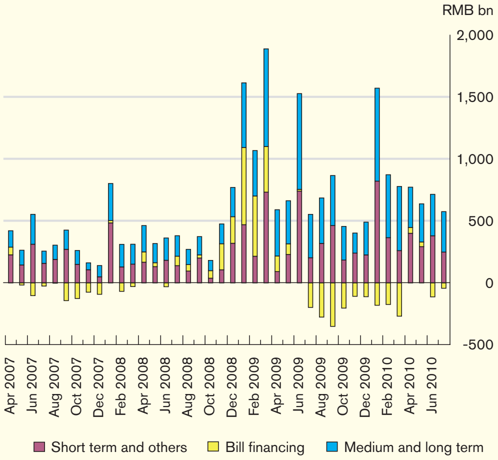
2.4 Monetary and financial conditions

Monetary conditions

The year-on-year growth in broad money (M2) dropped notably in the first half but remained high by historical standards (Chart 2.21). Narrow money (M1), while still outpacing M2, trended down at an even faster pace on a year-on-year basis, suggesting declining liquidity in the banking system. Meanwhile, growth in outstanding loans fell to 18.4% year on year at the end of July, owing to a less favourable base effect as well as the ongoing management of credit expansion.

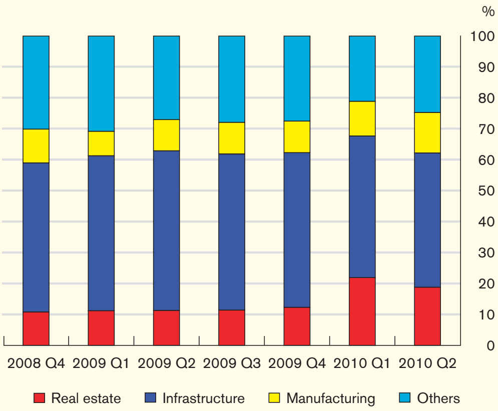
[2] For more details, see "What drives China's food price inflation and how does it affect the aggregate inflation?" by Wenlang Zhang and Daniel T.Y. Law, *HKMA Working Paper 06/2010*.

Chart 2.22
Mainland China: new financial institution loans



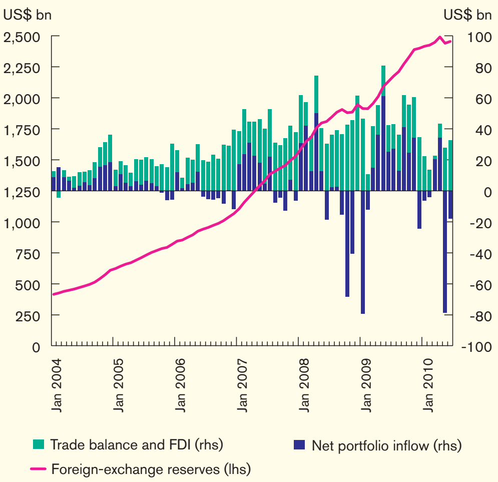
Sources: CEIC and staff estimates.

Chart 2.23
Mainland China: distribution of new medium and long-term loans



Sources: CEIC and staff estimates.

Chart 2.24
Mainland China: external capital flows



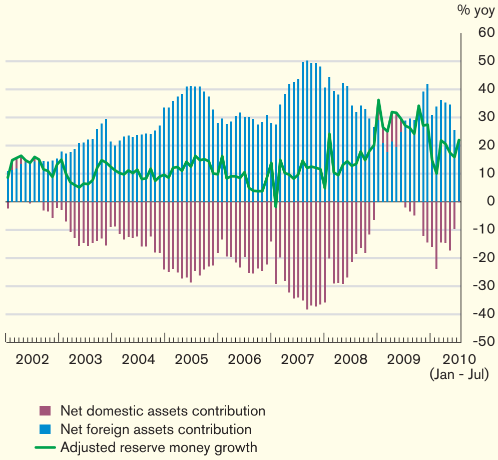
Note: Net portfolio inflow is calculated as the changes in international reserves minus trade balance and FDI. It includes valuation gains due to exchange-rate and asset-price movements.

Sources: CEIC and staff estimates.

New loans in the second quarter dropped somewhat from the previous quarter, but remained significantly higher than their pre-crisis levels (Chart 2.22). In fact, excluding bill financing, new lending in the first half of the year registered an amount comparable to the level in the same period of 2009, suggesting that credit has stayed rather supportive of economic activity. Loans to small and medium-sized enterprises (SMEs) continued to outpace those to large firms on a year-on-year basis, prompted by policy measures to support the development of SMEs. The share of infrastructure sector loans in total medium- and long-term loans experienced a decline but stayed high by historical standards (Chart 2.23). The rapid accumulation of infrastructure sector loans in recent years has raised public concerns over the Mainland's local government debt problems and triggered a series of measures to manage the risks related to local government financing vehicles. Meanwhile, the share of real-estate loans fell to 18.8% in the second quarter after hitting a record high in the first quarter, possibly reflecting the effect of the tightening policy measures targeted at soaring housing prices.

Foreign-exchange reserves gained US$7.2 billion in the second quarter after increasing by US$47.9 billion in the first quarter to reach US$2,454 billion at the end of June (Chart 2.24). The slower growth in Q2 can mainly be ascribed to the reversal of net portfolio flows, while the trade balance and foreign direct investment (FDI) were about US$30 billion higher than in Q1. In particular, net portfolio outflows in May nearly touched the historical high recorded in January 2009, partly owing to valuation losses of non-US dollar-denominated foreign-reserve assets. Meanwhile, concerns over prospects of the Mainland asset markets and weakened expectations of a renminbi appreciation against the US dollar may have led to capital outflows. Given the overall favourable outlook of the Mainland economy, however, incentives for capital outflows are expected to be weak in the near term.

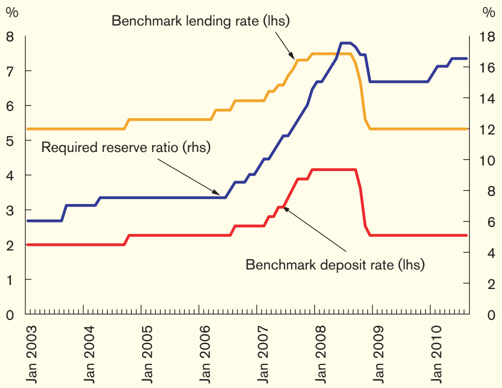
Chart 2.25
Mainland China: contribution to reserve money growth



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

Sources: CEIC and staff estimates.

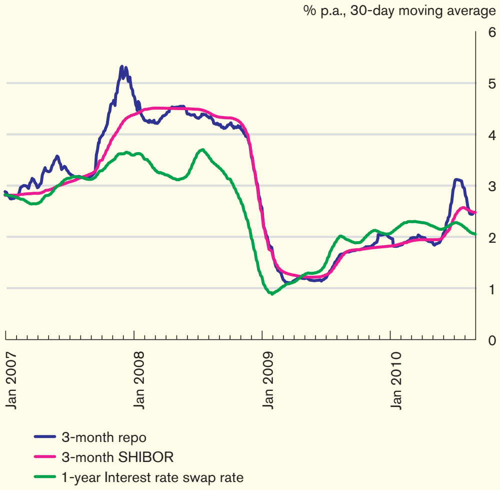
Chart 2.26
Mainland China: reserve requirement ratio and benchmark interest rates



Source: CEIC.

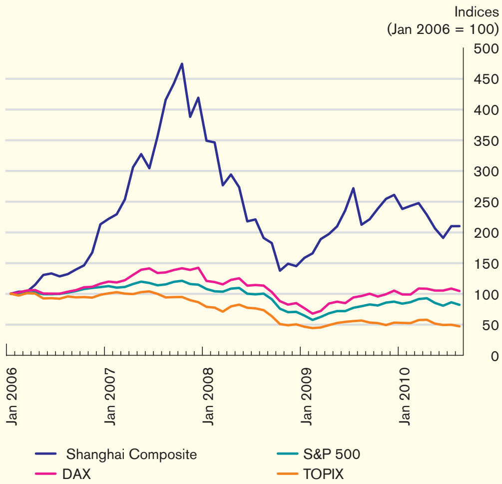
Growth in reserve money rose marginally in June after declining for three consecutive months from March to May, reflecting the tightening bias of monetary policy stance (Chart 2.25). While benchmark interest rates were held unchanged, the PBoC raised the reserve requirement ratio by another 50 basis points in May after the two hikes in the first quarter (Chart 2.26). Market interest rates saw a short-lived surge in June and July, mainly due to temporary factors including the abrupt reversals of

Chart 2.27
Mainland China: market interest rates



Sources: CEIC and staff estimates.

Chart 2.28
Mainland China: share price indices across economies



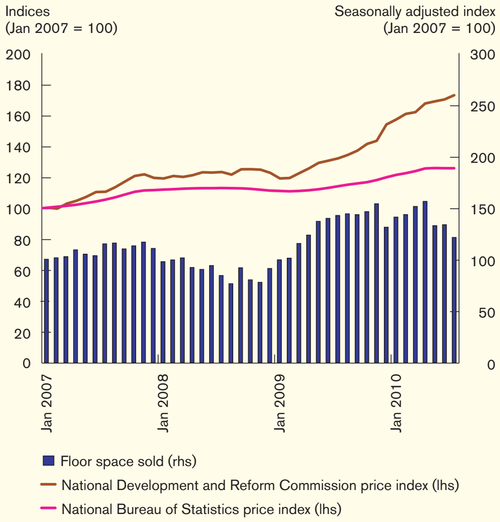
Sources: CEIC and staff estimates.

capital flows and sizable initial public offering activities (Chart 2.27). Looking ahead, the PBoC stressed the continuity and stability of the Mainland's monetary policy in its latest China Monetary Policy Report.

Asset prices

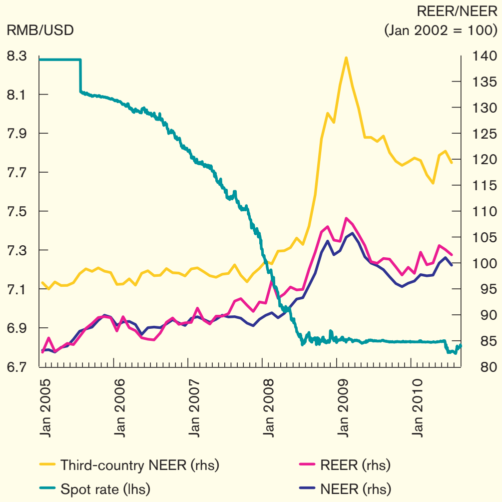
Despite impressive growth in corporate profits, the Mainland stock markets underperformed those of the major economies in the first half (Chart 2.28). In particular, the Shanghai Stock Exchange Composite Index dropped by around 25% between mid-April and early July before recovering some ground recently, and property sector stock prices were the most volatile. The consolidation in the second quarter was mainly induced by market worries about potential property price adjustments and European debt crisis.

Chart 2.29
Mainland China: housing prices and housing sales



Source: CEIC.

Chart 2.30
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 the Mainland 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.

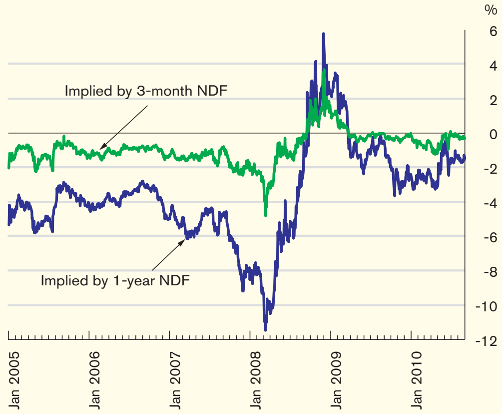
Housing market re-accelerated in March after a short-lived stabilisation in property market turnover (Chart 2.29), intensifying public concerns about overheating in the Mainland's property market. Against this backdrop, the authorities introduced more stringent measures to curb speculative activities in the property market in mid-April. For instance, the downpayment ratio for the second mortgage was raised from 40% to 50%, and mortgage lending to non-residents was restricted. Meanwhile, policies to increase the supply of affordable housing were also announced.

Property prices showed signs of stabilisation, with the nationwide housing price index compiled by the National Bureau of Statistics staying flat in July after falling by 0.1% month on month in June, the first drop since early 2009. Property market turnover in some big cities including Beijing, Shanghai and Shenzhen, however, rebounded in August after a short period of moderation. The Government has recently reiterated its resolution to cool the property market. Potential property price adjustments would not affect household consumption much partly owing to limited wealth effect, but their impacts on investment, the banking sector and local government revenues could be significant (Box 1).

The renminbi exchange rate

The RMB/USD spot rate remained largely stable, while the effective exchange rates of the renminbi strengthened marginally in the past few months (Chart 2.30). The PBoC announced on 19 June 2010 that it would proceed with the reform of the renminbi exchange rate regime and enhance the exchange-rate flexibility. While welcoming this policy move, market analysts also realise it will increase two-way risks on the exchange-rate movements. The renminbi appreciated by about 0.25% against the US dollar between late June and the end of August, and daily volatility in the RMB/USD spot rate has also risen somewhat.

Chart 2.31
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.

Along with the resumption of a managed float exchange rate regime for the renminbi, the authorities have also taken important steps to promote a wider use of the currency for international payments. Renminbi settlement for cross-border trade has been expanded to twenty provinces (autonomous areas and municipalities) on the Mainland, and the PBoC has also granted access to overseas monetary authorities and commercial banks involved in providing banking services for trade settlement in renminbi to participate in the interbank bond market on the Mainland. These measures are expected to increase the attractiveness of the renminbi as a settlement and reserve currency. A wider use of the Mainland's own currency in its international transactions is expected to reduce currency mismatch risks, thereby facilitating the management of a more flexible exchange rate.[3]

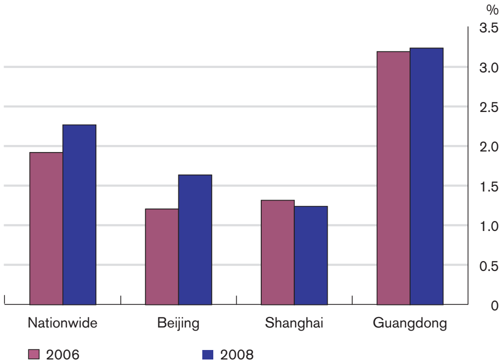
Despite the renewed reform of the exchange rate regime, non-deliverable forward (NDF) rates in early September suggest markets expect the renminbi to appreciate at a slow pace (Chart 2.31). This probably reflects market concerns over the Mainland's economic outlook as well as its future export performance.

[3] The implications for monetary and financial stability of offshore markets are discussed in "Offshore markets for the domestic currency: Monetary and financial stability issues" by Dong He and Robert N. McCauley, *HKMA Working Paper 02/2010*.

Box 1
How will property price adjustments in Mainland China affect domestic demand, the banking sector and government revenue?

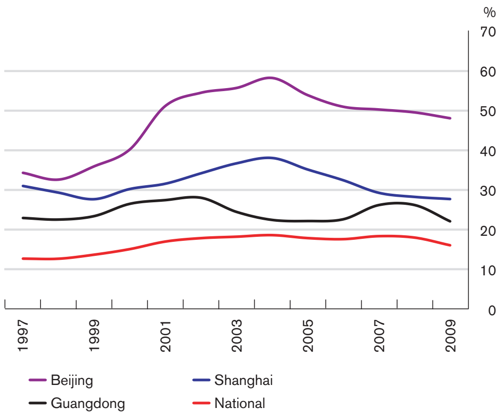
The rapid increase in housing prices on the Mainland raised public concerns about property price overvaluation and triggered a series of policy measures to contain speculative activities on the property market. Property prices in major cities have shown signs of stabilisation recently. Against this backdrop, questions have been raised on how potential housing price adjustments may affect the Mainland's domestic demand, the banking sector and local government revenue.

Chart B1.1
Share of income from properties in total per capita income in China's urban areas



Sources: China Urban Life and Price Yearbook 2007, National Bureau of Statistics and staff estimates.

Chart B1.2
Share of real estate FAI in total FAI



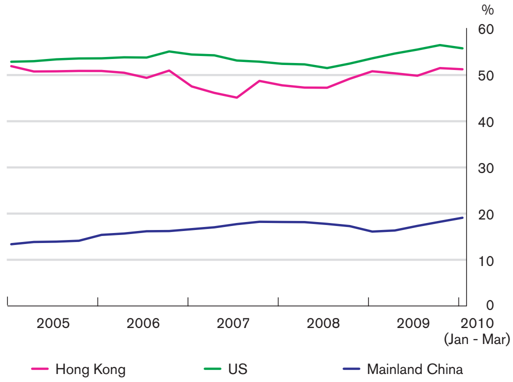
Sources: CEIC and staff estimates.

How will property price changes affect the Mainland's domestic demand?

Generally speaking, property price adjustments can affect private consumption through three major channels. First of all, they affect house owners' lifetime wealth. This channel does not appear to be important on the Mainland as income from properties including rental income and returns from property transactions only accounts for about 2% of the Mainland's total per capita income in urban areas (Chart B1.1). Secondly, property price changes can affect household expectations of future income growth through changing investment and output. Finally, changes in property prices may affect household financing constraints. Our analysis based on panel data at provincial level of 1994 - 2008 shows the overall impact of property price changes on the Mainland's private consumption would be insignificant, with a 10% drop in property prices likely to induce a fall in private consumption by 0.7%.

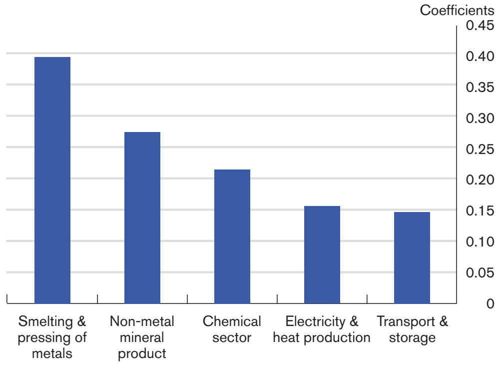
In contrast, the potential impact of property price changes on investment could be much larger. Our estimates show that a 10% drop in property prices can drag down the Mainland's investment by about 4.0%. Indeed, real estate FAI accounts for a notable part of the Mainland's total FAI in the past few years (Chart B1.2). The importance of real estate investment differs notably across regions. While real estate FAI accounts for around 50% of Beijing's total FAI in the past couple of years, it has been less than 30% of Guangdong's total FAI.

Chart B1.3
Banking sector's direct exposure to property markets



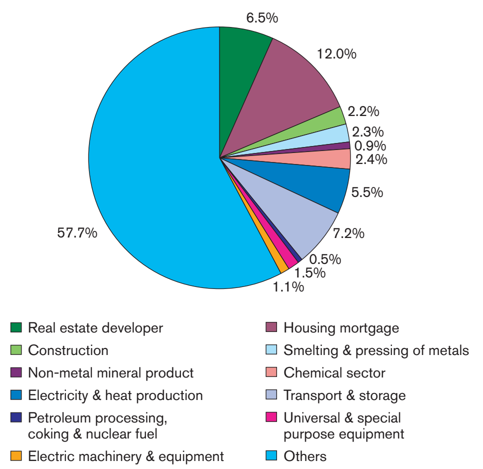
Sources: CEIC, US Federal Reserve, the HKMA and staff estimates.

Chart B1.4
Cumulative input coefficients of the construction sector



Source: "2007 China Input-Output Table", by Zhilong Peng, China Statistics Press, 2009.

Chart B1.5
Distribution of outstanding loans in 2009



Note: Figures do not add up to 100% because of rounding.
Sources: CEIC and staff estimates.

Meanwhile, property price movements can also affect aggregate investment indirectly through reducing the demand for investment of those factors closely linked with property markets including building materials and transportation.

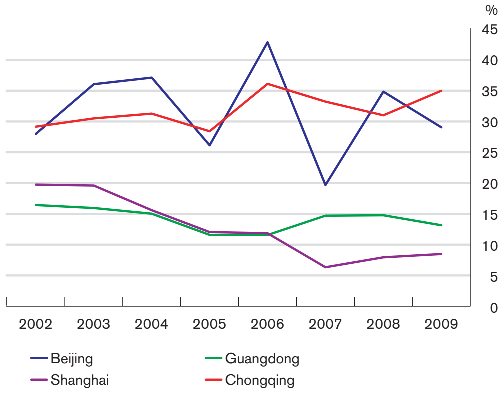
How will property price changes affect the Mainland's banking sector?

Banking sector's direct exposure to property markets looks manageable. Mortgage loans and the loans to developers have been trending up in the past few years, but still account for less than 20% of total outstanding loans in late 2009, compared with 51.6% in Hong Kong and 56.6% in the US (Chart B1.3). On the other hand, loans from financial institutions are not a major source of funding for developers. Self-raised capital, advanced payment and other sources of funding in 40 major cities, for instance, account for about 60% of developers' total funding in the first quarter of 2010.

Nevertheless, banking sector's total exposure to property markets can be large because of the strong linkages between real estate sector and other industries. The cumulative input coefficients of the construction sector can in large part capture how real estate sector is linked with other industries. They illustrate how much output from other sectors is used as intermediate inputs to produce an additional unit of construction on a gross basis (Chart B1.4). The metal smelting and rolling sector appears to be most closely linked with the construction sector, followed by non-metal mineral products and chemical sectors. A one yuan of final demand for construction, for example, will require an input of 0.40 yuan from the metal smelting and rolling sector. In fact, the amount of loans to the sectors which are closely linked with the property market is large, accounting for about 24.0% of total loans in 2009 (Chart B1.5). Falling property prices will affect these sectors' output and hence erode their ability to repay loans to banks.

The above analysis captures better the banking sector's exposure to the property market, but may still underestimate its exposure as firms may use their properties as collateral to borrow money from banks. Property price corrections will reduce the collateral

Chart B1.6
Land sales as a percentage of local government general revenue



Sources: CEIC and staff estimates.

values and hence hurt banks' balance sheets if borrowers default on loans. While no official data on these collateralised lending activities is available, anecdotal evidence suggests banking sector's indirect exposure to property markets through this channel is significant.

How will property price changes affect government revenue?

Property prices can affect government revenue mainly through two channels. On the one hand, property price changes can affect government general revenue, which is mainly composed of various types of taxes. On the other hand, property price changes can affect land prices and hence land sales revenue which has become an important source of the extra-budgetary revenue to the Mainland's local governments. The share of land sales revenue to local government revenue at provincial level differs significantly across regions. While Chongqing sees a ratio of land sales revenue to government general revenue of more than 30%, that of Shanghai has been below 10% in the past few years (Chart B1.6).

Concluding remarks

The impact of potential property price adjustments on the Mainland's domestic demand, the banking sector and government revenue can be summarised as follows:

- private consumption is not likely to be much affected partly owing to the limited wealth effect

- investment can be affected significantly, particularly in cities featuring a high ratio of real estate investment to total investment such as Beijing

- banking sector's direct exposure to property markets looks manageable, but its total exposure can be large owing to the strong linkages between real estate sector and other industries

- property price adjustments and the resultant land price changes may cause notable falls in local government revenue, but the magnitude differs widely across the country.

3. Domestic economy

Demand

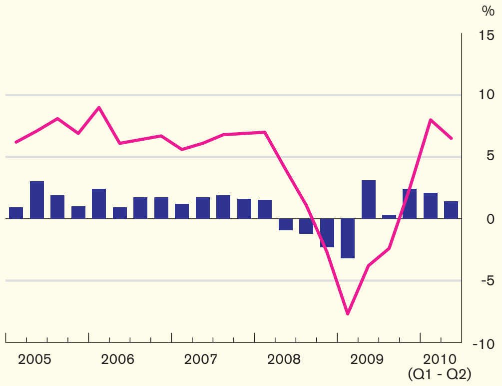
Economic activity in Hong Kong has been bolstered by the continued buoyancy in private domestic demand and reviving exports. However, the momentum is likely to be slower in the period ahead, particularly after the inventory cycle is about to have run its course. Risks to growth have also increased due to dimmed growth prospect in the advanced economies and a possible return of financial market turbulence.

3.1 Aggregate demand

The Hong Kong economy staged a strong recovery from the global financial crisis in the first half of 2010. On a year-on-year comparison, real GDP expanded by 8.0% in the first quarter and 6.5% in the second quarter, compared with the outright 2.8% contraction in 2009. Over the first two quarters, sequential momentum slightly weakened from a quarter-on-quarter growth of 2.1% to 1.4% amidst slower inventory accumulation. Besides, domestic demand picked up broadly, with consumption and fixed investment both growing at a robust pace, while net exports turned around to make significant contribution to GDP growth in the second quarter (Charts 3.1 and 3.2). By the second quarter of 2010, the seasonally adjusted GDP level had surpassed the pre-crisis peak in the first quarter of 2008 by 1.6%.

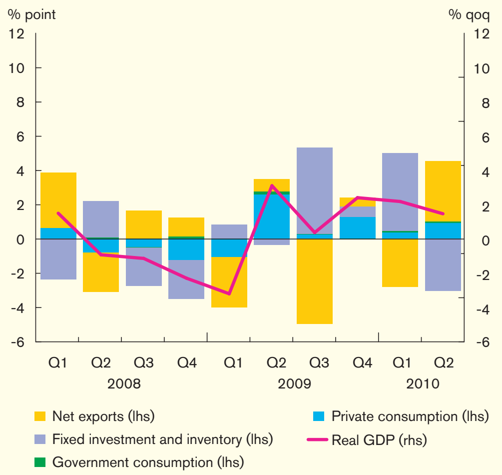
Looking ahead, the Hong Kong economy is expected to grow at a moderate pace through the end of the year, with domestic demand losing some strength and external demand tapering off. In particular, the domestic inventory cycle is about to have run its course, while factors that have temporarily boosted the external demand, such as fiscal stimuli of the advanced economies and the overseas inventory cycle, are fading. The market consensus projects real GDP to grow modestly on a sequential basis in the second half of 2010, putting a whole-year increase of 5.6%, which is close to the latest Government forecast of 5 - 6%.

Chart 3.1
GDP at constant market prices



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

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



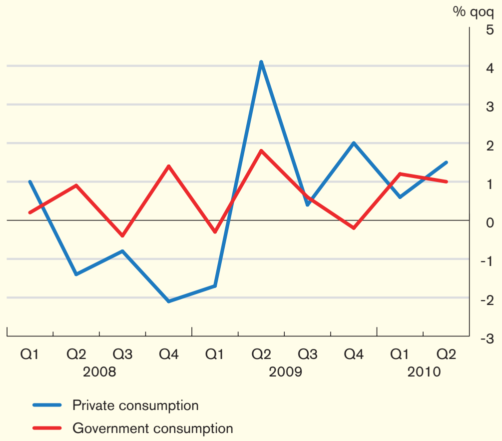
Sources: C&SD and staff estimates.

3.2 Domestic demand

Consumption

Private consumption growth strengthened from a quarter-on-quarter 0.6% in the first quarter to 1.5% in the second quarter (Chart 3.3) on the back of the recovering economy, further household income gains and stabilisation in the labour market. This was mainly attributable to stronger services demand, whereas consumption of goods fell slightly after three quarters of above-trend growth. For the remainder of 2010, it is expected that private consumption demand will continue to be supported by the gradually improving consumer sentiments and job prospects, though the pace of growth is likely to weaken to its trend rate. The market consensus broadly reflects this outlook and projects private consumption to grow by 4.9% for 2010 and 4.3% for 2011.

Chart 3.3
Private and government consumption



Source: C&SD.

Government consumption increased by 1.2% in the first quarter and 1.0% in the second quarter. The steady growth of government consumption is expected to sustain in the rest of 2010 and early 2011 as set out in the Government's 2010/11 budget plan. The latest developments in public finance are discussed in Section 3.4.

Investment

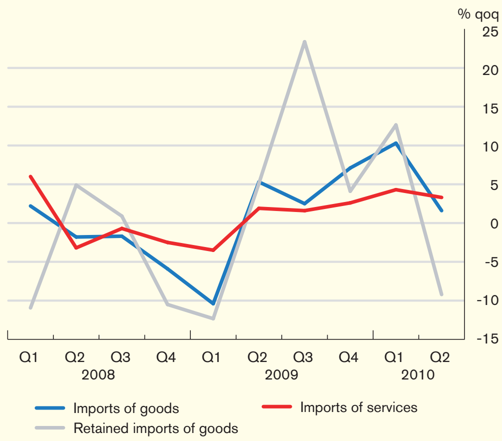
Gross fixed investment improved visibly in the first half of 2010, led by a strong growth in private investment that revived amidst improving business prospects. Public fixed investment also increased notably with large-scale infrastructure projects in the pipeline. On the other hand, following three quarters of substantial build-ups, inventory accumulation slowed in the second quarter. After all, the inventory cycle could only drive growth temporarily. As a result of slower inventory accumulation, overall investment spending dragged heavily on GDP growth in the second quarter, in contrast to the strong pick-ups in the earlier three quarters.

The trends of increasing fixed investment and weakening inventory accumulation are expected to continue for the remainder of 2010. While public fixed investment will continue to support growth, the pace of increase in private fixed investment will likely be moderate with the

Chart 3.4
Exports of goods and services

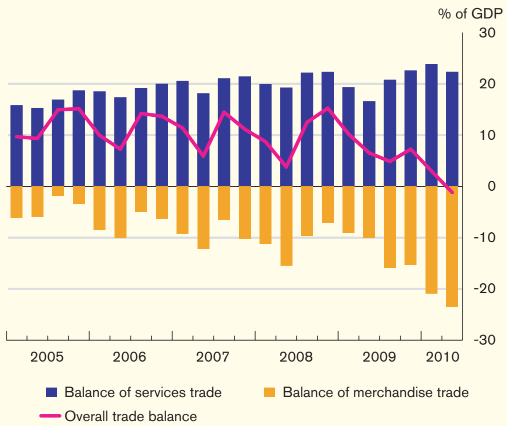
Source: C&SD.

Chart 3.5
Imports of goods and services



Sources: C&SD and staff estimates.

Chart 3.6
Trade balance by component (in nominal terms)



Sources: C&SD and CEIC.

gradual discharge of pent-up demand, notwithstanding that corporate financial positions are returning to a more solid level and excess capacity is reducing. The market consensus projects gross fixed investment to grow by 8.1% in 2010 and 6.0% next year. On the other hand, the inventory rebuilding cycle is about to have run its course and the pace of stocking is likely to slow for a time.

3.3 External trade

The recovery in international trade has led to three consecutive quarters of solid growth in Hong Kong's merchandise exports. However, with overseas economies and demand recovering sluggishly, the growth in Hong Kong's merchandise exports eased from a quarter-on-quarter 8.4% in the first quarter to 4.2% in the second quarter. Hong Kong's services exports growth also moderated from 6.7% to 0.8% over the same period (Chart 3.4). The main source of weakness was financial services, which fell momentously amidst weak investment sentiments and lacklustre volume of financial transactions. Growth in inbound tourism and overseas demand for transportation and trade-related services also softened.

Growth in Hong Kong's merchandise imports decelerated markedly from 10.3% in the first quarter to 1.6% in the second quarter on a quarter-on-quarter basis. The deceleration was mainly attributable to a fall in retained imports amid weaker goods consumption and slowing inventory accumulation, while growth in re-export-induced demand also weakened. On the other hand, imports of services registered sustained growth in the first two quarters, increasing sequentially by 4.3% and 3.3% (Chart 3.5).

Taken together, the external sector turned into a strong output contributor in the second quarter, with net exports estimated to have added 3.5 percentage points to the seasonally adjusted GDP growth rate after subtracting 2.8 percentage points in the first quarter. In value terms, however, the seasonally unadjusted overall trade balance recorded a deficit in the second quarter, at HK$5.0 billion or 1.2% of GDP due to a deterioration in the terms of trade (Chart 3.6).

Growth in Hong Kong's merchandise exports is expected to moderate through the end of the year, as recovery remained slow for many advanced economies. The recent turbulence in financial markets and the fading fiscal stimuli have also clouded global growth prospects. The global inventory cycle may take a turn for the worse after several quarters of strong accumulation. Recently, production orders and activities already showed signs of moderation in Asia, which could affect intra-regional trade through Hong Kong. The market consensus expects merchandise exports to grow in nominal terms by 14.9% in 2010 and 9.6% in 2011.

Services exports are also expected to grow less vibrantly due to weaker momentum in trade-related services. The expansion of the renminbi business in Hong Kong, on the other hand, is expected to bolster Hong Kong's exports of financial services in the medium term. With the Hong Kong economy's probably returning to a more modest growth path and the normalisation of the inventory cycle, imports of goods and services are likely to grow at a relatively measured pace.

Public finances

The Government adopted an expansionary budget for 2010/11, with the fiscal balance projected to shift from surplus to deficit. Government spending is proceeding as planned thus far, while government revenue may end up better than expected.

3.4 Public finances

Actual outturn for 2009/10

The Government's fiscal position for 2009/10 turned out to be stronger than the original and revised projections made earlier due to higher-than-expected revenues from stamp duties, salaries tax, profits tax and land premium, and to a lesser extent underspending in operating expenditure. Notwithstanding the relief measures at the scale of HK$25.2 billion, the Government in the end recorded an overall surplus of HK$25.9 billion (equivalent to 1.6% of GDP) after bond repayment. This marked the sixth consecutive year of fiscal surplus and the Government's reserve position thus strengthened to HK$520.3 billion (31.1% of GDP) as at 31 March 2010 (Table 3.A).

Table 3.A
Analytical presentation of the fiscal account

Fiscal year	Budget 2009/10	Outturn Estimate 2009/10	Actual 2009/10	Budget 2010/11
	(% of fiscal-year based GDP)			
Revenues[1]	15.6	18.4	19.0	16.7
Tax	10.8	12.0	n.a.	11.2
Non-tax	4.8	6.4	n.a.	5.5
Land premium	1.0	2.2	2.4	2.0
Asset sales/privatisations	0.0	0.0	n.a.	0.0
Investment income (net)[2]	1.8	2.0	2.0	1.7
Others	1.9	2.2	n.a.	1.8
Expenditure	17.8	17.4	17.3	18.1
Recurrent	14.6	14.1	14.0	14.4
Capital[3]	3.2	3.3	3.2	3.7
Overall balance before net borrowing	-2.2	1.0	1.8	-1.4
Overall balance after net borrowing[4]	-2.3	0.8	1.6	-1.4
Fiscal reserves	26.8	30.4	31.1	27.7

Notes:
1. Excluding proceeds from the issuance of government bonds and notes.
2. Netting out interest expenses of government bonds and notes.
3. Excluding interest expenses and repayments of government bonds and notes.
4. The headline balance reported by the HKSAR Government.

Sources: The 2010/11 Budget, Accounts of the Government of the HKSAR for year ended 31 March 2010 (Government Notice No. 3149 of Gazette No. 21, Vol. 13 published on 28 May 2010) and staff estimates.

Budget for 2010/11

The Government has budgeted for an increase in expenditure in 2010/11 and a reduction in revenue, with a projected deficit of HK$25.2 billion (1.4% of GDP). Led by a notable surge in capital spending, budgeted expenditure will rise by around 9 - 10%, and this will help lift government consumption as well as public investment in the GDP account. Budgeted revenue is projected to decrease due to the estimated fall in tax collections, land premiums and investment income. The relief measures unveiled in the 2010/11 Budget will also contribute to the fall in revenue as there involves a considerable sum in government transfers.

In the March issue of this Report, we suggested that the fiscal and relief measures announced in the 2010/11 Budget would increase GDP growth for 2010 by about half a percentage point. These measures have been or are being implemented as planned. There was a 10.5%

year-on-year increase in government expenditure thus far in the first four months of the fiscal year (i.e. April – July 2010), which is broadly in line with the budget plan. Nevertheless, the actual economic impact of these measures might lessen in the end because the fiscal impulse may diminish if the actual government revenue is higher than that budgeted. In particular, the actual revenue from tax collections and stamp duties can be higher than projected if the Hong Kong economy grows faster than expected, which is likely given that the Government and market consensus had revised upwards the GDP growth forecasts for 2010 since the announcement of the budget measures.

Land premium receivables from land sale and execution of private treaty grants, lease modifications and land exchange reached HK$52.0 billion in the first five months of 2010/11, which was HK$17.9 billion more than the full-year total projected amount (Table 3.B). The upside surprise helps strengthen the government's fiscal position but does not affect the fiscal impulse of the fiscal and relief measures because land sale is only an exchange of assets between the Government and the private sector and thus does not necessarily generate a change in aggregate spending.

Table 3.B
Budgeted receipts from land premium for 2010/11 and actual receivables in April - August 2010

	April – August 2010	Budget 2010/11
Land premium		
Land sale	35.3	n.a.
Private treaty grants executed	11.7	n.a.
Lease modification executed	2.0	n.a.
Land exchanged executed	3.0	n.a.
Total	52.0[1]	34.1

Note:
1. Land premium received from land sale and execution of private treaty grants, lease modification and land exchange.

Sources: The 2010/11 Budget and Lands Department.

Labour market conditions and output gap

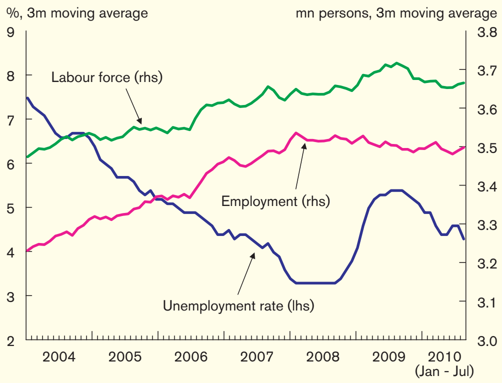
Labour market conditions have improved. The unemployment rate continued to moderate during the first quarter of 2010 and fell to the lowest level since December 2008 in July after a slight rebound in the second quarter. The pace of job creation strengthened in recent months, while labour force participation rate stayed low. The output gap is estimated to have turned positive in the second quarter, but the size is expected to remain modest in the rest of 2010.

3.5 Labour market conditions and output gap

Labour market conditions

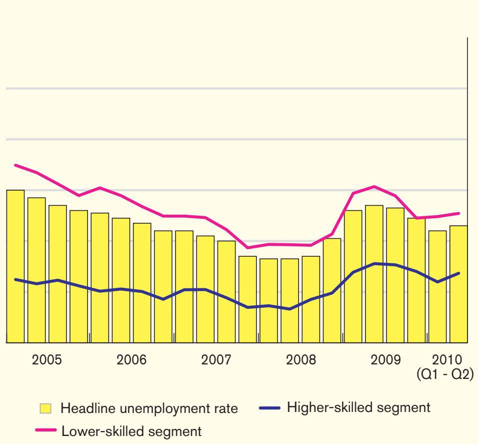
The development in the labour market remained largely favourable moving into 2010. The unemployment rate continued the downtrend, dropping by 0.5 percentage points to 4.4% in the first quarter (Chart 3.7). The downtrend was nevertheless interrupted temporarily in the second quarter, with the rate bouncing up slightly to 4.6%, amid increased uncertainties in the external environment due to the European sovereign debt crisis. The unemployment rate then dropped again to 4.3% in July, the lowest level since December 2008. At a glance on the sectoral breakdown, there were divergences in the performances across different sectors. In particular, the manufacturing, import/export trade and wholesale sectors finished the first seven months of 2010 with a higher unemployment rate, whereas other major sectors experienced falls or little changes over the same period. Since the former are major providers of low-skilled work, the unemployment rate of low-skilled workers increased in the second quarter of 2010 compared with half a year ago, whereas that of their high-skilled counterparts decreased slightly (Chart 3.8).

Chart 3.7
Labour market conditions



Source: C&SD.

Chart 3.8
Unemployment rates in the higher and lower-skilled segments

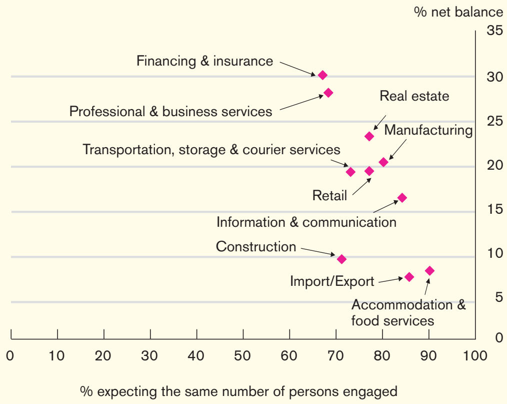


Sources: C&SD and staff estimates.

On the labour demand side, although the pace of job creation strengthened in recent months, there is still no clear and strong trend of improvement. Employment gains were observed in financing, insurance, real estate and professional and business sectors, probably due to the headcount refill following some consolidation in these sectors. However, job losses resurfaced in the construction sector, notwithstanding the implementation of several large-scale infrastructure projects, such as the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link. Meanwhile, the labour supply continued to be sluggish, with the overall labour force participation rate dipping to a historic low of 59.8% in May. The subdued labour supply performance probably reflected the dropping out of job seekers from the labour force, particularly in the age group of 15 – 24, which had been experiencing declines in both the size of the labour force and the participation rate until June 2010.

The outlook for the labour market became more uncertain compared with six months ago. On the bright side, the latest Quarterly Business Tendency Survey indicates that all surveyed sectors expect their employment to increase in the third quarter of 2010, particularly the financing and insurance, professional and business services, and the real estate sectors (Chart 3.9). However, competition for jobs may become more severe in the coming months, as fresh graduates started entering the labour force. As for the Minimum Wage Bill passed in July, its impact on the labour market will depend very much on the level of the initial minimum statutory wage rate.

Chart 3.9
Quarterly business tendency survey for 2010 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.

Output gap

The potential output of the economy had probably suffered during the global financial crisis, as capital stock accumulation was disrupted by the plunge in business confidence and heightened uncertainties. With the economy now on the recovery track, the potential output should be recovering its growth momentum before the crisis, mainly helped by strengthened investment activities over the past few quarters. Meanwhile, the potential labour supply has been somewhat weak, reflecting the weak labour force expansion, particularly since the beginning of 2010.

However, the actual output growth has probably been even faster than the pace of recovery of the potential output. As a consequence, the output gap is estimated to have turned positive in the second quarter. In particular, the size of the output gap is estimated to be -0.2% in the first quarter and 0.2% in the second quarter. With a rather modest output gap, inflationary pressures remained moderate in the first two quarters.

Looking ahead, the expected moderation in the growth momentum of actual output in the rest of 2010 will keep the size of the output gap in check.

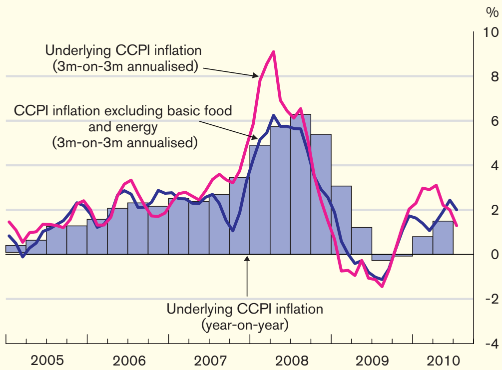
Prices and costs

Inflationary pressures have been gradually building up in the economy as the output gap has turned positive, while import prices and rentals have increased. However, with labour costs contained by productivity gain, the pressures have stayed moderate so far. Looking ahead, a key factor shaping the inflation outlook will be the pace of pass-through of market rentals into the consumer price index.

3.6 Consumer prices

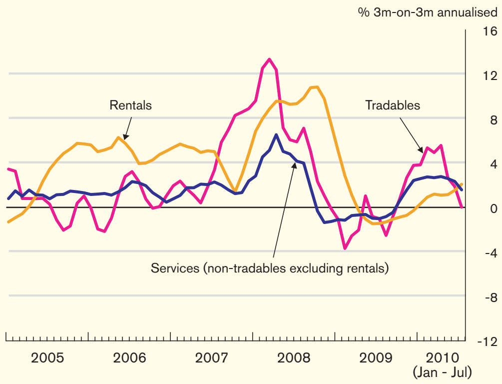
Inflationary pressures have been building up gradually in the economy. After staying in negative territory for two quarters, the year-on-year underlying inflation rate increased to 0.8% in the first quarter and 1.5% in the second quarter, with several major components, such as food and rentals, registering steady increases (Chart 3.10). The three-month-on-three-month annualised rate of underlying inflation increased from 2.0% in December 2009 to a recent high of 3.1% in April, before falling back to 1.3% in July, as influenced by the fluctuations in basic food prices during the period. If excluding basic food and energy, the annualised quarter-on-quarter core inflation rate exhibited a choppy path. In particular, the rate dropped from 1.7% in December 2009 to 1.1% in March because of the slower growth in miscellaneous services charges, and then bounced up to 2.0% in July, as costs of meals away from home and housing increased at a quicker pace.

Chart 3.10
Different measures of consumer price inflation



Sources: C&SD and staff estimates.

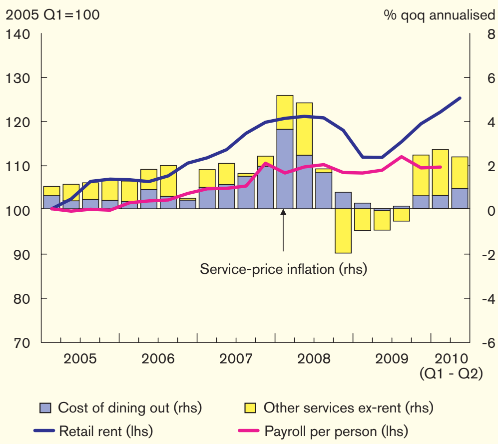
Chart 3.11
Consumer price inflation by broad component



Sources: C&SD and staff estimates.

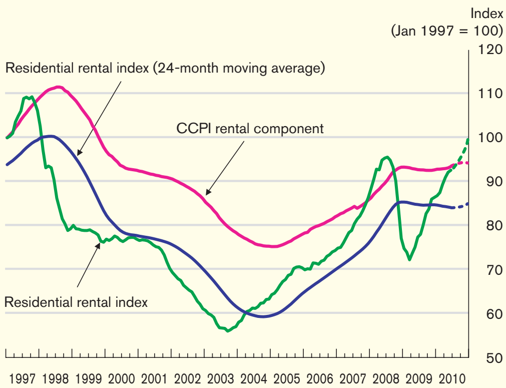
The main broad components of the consumer price index resumed growth on a sequential basis. In particular, the annualised three-month-on-three-month inflation rate of the tradable goods component had turned positive since October last year, reaching a peak of 5.6% in April, and then stayed flat in July, again driven by the fluctuations in basic food prices (Chart 3.11). Meanwhile, the sequential growth of the services price component (i.e. non-tradables excluding rentals) remained at around 2.6% on a three-month-on-three-month annualised basis during the first half of 2010, reflecting the pass-through of the steady increase

Chart 3.12
Service-price inflation excluding rent



Sources: C&SD and staff estimates.

Chart 3.13
CCPI rental component and market rents



Note: CCPI rental component excludes the effects of one-off special relief measures.

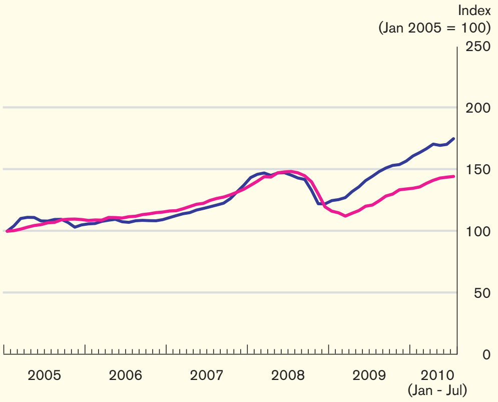
Sources: Rating and Valuation Department (R&VD), C&SD and staff estimates.

in retail rentals to final prices (Chart 3.12). The rise in retail rentals also caused a pick-up in the rental component of the consumer price index, which increased from -0.3% in December 2009 to 2.1% in July on a three-month-on-three-month annualised basis.

Price pressures in the economy are expected to build up further in the second half of 2010, but the pace is unlikely to be fast and vigorous owing to a combination of external and domestic factors. In respect of the external driving forces of inflation, import-price inflation may continue to pick up in the rest of 2010 due to recent disruptions to the world food supply, as well as renminbi appreciation. Nevertheless, contrary to common perceptions, any resulting higher import-price inflation will probably have modest direct impacts on local inflationary pressures, as previous HKMA studies indicate.[4] As for the domestic drivers of inflation, while a positive output gap is estimated to have emerged in the second quarter, the size of the positive gap is likely to remain modest in the rest of 2010. Since wage and payroll growth is expected to be moderate, and labour productivity gains are expected to be steady, labour cost pressures will likely to be contained. The rise in the rental component is expected to be gradual, bounded by terms of the rental contracts signed previously, which contributed to the high correlation between the 24-month moving average of market rental and the rental component of the CCPI (Chart 3.13). Nevertheless, an upside risk could come from a faster-than-expected pass-through from market rentals of residential properties to the rental component of the CCPI if the property market rally continues. And inflation will become more visible in 2011, reflecting the lagged effect of higher rentals.

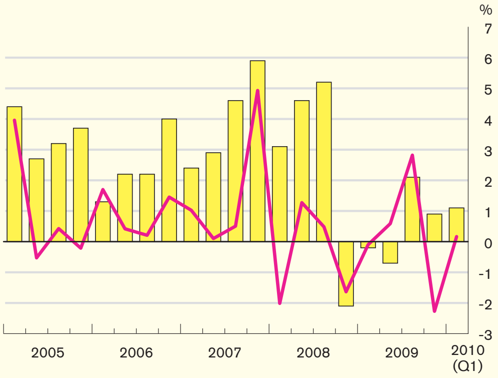
[4] See Leung and Chow (2007), "How much of Hong Kong's import from Mainland China is retained for domestic use?", *HKMA Research Note 01/2007*; Fan (2010), "Implications of a renminbi appreciation for inflation in Hong Kong", *HKMA Quarterly Bulletin*, June 2010; and Liu and Tsang (2008), "Exchange rate pass-through to domestic inflation in Hong Kong", *HKMA Working Paper 02/2008*.

Chart 3.14
Residential property price and rental indices



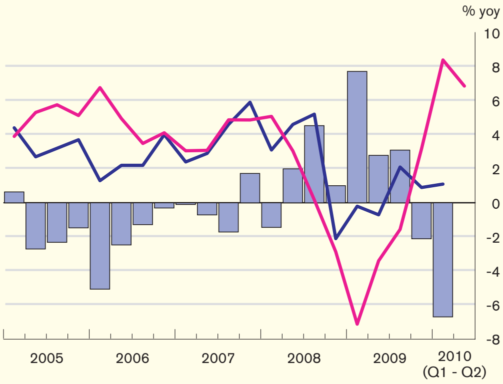
Sources: Rating and Valuation Department (R&VD).

Chart 3.15
Nominal payroll per person



Source: C&SD.

Chart 3.16
Unit labour cost and labour productivity



Sources: C&SD and staff estimates.

3.7 Rental costs

Although residential property prices fell slightly in May due to the Government's announcement of "nine measures, 12 refinements" and the disappointing land auction results for a Tung Chung residential site, the uptrend in residential rentals was undisturbed during the first seven months of 2010. Specifically, residential rentals rose by a cumulative 7.6% during that period (Chart 3.14). Despite the sustained rise in rentals, property market yields still remained low by historical standards.

Residential rentals are likely to continue to trend up in the periods ahead. While the demand for housing services will likely to remain firm, the pass-through from housing prices to the CCPI will continue, and become more notable in the final quarter of 2010. On the other hand, this upward momentum could be losing some steam, reflecting the effect of recent government policy measures to cool the property market.

3.8 Labour costs

Latest data suggest that growth in overall labour earnings experienced some retractions. On a seasonally adjusted quarter-on-quarter comparison, the 2.9% increase in nominal payroll per person in the third quarter of 2009 was followed by a 2.3% decline in the final quarter of 2009, and a modest pick-up of 0.1% in Q1 (Chart 3.15). On a year-on-year comparison, growth in nominal payroll per person also slowed from 2.1% in 2009 Q3 to 0.9% in 2009 Q4 and 1.1% in Q1. The patterns are somewhat diverse across different sectors. Specifically, most sectors' labour earnings have already resumed year-on-year growth in Q1 but a few of them (social and personal services, sewage, waste management and remediation activities) still registered negative growth. The growth was partly due to a low base of comparison in the same quarter of 2009.

Nominal unit labour costs fell by 6.7% year on year in the first quarter, after decreasing by 2.1% in the last quarter of 2009 (Chart 3.16). The rather sharp decline in unit labour costs in Q1 was attributable to a sizeable gain in labour productivity during the quarter, which far outpaced the growth rate in nominal payroll per person.

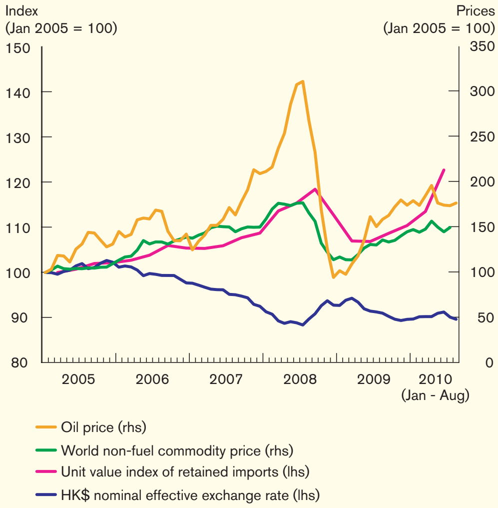
With improving economic fundamentals, demand for pay rises is likely to become more prevalent in the economy. However, the rate of increase in nominal payroll is not likely to be large, as the unemployment rate has remained close to its trend rate, and uncertainties in the external environment may constrain the pace of job creation in the coming months. The current relatively moderate pace of employment growth also means that labour productivity gain will remain steady as output growth continues. This, together with moderate payroll growth, will help keep unit labour costs in check.

3.9 Commodity and import prices

Import-price pressures continued to climb during the first half of 2010, with the quarter-on-quarter annualised import-price inflation rate increasing from 6.4% in the last quarter of 2009 to 11.7% in the first quarter of 2010, and 36.5% in the second quarter. The continued rise in import prices partly reflected the pick-up in oil and commodity prices over the same period (Chart 3.17), while the appreciation of the Hong Kong-dollar nominal effective exchange rate might probably have helped dampen the rise somewhat. Analysed by component, raw materials and capital goods were the main drivers of import-price inflation, while contribution from consumer goods also became material (Chart 3.18). On the other hand, pressures stemming from food imports remained comparatively modest, despite the fact that adverse weather conditions some months ago on the Mainland led to heightened prices of imported food.

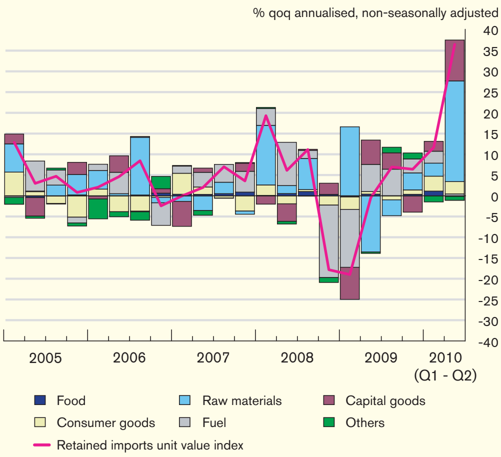
Looking ahead, pressures on import-price inflation are likely to stay firm. Despite some signs that growth momentums in the major economies may slow down in the second half of the year, vibrant growth in other emerging economies, particularly those in the Asian region, will continue to support the demand for commodities. On the other hand, recent disruptions to supplies of food, for example, due to the drought in Russia and the flood on the Mainland, may boost food prices in the coming months, while the renminbi appreciation may also exert some pressures on import prices, though the impact will be modest.

Chart 3.17
Commodity and import prices



Sources: C&SD and IMF.

Chart 3.18
Contributions to import price inflation



Sources: C&SD and staff estimates.

4. Monetary and financial conditions

Exchange rate, interest rates and monetary developments

The Hong Kong-dollar spot exchange rate weakened from the strong-side Convertibility Undertaking at 7.75. Despite the volatile global financial markets, there was little speculative pressure on the exchange rate and the local money market functioned normally. Although slightly higher US-dollar interbank interest rates amid the European sovereign debt crisis did transmit to domestic interbank interest rates, they remained low compared with previous highs in 2007. While local monetary conditions became less expansionary, faster growth in credit warrants attention. In response, further prudential measures have been implemented.

4.1 Exchange rate and interest rates

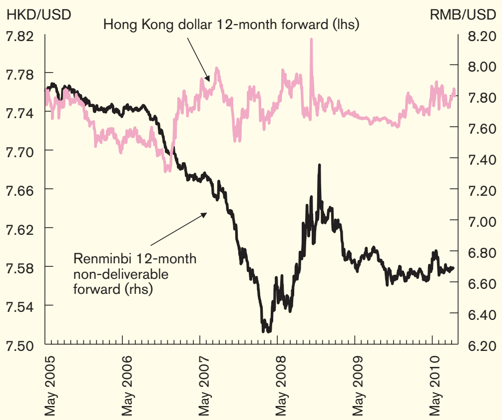
After staying at around 7.75 for 15 months, the Hong Kong-dollar spot exchange rate generally softened to around 7.78 in the first half of 2010 (Chart 4.1). The exchange rate weakened in December 2009 and January 2010, reportedly due to a repatriation of IPO proceeds out of the Hong Kong dollar and capital outflows amid tightening concerns in Mainland China. As market sentiment was undermined by a rapidly depreciating euro amid the European sovereign debt crisis, the weakening of the Hong Kong-dollar spot exchange rate gained momentum in May. The spot exchange rate occasionally weakened beyond the 7.8 middle point of the Convertibility Zone, and hit 7.8034 on 8 June 2010, the lowest level since September 2008. In light of these recent developments, Box 2 discusses an analytical framework for analysing the dynamics of the Hong Kong-dollar exchange rate.

Chart 4.1
Hong Kong-dollar exchange rate

Source: HKMA.

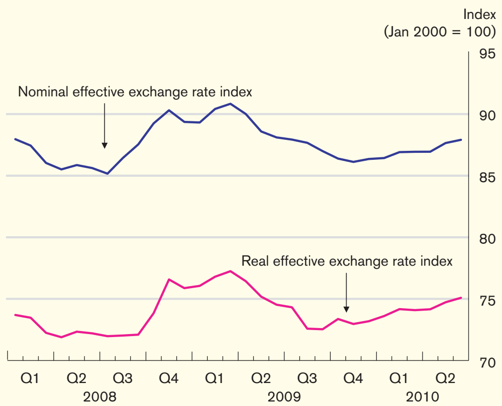
Renewed speculations about the appreciation of the renminbi since March 2010 have not led to a marked strengthening of the Hong Kong-dollar spot exchange rate. Broadly in line with the interest-rate differentials between the Hong Kong and US dollars, the Hong Kong-dollar forward spreads traded within a narrow range and there existed no clear relationship between the Hong

Chart 4.2
Hong Kong-dollar and renminbi forward exchange rates



Sources: HKMA and Bloomberg.

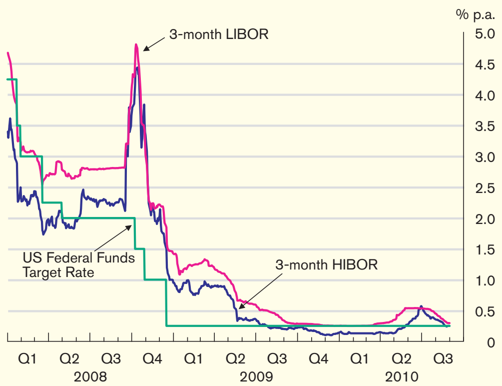
Chart 4.3
Nominal and real effective exchange rates



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

Sources: Staff estimates and C&SD.

Chart 4.4
Interest rates of the Hong Kong dollar and US dollar



Source: CEIC.

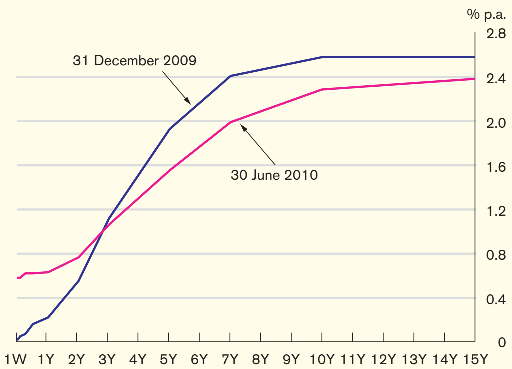
Kong-dollar and renminbi forward exchange rates in recent years (Chart 4.2). The market remained calm when the PBoC announced on 19 June 2010 that it would increase the flexibility of the renminbi exchange rate again. Judging from the movements in the spot and forward exchange rates, there was little speculative pressure on the Hong Kong-dollar exchange rate against the US dollar.

The Hong Kong-dollar spot exchange rate then strengthened in July and early August 2010 alongside a weaker US dollar and a rebound in the local stock market. The spot exchange rate closed at 7.7807 on 31 August, little changed from 7.7843 on 30 June. The market consensus in August 2010 suggests that the Hong Kong-dollar spot exchange rate is expected to be 7.77 against the US dollar by the end of August 2011, reflecting market expectation of a softening US dollar against other currencies.

In the first half of 2010, both the trade-weighted nominal and real effective exchange rate indices of the Hong Kong dollar increased, in line with a strengthening of the US dollar against other currencies (Chart 4.3). The strength of the US dollar was mainly driven by safe-haven inflows into the US dollar amid heightened concerns about sovereign credit risk in Europe. Meanwhile, the real exchange rate index rose at a faster rate because Hong Kong's headline inflation rate was higher relative to the weighted average of its trading partners. This reflected subdued inflation in many advanced economies, although incipient inflationary pressures were also experienced by Hong Kong's regional trading partners.

Despite a stable US-dollar policy interest rate, interbank interest rates for the Hong Kong dollar climbed towards the end of the second quarter, reflecting upward movements in their US-dollar counterparts and local funding demands associated with mid-year reporting, IPO activities and increased demand for credit (Chart 4.4). Interbank interest rates for the US dollar rose as concerns about the exposure of European banks to the debt-ridden countries in the euro area heightened. However, supported by ample interbank liquidity, domestic interbank interest rates remained low compared with previous highs of around 5% in October 2007.

Chart 4.5
Yields of Exchange Fund paper



Source: HKMA.

Table 4.A
Mortgage interest rates for newly approved loans in 2010

(% p.a.)	HIBOR-based mortgage rate (1-month HIBOR + 0.7%)	BLR-based mortgage rate	Weighted average mortgage rate
January	0.77	2.35	1.34
February	0.77	2.37	1.33
March	0.78	2.39	1.15
April	0.78	2.42	1.09
May	0.84	2.49	1.12
June	1.02	2.50	1.25

Note: Period-average figures.
Source: Staff estimates.

Table 4.B
Deposit interest rates

(% p.a.)	Savings deposits (HK$)	6-month time deposits (HK$)	6-month time deposits (RMB)
2008 Q4	0.012	0.36	0.696
2009 Q1	0.010	0.26	0.696
2009 Q2	0.009	0.11	0.696
2009 Q3	0.009	0.08	0.724
2009 Q4	0.009	0.04	0.731
2010 Q1	0.009	0.04	0.731
2010 Q2	0.009	0.06	0.732

Note: Period-end figures.
Source: HKMA.

At the longer end, yields of longer-term Exchange Fund paper declined alongside their US-dollar counterparts, resulting in a flatter Hong Kong-dollar nominal yield curve towards the end of June 2010 (Chart 4.5). The yields of longer-term US government bonds declined markedly in the second quarter because of a flight to quality amid the European sovereign debt crisis and reduced concerns about US inflation. In contrast, the implied yields of short-dated Exchange Fund paper increased slightly, alongside the upward movements in HIBORs.

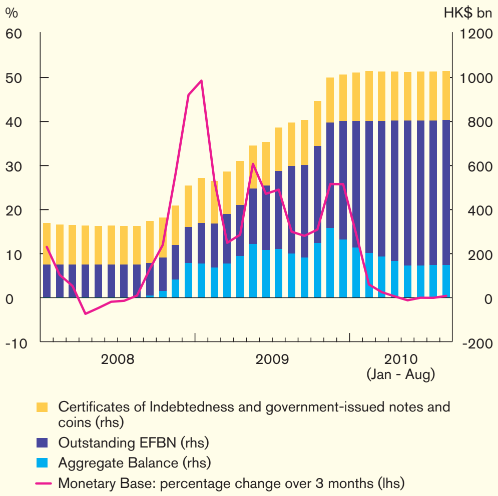
At retail level, banks kept their BLRs unchanged at either 5.00% or 5.25%, consistent with a stable US Federal Funds Target Rate. The weighted average interest rates for newly approved mortgage loans remained low despite recent signs of a moderate rise (Table 4.A). While both HIBOR and BLR-based mortgage rates rose slightly, average mortgage rates broadly declined as more customers chose HIBOR-based products to take advantage of the low interbank interest rates. Survey data indicate that the proportion of newly approved mortgage loans priced with reference to HIBOR increased to a record high of 83.9% in June from 61.6% six months ago.

While the average savings-deposit interest rate offered by major banks stabilised at 0.01%, certain banks raised their term-deposit interest rates in May and June, especially for large deposits with longer maturities (Table 4.B). The selected rises in time-deposit interest rates reflected funding demands associated with mid-year reporting and increased demand for credit, and banks' efforts to strengthen their deposit base. With the expanding scope of renminbi business in Hong Kong, banks also marginally raised their renminbi deposit interest rates to attract such deposits (Table 4.B). The composite interest rate, which indicates the average cost of funds of banks, increased slightly to 0.20% at the end of June 2010 from 0.11% six months ago, driven by upward adjustments in both time-deposit and interbank interest rates.

With the half-yearly reporting period coming to an end and financial market conditions in Europe gradually stabilising, data in July and August indicate that both interbank and deposit interest rates for the Hong Kong-dollar tapered off, suggesting that the earlier rises in interest rates did not herald an upward cycle of local interest rates. Low interest rates are likely to continue in the near future, but they may be affected by global financial conditions, credit demand, impact of new regulatory requirements on banks' capital and the exit of the full deposit guarantee at the end of 2010. In the longer term, the market expects that the US Federal Funds Target Rate will rise in the second half of 2011. The mean of Consensus Forecasts in August 2010 also points to an increase in the three-month HIBOR to around 1% by the end of August 2011.

4.2 Money and credit

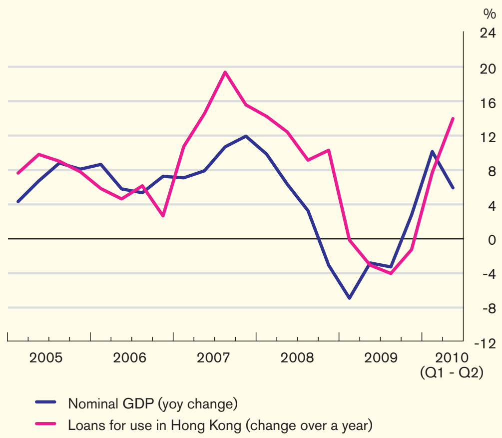
Chart 4.6
Monetary Base



Source: HKMA.

As the strong-side Convertibility Undertaking was not triggered, the Monetary Base was little changed during the first half of 2010 (Chart 4.6). To meet the strong demand by banks for liquidity management, the HKMA continued to issue additional Exchange Fund Bills to the market although the pace of issuance slowed in the second quarter. Despite the resultant transfer within the Monetary Base from the Aggregate Balance to Exchange Fund paper, the Aggregate Balance remained high at HK$148.7 billion at the end of June, accounting for 15% of the Monetary Base.

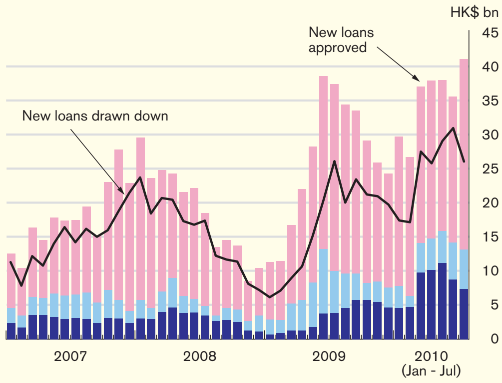
Chart 4.7
Loans for use in Hong Kong and nominal GDP



Sources: HKMA and C&SD.

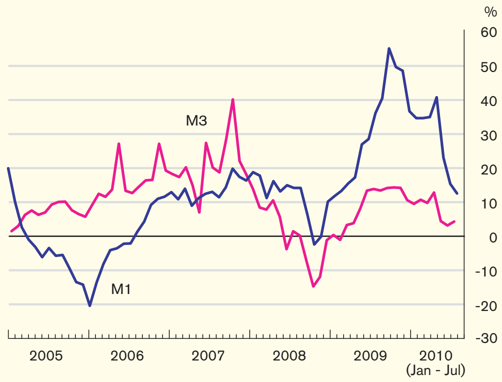
With banks leveraging ample interbank liquidity, loans for use in Hong Kong returned to their pre-crisis peak in the first quarter and grew at a brisk pace in the second quarter, supported by improving economic conditions, a buoyant property market, occasional surges in loan demand associated with IPO activities and possibly external loan demand. Compared with the 1997-98 Asian financial crisis, the initial impact of the global financial crisis on domestic credit was more severe but the recent credit recovery was much quicker. Representing the highest growth rate since the global financial crisis in late 2008 and 2009, growth in domestic loans in Q2 accelerated to 14.0% from a year earlier, faster than the 5.9% growth in nominal GDP (Chart 4.7). Robust credit demand is expected to sustain. According to the HKMA Survey on Credit Condition Outlook, the proportion of surveyed AIs expecting domestic loan demand to "increase somewhat" in the next six months rose from 52% in December 2009 to 67% in June 2010, although none of them expected the loan demand to "increase considerably".

Chart 4.8
Mortgage loans



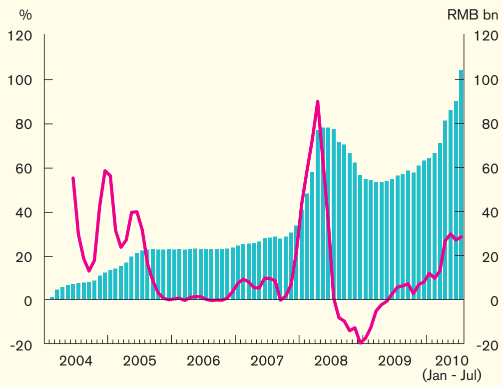
Source: HKMA.

Chart 4.9
Year-on-year growth in monetary aggregates



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

Chart 4.10
Renminbi deposits in Hong Kong



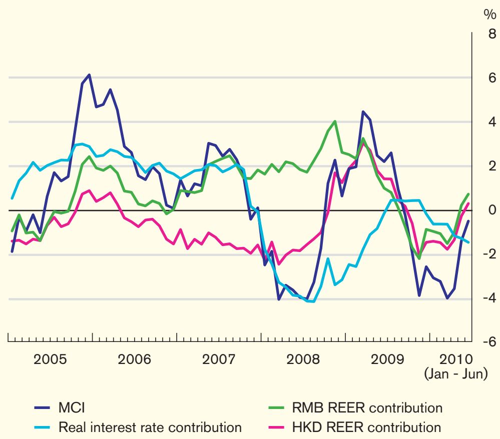
Source: HKMA.

Analysed by economic use, the increase in domestic loans was broad-based in the first half of 2010 and property-related loans continued to be a major contributor. On the mortgage front, new loans approved, largely priced with reference to HIBORs, were at high levels, while refinancing loans expanded partly because existing mortgagors shifted to HIBOR-based products (Chart 4.8). As a result, household debt-servicing burden becomes increasingly sensitive to interbank interest rates. In view of the keen competition in the mortgage loan market, the HKMA issued a circular on 8 January 2010 reminding banks to adopt prudent pricing strategies in mortgage lending. To further safeguard banking stability, the HKMA announced on 13 August 2010 a set of prudential measures for residential mortgage loans, including applying a maximum loan-to-value (LTV) ratio of 60% to properties valued at $12 million or above, lowering the maximum LTV ratio for properties not intended to be occupied by owners to 60%, standardising the limit on debt servicing ratios of mortgage applicants to 50% under the current level of interest rate and to 60% under a more stringent stress-testing scenario of 200-basis-point increase in mortgage interest rates (see Section 4.5).

Despite an expansion in loans, Hong Kong-dollar monetary aggregates were essentially trendless during the first half of 2010, signalling some outflows of funds. Analysed by the asset-side counterpart of Hong Kong-dollar M3, the increase in domestic credit was partly offset by a decline in net foreign-currency assets which indicated outflows of funds during the second quarter. This contrasted with the pattern emerged during the global financial crisis. At that time, Hong Kong-dollar M3 increased sharply on the back of strong net inflow of funds despite subdued lending activity and an economic slowdown (Chart 4.9).

While Hong Kong-dollar deposits, which represent the lion's share of local currency money supply, were also essentially trendless, renminbi deposits in Hong Kong expanded markedly during the first half of 2010 (Chart 4.10). The demand for renminbi deposits in Hong Kong was boosted by the expanding scope of renminbi business in Hong Kong and expected valuation gains associated with the renewed appreciation pressure

Chart 4.11
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.

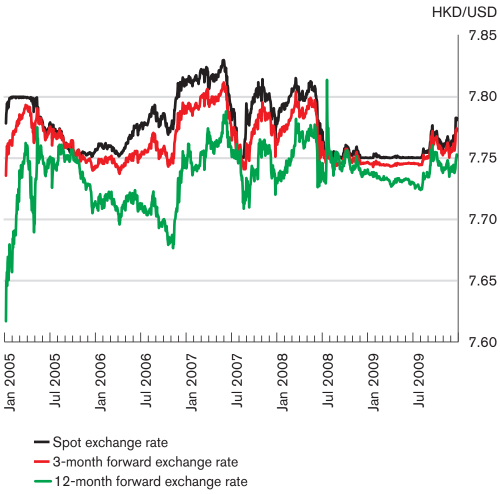
Sources: HKMA and staff estimates.

on the renminbi. The share of renminbi deposits in total deposits remained small, climbing to 1.6% of total deposits at the end of June 2010. Box 3 summarises the recent developments of renminbi banking business in Hong Kong and discusses its implications for the Hong Kong dollar.

Monetary conditions became less expansionary in the first half as indicated by a rebound in the Monetary Conditions Index (MCI). While a lower real interest rate due to a rise in domestic inflation helped loosen local monetary conditions, the MCI rebounded because of the real exchange-rate appreciation of the Hong Kong dollar and the renminbi partly due to the strengthening of the US dollar (Chart 4.11).

Box 2
The Hong Kong-dollar exchange-rate dynamics under strong capital inflows

Chart B2.1
Hong Kong-dollar exchange rate from January 2005 to June 2010



Source: Staff estimates.

Between the fourth quarter of 2008 and the end of 2009, the strong-side Convertibility Undertaking (CU) was triggered repeatedly with remarkable capital inflows into the Hong Kong dollar (Chart B2.1). Questions have been raised about the likely path of its exchange rate when there is a reversal of capital flows. In view of these developments, we propose a new framework that can shed light on exchange-rate dynamics within the convertibility zone under both capital inflows and outflows. In the framework, the Hong Kong-dollar exchange-rate movements depend on both the changes in the equity-return differential between Hong Kong and the US, and the interest-rate differential. The equity-return differentials make the exchange-rate dynamics more sensitive to the underlying movements of economic fundamentals than those implied by conventional target zone models which do not take into account portfolio allocation into risky assets.[5 & 6]

A new analytical framework

The modified target zone model features non-trivial portfolio choices among risk-free bonds and risky assets (e.g. equity) offered in the domestic and foreign economies, where the exchange rate between the two economies is managed through a two-sided target zone regime. Essentially, the effect of equity-return changes on the exchange-rate dynamics is modelled through the following extended version of uncovered interest rate parity:

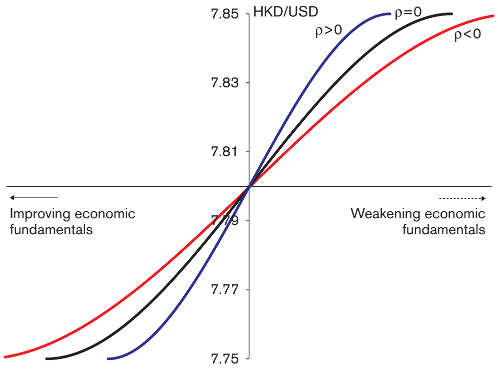
$$\dot{s} = i^{HK} - i^{Foreign} + \alpha\,(r^{HK} - i^{HK}) - \beta\,(r^{Foreign} - i^{Foreign})$$

where i and r are the risk-free interest rate and risky asset return respectively; $\dot{s}$ is the depreciation rate of the Hong Kong-dollar exchange rate (HKD/USD); α and β are the

[5] For details of the framework, see Matthew S. Yiu, Wai-Yip Alex Ho, Yue Ma, Shu-ki Tsang (2010), "An analytical framework for the Hong Kong dollar exchange rate dynamics under strong capital inflows, *HKMA Working Paper 05/2010*.

[6] Details and derivations of the modified target zone model and extended version of uncovered interest rate parity are in Yue Ma, Shu-ki Tsang, Matthew S. Yiu, and Wai-Yip Alex Ho, (2010), "A target-zone model with two types of assets", *Hong Kong Institute for Monetary Research Working Paper* (forthcoming).

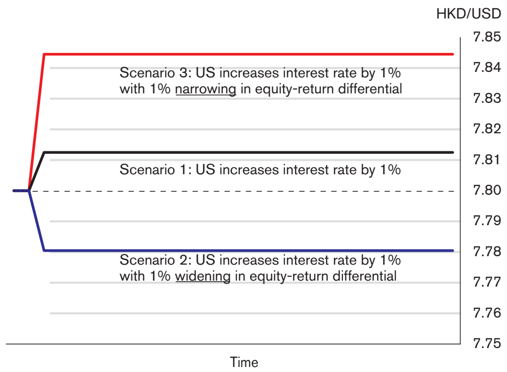
Chart B2.2
Tilted S-shaped relationship under different correlations between monetary and equity fundamentals



Note: ρ is the correlation between the monetary fundamentals and equity fundamentals.

Source: Staff estimates.

Chart B2.3
Scenario analysis : increases in US-dollar interest rate and changes in the equity-return differential



Source: Staff calculations.

proportions of wealth that an investor invests in the Hong Kong equity and US equity respectively. The modified target zone model predicts an S-shaped relationship between the exchange rate and the two types of fundamentals (Chart B2.2), where the exchange rate is more sensitive to changes in the monetary (or equity) fundamentals when the two fundamentals are positively correlated.

Simulation under the analytical framework

Based on the new framework, we assess the impacts of increases in the interest-rate differential and changes in the equity-return differential on the Hong Kong-dollar exchange rate through simulations.[7] In each simulation scenario, we assume that the exchange rate starts at 7.8 (the central parity of the Linked Exchange Rate system) and analyse the impact of a permanent change in the differential on the exchange rate. We thus consider only the long-run impact on the exchange rate under different scenarios.

Chart B2.3 shows the simulation result of Scenario 1, in which the US-dollar interest rate increases by one percentage point with no change in the Hong Kong-dollar interest rate. The increase in the US-dollar interest rate implies that, in the long run, the US dollar appreciates against the Hong Kong dollar. The Hong Kong-dollar exchange rate will thus be weakened by 60 pips when the US-dollar interest rate increases by one percentage point.

In Scenario 2, the impact of a 1% widening of the equity-return differential overcomes the depreciative impact of the one percentage-point increase in the US-dollar interest rate and, causes the Hong Kong dollar to appreciate by about 150 pips in net. Under this scenario, while the increase in the US-dollar interest rate induces capital outflows from Hong Kong and causes the Hong Kong dollar to depreciate, the increase in Hong Kong-equity return offsets the impact by offering a higher equity return to investors and, therefore, limits the outflows of capital.

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[7] See Yiu et al. (2010) for the details of the simulation procedure and simulation results.

On the other hand, in Scenario 3, a 1% narrowing of the equity-return differential amplifies the depreciative impact of the one percentage-point increase in the US-dollar interest rate and pushes the Hong Kong-dollar towards the weak-side CU. As a result, the Hong Kong dollar depreciates by about 470 pips.

Conclusion

The Hong Kong-dollar exchange-rate dynamics under the new analytical framework are more sensitive to the underlying movements of the monetary and equity fundamentals than those implied by the conventional target zone models. When there is an increase in the US-dollar interest rate with no change in the Hong Kong-dollar interest rate, the increase in the return on Hong Kong equity can however act as a counter-factor, limiting the scale of capital outflows. On the other hand, the simulation of the "double-hit" scenario (i.e. Scenario 3) shows that a narrowing of the equity-return differential together with an increase in the US-dollar interest rate over the Hong Kong counterpart will trigger the quick depreciation of the Hong Kong dollar towards the weak-side CU.

Box 3
Recent developments in the renminbi banking business in Hong Kong and their implications for the Hong Kong dollar

Table B3.A
Major renminbi business initiatives

Announcement date	Initiatives
18 November 2003	The People's Bank of China agreed to provide clearing arrangements for the renminbi business in Hong Kong.
18 January - 30 April 2004	**Personal renminbi business** commenced, providing renminbi deposit-taking, exchange, remittance, ATM and card services.
10 January 2007	Mainland financial institutions can issue **renminbi bonds** in Hong Kong after obtaining Mainland approval.
6 July 2009	**Pilot scheme of using renminbi for cross-border trade settlement** launched.
11 February 2010	**Two guiding principles** regarding renminbi business elucidated in an HKMA circular.
22 June 2010	Renminbi trade settlement scheme expanded.
13 July 2010	**Renminbi cashnote arrangement for Taiwan** introduced.
19 July 2010	The Clearing Agreement on the renminbi business amended, removing obstacles that prevent renminbi money and bond markets from developing in Hong Kong.
17 August 2010	**Pilot scheme for eligible institutions outside the Mainland to invest in the Mainland's interbank bond market** announced.

Recent developments in the renminbi banking business

Since the beginning of 2010, there have been major developments in the renminbi business in Hong Kong (Table B3.A). Based on the existing policy framework and taking into account the views of the industry, the HKMA issued a circular on 11 February 2010 to elucidate the supervisory principles and operational arrangements regarding the renminbi business in Hong Kong. The PBoC and the Renminbi Clearing Bank in Hong Kong also signed on 19 July 2010 a revised Clearing Agreement, further strengthening Hong Kong's renminbi business platform. These are major milestones in the development of the renminbi business in Hong Kong for the following reasons:

First, with the amendments to the Clearing Agreement, participating banks no longer face restrictions on establishing renminbi accounts for and providing related services to financial institutions. In fact, all corporate customers, including existing designated business customers, can now open renminbi accounts at banks for general purposes. In addition, individuals and corporations can also conduct renminbi payments and transfers between banks, with renminbi funds transferable among personal and corporate accounts.

Secondly, apart from trade-related and other Mainland-approved renminbi conversion where banks are entitled to square the resulting open positions with the Clearing Bank, banks can now provide renminbi exchange services to corporate customers for other purposes if banks are willing to absorb the positions themselves or square them with other banks through the interbank market prudently. Also, trade-related renminbi conversion has no time limit. As a result, banks can use their renminbi funds more flexibly.

Table B3.B
Two Supervisory Principles of cross-border flows of renminbi funds

(i) Mainland-related flows

- Cross-border flows of renminbi funds into and out of the Mainland should comply with the rules and requirements on the Mainland.
- Banks in Hong Kong will process renminbi transactions according to the usual banking practices in Hong Kong.
- The Mainland authorities and banks are responsible for verifying whether the transactions undertaken by the Mainland counterparts are in compliance with the relevant rules and requirements on the Mainland.

(ii) Offshore flows

- For the renminbi funds that have flowed into Hong Kong, banks can develop renminbi businesses based on the regulatory requirements and market conditions in Hong Kong, as long as these businesses do not entail the flow of renminbi funds back to the Mainland.

Thirdly, under the two guiding principles elucidated in February 2010, banks and other financial institutions are able to offer a wide range of renminbi businesses in Hong Kong that do not involve the flow of renminbi funds back to the Mainland (Table B3.B). For example, banks can issue renminbi certificates of deposit in Hong Kong subject to relevant prudential risk management. While banks can extend renminbi loans to corporate customers but not personal and designated business customers, there are no restrictions on the type of corporations or type of loans. The financial service industry can also introduce different renminbi financial and wealth management products such as insurance, equities and investment funds.

To further build a critical mass for the renminbi financial markets in Hong Kong, the renminbi trade settlement scheme was expanded on 22 June 2010 to cover 20 provinces and cities on the Mainland, and their trade transactions with any part of the world can be settled in renminbi, bolstering the pool of renminbi liquidity outside Mainland China. On the other hand, under the new renminbi cashnote arrangement announced on 13 July 2010, the renminbi clearing platform in Hong Kong will be expanded to provide renminbi cashnote exchange and related services to eligible Taiwan banks.

These policy initiatives improve Hong Kong's potential as a leading offshore renminbi centre by increasing the depth and breath of renminbi financial markets in Hong Kong. For example, these new initiatives diversify renminbi assets and liabilities in local banks and help develop offshore renminbi money and bond markets in Hong Kong. In particular, the August 2010 announcement of the pilot scheme for eligible institutions to invest in the Mainland's interbank bond market is expected to increase banks' renminbi investment channels and boost returns on renminbi capital. Capitalising on the first-mover advantage, Hong Kong banks will also benefit from the gradual internationalisation of the renminbi which brings foreign-exchange, credit and other derivative businesses, further deepening Hong Kong's renminbi financial markets.

Table B3.C
Foreign currency deposits and credit

(End of June 2010)	Foreign-currency deposits (% of total deposits)	Foreign-currency credit (% of total credit)
Hong Kong	46.9	30.5
Macau[1]	79.6	68.5
Singapore[2]	47.6	51.9
UK	54.7	54.6

Notes:

1. Private deposits and private loans and advances.
2. Proxied by deposits/credit of the Asian Currency Units.

Sources: CEIC and staff estimates.

Table B3.D
Currency in circulation

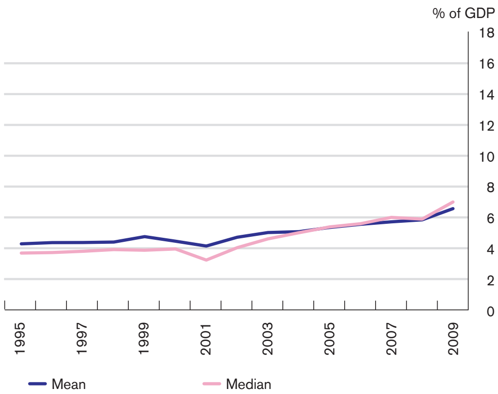
(End of 2009)	Currency in Circulation (in % of 2009 GDP)
Hong Kong[1]	11.9
Macau[2]	2.9
Singapore	8.8
UK	3.7
Switzerland	10.9

Notes:

1. Leung, Ng and Chan (2010) estimated that the proportion of external demand was around 50 - 70% at the end of 2009. After adjusting for the external circulation, the ratio ranges from 3.6 to 6.0.
2. The ratio will increase to 4.4% if it is adjusted to exclude the value-added of the tourism industry (gaming, hotels and restaurants) from Macau's GDP. The value-added of the tourism industry is proxied by the proportion of the employment in the total employment in Macau (34% in 2009).

Sources: CEIC and staff estimates.

Chart B3.1
Currency-to-GDP ratios of OECD economies



Sources: IMF, EcoWin, CEIC and staff estimates.

Implications for the Hong Kong dollar

The rapid expansion of renminbi banking business and increasing use of the renminbi in Hong Kong have raised concerns that such a development may undermine the status and stability of the Hong Kong dollar. However, experience of other offshore financial centres suggests that the stability of their own currencies is unlikely to be affected.

Statistics in other offshore financial centres reveal that residents do hold a considerable portion of their financial assets in foreign currency, but such holdings reflect largely the outcome of asset allocation of the residents rather than of currency substitution. Table B3.C shows that in the UK, Singapore, Macau and Hong Kong, foreign-currency deposits account for at least around half of their bank deposits and at the same time a large share of bank lending is in foreign currency. Hong Kong residents are used to holding foreign-currency assets and these foreign currency-deposit accounts do not typically serve as transaction accounts. Therefore, the development of renminbi banking in Hong Kong essentially means that there is now another currency for the local residents to choose in storing or saving their wealth.

Evidence on currency substitution in other offshore centres is mixed. While there is no data on foreign currency in circulation, the ratio of domestic currency in circulation to GDP can shed light on the extent to which the domestic currency is substituted for by a foreign currency for transaction purposes. If the domestic currency is substituted for by a foreign currency in day-to-day transactions, the ratio of currency to GDP is likely to be small. For instance, in Macau where the Hong Kong dollar is widely accepted as a medium of exchange, this ratio is only 2.9% (Table B3.D). After the tourism industry is adjusted for, the ratio rises to 4.4% and is more in line with the OECD levels observed in late 1990s (Chart B3.1). In other words, even in Macau, currency substitution is more a phenomenon associated with the tourism industry.[8] For Hong Kong, the ratio of

[8] It may be argued that tourism accounts for a significant share of the economy in Macau, so that foreign-currency circulation would be higher. A more appropriate measure to reflect residents' use of the domestic currency should therefore subtract from GDP the tourism industry.

currency to GDP looks rather high. Nevertheless, this is because a large portion of Hong Kong-dollar cash is circulated outside Hong Kong, and the ratio becomes more comparable to others after adjusting for the external circulation.[9]

A significant degree of currency substitution generally and typically only happens in economies where domestic monetary policy lacks credibility and inflation is high. This is obviously not the case in Hong Kong. Confidence in the Hong Kong dollar is derived from the credibility of the Linked Exchange Rate system. The entire Hong Kong-dollar Monetary Base is more than fully backed by foreign reserves, and the interest rate adjustment mechanism can work under stressful conditions such as sharp capital outflows, even if higher interest rates may bring temporary negative consequences to domestic economic activity and employment. The credibility of the system has also been reinforced by continued technical refinements of the currency board arrangement by the HKMA since its establishment.

Whether or not the renminbi will play a more prominent role as a medium of exchange in Hong Kong hinges on two factors. First, it depends on the demand for the use of the renminbi in day-to-day transactions, which in turn to a large extent depends on the number of Mainland visitors to Hong Kong. If Mainland visitors account for a significant percentage of the buyers in the domestic market, sellers may be willing to accommodate such demand. This is similar to what happens in Macau, where annual Hong Kong visitor arrivals were 12 times Macau's population (see Table B3.E). Secondly, it depends on the exchange-rate risk between the Hong Kong dollar and the renminbi. If the risk is perceived to be small, there are more incentives for the renminbi to

Table B3.E
Ratio of annual visitor arrivals to population of selected offshore centres

Hong Kong:	Mainland China visitors	256%
	US visitors	15%
Macau:	Hong Kong visitors	1,237%
Singapore:	US visitors	10%
UK:	US visitors	5%

Note:
Population and visitor arrivals are the mid-year data and yearly sum in 2009.
Sources: CEIC and staff estimates.

9 Recent HKMA research estimated that over half of the total stock of Hong Kong-dollar currency was attributable to external demand at the end of 2009. See Leung, Ng and Chan (2010), "Analysing external demand for the Hong Kong-dollar currency", *HKMA Working Paper 07/2010*.

be accepted as a medium of exchange in Hong Kong. Nevertheless, one should not expect to see the same extent of currency substitution in Hong Kong as in Macau today, given the nearly one-to-one fixed exchange rate of the pataca against the Hong Kong dollar.

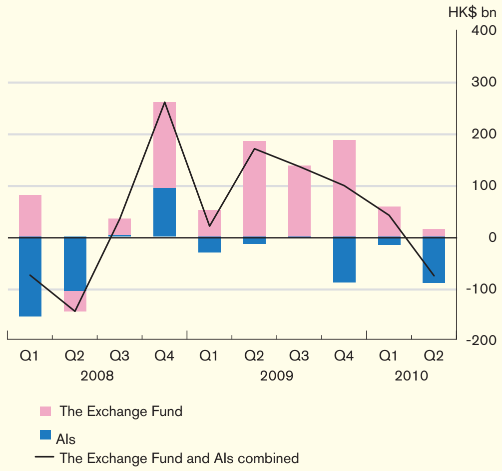
The development of Hong Kong into an offshore renminbi centre has different implications for the roles of the Hong Kong dollar as a store of value and a medium of exchange. While Hong Kong residents may increase their use of the renminbi as a store of value, the Hong Kong dollar is unlikely to be significantly affected as a medium of exchange. In fact, Hong Kong's monetary system should be more insulated in theory, as the use of foreign currencies, including the renminbi in offshore financial intermediation transactions could help reduce exchange-rate and interest-rate fluctuations arising from money flowing into and out of the Hong Kong dollar.

Capital flows

The strong inflows into the Hong Kong dollar since late 2008 stopped in early 2010. The sovereign debt crisis in the Europe resulted in some outflows from the Hong Kong dollar in the second quarter of 2010. Cross-border capital flows contracted in the first quarter of 2010 due to a narrowing of the current account surplus and private financial net outflows. The directions of fund flows are highly uncertain for the remainder of 2010 as global financial conditions remain volatile.

4.3 Capital flows

Chart 4.12
Quarterly changes in the net foreign-currency assets



Note: A positive value indicates Hong Kong-dollar inflows.
Source: Staff estimates.

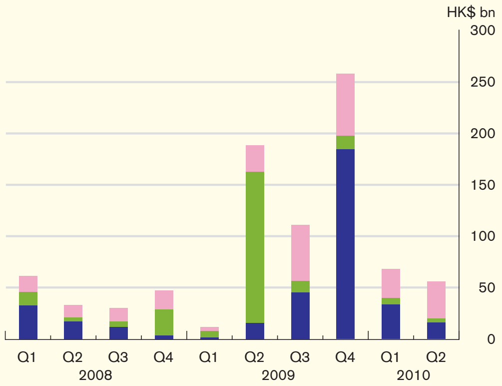
Fund flows into and out of the Hong Kong dollar

Changes in the net foreign-currency assets of the AIs and the Exchange Fund combined indicated receding net Hong Kong-dollar inflows in the first quarter of 2010 and net outflows in the second quarter (Chart 4.12).[10] A reversal of fund flows in Q2 was mainly caused by a contraction in the net foreign-currency assets of the AIs possibly due to some Hong Kong-dollar net outflows by bank customers. This was in line with the general weakening of the Hong Kong-dollar exchange rate against the US dollar during the period. Meanwhile, movements in the Hong Kong-dollar deposits showed similar patterns, rising slightly by HK$6.4 billion in the first quarter and contracting by HK$9.2 billion in the second quarter.

Reduced equity fund-raising activities amid increased volatility in the stock market might partly explain the absence of large inflows of funds into the Hong Kong dollar. As the Hong Kong stock market consolidated alongside those around the world, the amount of capital raised in the equity market decreased in the first half of

[10] It should be noted that changes in the net foreign-currency assets, which include the effects of valuation changes like price and exchange-rate changes, are only a proxy for net Hong Kong-dollar fund flows.

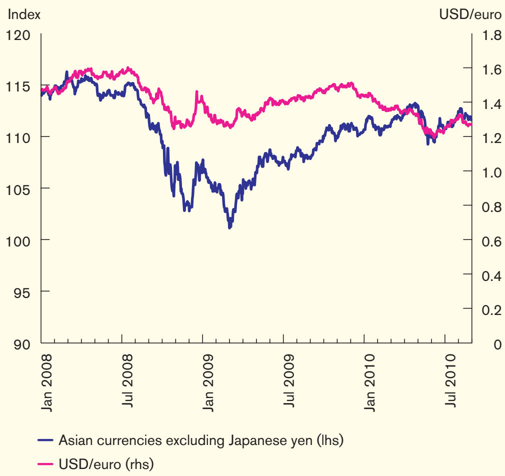
Chart 4.13
Equity funds raised in Hong Kong



Note: Figures excluding warrants exercised, consideration issues and share option schemes.

Source: Hong Kong Exchanges and Clearing Limited.

Chart 4.14
Exchange rates



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

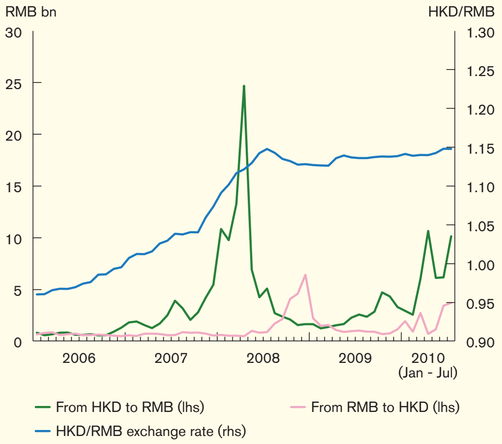
Source: Bloomberg.

2010 compared with that in 2009, leading to a fall in the demand for Hong Kong dollars (Chart 4.13). Increased stock market volatility also negatively affected the timing and pricing of certain IPOs, with one property company shelving its related plan. This inevitably undermined investor sentiment.

Apart from the less buoyant IPO activity, market information suggests that reduced inflows into the Hong Kong dollar in the first quarter were also attributed to a repatriation of IPO proceeds out of the Hong Kong dollar and capital outflows amid tightening concerns in Mainland China. It is roughly estimated that, at the end of November 2009, as much as HK$260 billion raised by Mainland corporations listed in Hong Kong was still held as Hong Kong-dollar deposits in the local or Mainland banking system. Some Mainland corporations might have gradually converted their Hong Kong dollars into other currencies.

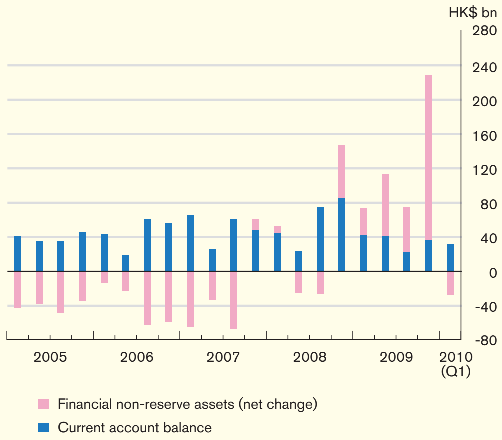
In the second quarter, Hong Kong-dollar outflows emerged as concerns about the European sovereign debt crisis heightened investors' risk aversion and prompted funds to flow into the US-dollar assets, particularly US Treasuries. At the height of the crisis in May, the euro depreciated swiftly against the US dollar, undermining market sentiment and boosting safe-haven buying of the US dollar. At around the same time, most Asian currencies (excluding the Japanese yen) also weakened considerably, signalling outflows of funds from the region (Chart 4.14). Amid increased global risk aversion, these funds might have flowed into the US dollar.

Chart 4.15
Currency exchange



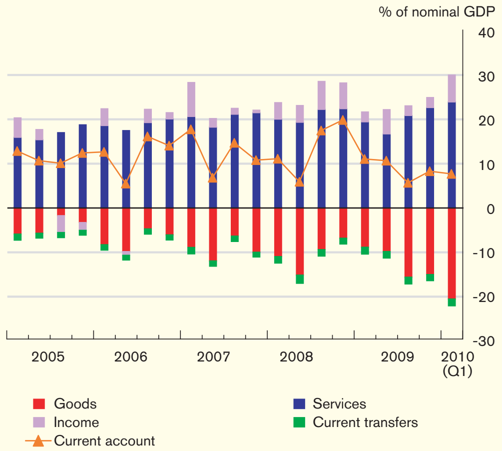
Source: HKMA.

Chart 4.16
Cross-border capital flows



Source: C&SD.

Chart 4.17
Contribution to current account surplus



Source: C&SD.

Despite reviving speculations about the appreciation of the renminbi since early 2010, speculative inflows into the Hong Kong dollar appeared to be small despite an increase in currency exchange from the Hong Kong dollar into renminbi cash and deposits in Hong Kong (Chart 4.15). In the first half of 2010, strong appreciation pressure on the Hong Kong dollar against the US dollar was absent and its forward exchange rate was roughly stable. Hong Kong's foreign-exchange market remained calm following the PBoC's announcement on 19 June 2010 to increase the renminbi exchange-rate flexibility. This is in contrast with past experience when rumours of the appreciation of the renminbi attracted speculative Hong Kong-dollar inflows, as the market expected the Hong Kong dollar would appreciate alongside the renminbi.

Balance of Payments and cross-border capital flows

After recording substantial cross-border net inflows in 2009, cross-border net flows contracted in the first quarter of 2010, with the current account surplus decreasing and private financial net flows reversing from substantial inflows to small outflows (Chart 4.16). Specifically, the current account surplus shrank to HK$31.6 billion, lower than the quarterly average of HK$35.4 billion in 2009. The first quarter also recorded private financial net outflows of HK$28.6 billion, in contrast with large net inflows averaging HK$87.0 billion per quarter in 2009.

In the first quarter of 2010, the current account surplus declined mainly due to a widening deficit in merchandise trade (Chart 4.17). Net exports of services persisted, supported by surpluses in financial, trade-related and transportation services. On the other hand, private financial net outflows were mainly contributed by net portfolio and direct investment outflows which more than offset net investment inflows relating to loans and deposits.

Net portfolio outflows mainly took the form of Hong Kong residents' equity portfolio investments abroad. In recent years, these equity outflows were supported by Hong Kong residents subscribing for

Mainland-related new shares, which are treated as foreign equity in the Balance of Payments (BoP) statistics. Equity portfolio outflows by residents amounted to HK$89.6 billion in the first quarter of 2010, higher than the quarterly average of HK$73.9 billion in 2009 when fund-raising activities in the stock market were particularly buoyant (Table 4.C).

Table 4.C
Cross-border portfolio investment flows

	2008	2009				2010
(HK$ bn)	Q4	Q1	Q2	Q3	Q4	Q1
By Hong Kong residents						
Equity securities	-35.7	-89.0	-49.0	-29.1	-128.7	-89.6
Debt securities	-305.1	165.0	-198.8	-49.0	-1.7	-10.6
By non-residents						
Equity securities	-25.6	4.8	16.5	0.5	10.2	6.0
Debt securities	-22.2	-6.0	3.9	2.4	5.6	8.7

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

Meanwhile, equity portfolio inflows by non-residents remained small, totalling only HK$6.0 billion in the first quarter, amid corrections in the local stock market. Smaller equity-related cross-border inflows also coincided with a generally weaker Hong Kong dollar. It should be noted that BoP equity flow statistics may underestimate the net inflows for equity investment purposes because they do not capture transactions between non-residents (for example, non-resident subscriptions for Mainland-related new shares in Hong Kong).

On the other hand, investments relating to deposits and loans continued to record net inflows, which were mainly contributed by the inflows of deposits by non-residents since the third quarter of 2009. Inflows of deposits amounted to HK$94.5 billion and HK$157.0 billion in the last two quarters of 2009, followed by another deposit inflows of HK$58.5 billion in the first quarter of 2010 (Table 4.D). The reduced deposit inflows might reflect a decline in fund-raising activities in the equity market.[11]

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

	2008	2009				2010
(HK$ bn)	Q4	Q1	Q2	Q3	Q4	Q1
By Hong Kong residents						
Currency and deposits	386.5	82.3	350.5	81.1	-2.4	48.3
Loans and trade credits	142.9	-21.7	99.5	-46.3	171.7	-40.8
By non-residents						
Currency and deposits	-82.3	-85.7	-95.1	94.5	157.0	58.5
Loans and trade credits	-55.9	-76.5	-5.9	30.3	-40.1	9.6

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

There were loan outflows of HK$40.8 billion by Hong Kong residents in the first quarter of 2010. Market information suggests that Hong Kong has been active in the Asian loan market in 2010, in line with a faster increase in loans for use outside Hong Kong. In particular, credit demand by Mainland companies was reportedly strong, with some property developers on the Mainland borrowing syndicated loans in Hong Kong. Reflecting this, Hong Kong banking sector's external claims statistics indicate that borrowings relating to Mainland non-bank residents amounted to around HK$16 billion.

[11] Anecdotal evidence suggests that some IPO proceeds of non-resident companies are usually placed as deposits in the local banking sector.

Chart 4.18
Interest-rate differentials between Hong Kong-dollar and US-dollar interbank interest rates

Source: CEIC.

Outlook for capital flows

On balance, fund flows into and out of the Hong Kong dollar in the near future are likely to be dominated by equity-related flows. A number of large Mainland banks are planning to raise funds through rights issues or IPOs in the second half of 2010. While these activities may attract funds to flow into the Hong Kong dollar, their strengthening effects on the exchange rate may not last long and will depend on how quickly the fund raisers switch the Hong Kong dollars raised into other currencies. Better growth prospects of the Hong Kong and Mainland economies and the appreciating pressure on the renminbi will also draw funds into the local stock market, boosting the demand for Hong Kong dollars. Meanwhile, as US monetary conditions will continue to be expansionary for some time, interest-rate differentials between the US dollar and the Hong Kong dollar are likely to remain narrow and there will be little incentives for arbitrage trades which involve outflows from the Hong Kong dollar (Chart 4.18).

That said, the directions of Hong Kong-dollar fund flows remain highly uncertain in the rest of 2010. The European sovereign debt crisis, economic adjustment measures on the Mainland and a possible slowdown in the global economy may affect investor sentiment or even cause sharp fluctuations of fund flows. Nevertheless, Hong Kong's time-honoured currency board system, a sound fiscal position, substantial foreign reserves and a robust banking sector will help the economy weather the volatility in exchange rate and interest rates brought about by sudden reversals of fund flows.

Asset markets

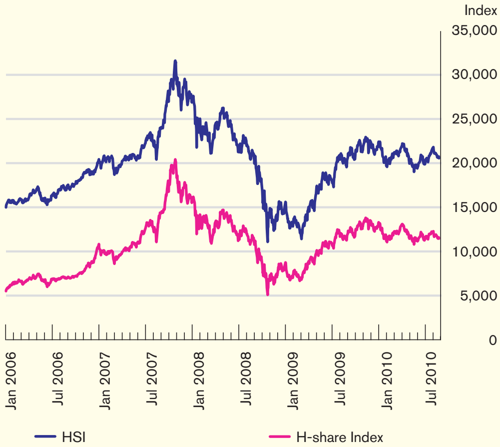
Hong Kong equity prices have rebounded from its ten-month low in late May in light of the PBoC's announcement to increase renminbi exchange-rate flexibility in June and the relatively stabilised macro-financial conditions in the euro area. Nevertheless, investors remained cautious as reflected by a notable decline in the net equity fund flows and a weak appetite for taking more risk on equities.

The residential property market remained broadly buoyant while the sharp rise in prices has significantly worsened housing affordability. Given the overall buoyancy of the housing market and the very low interest-rate environment, the Government and the HKMA announced a series of measures to promote the healthy and stable development of the housing market, and to safeguard banking stability.

4.4 Equity market

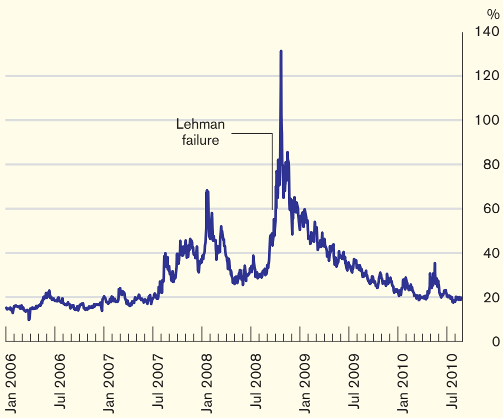
Local equity market remained under pressure in the first half of 2010 amid continuing concerns over policy tightening on the Mainland and the European sovereign debt crisis. After the Mainland Government's introduction of a series of measures to curb speculative activities in the property market and the third-time increase in the required reserve ratio this year, the benchmark HSI was dragged down to its ten-month low of 18,985 points in late May (Chart 4.19). Increased uncertainties in the external environment such as the European sovereign debt crisis and a possible slowdown in the Mainland economy further triggered a wave of sell-offs in stocks.

Chart 4.19
Equity prices in Hong Kong



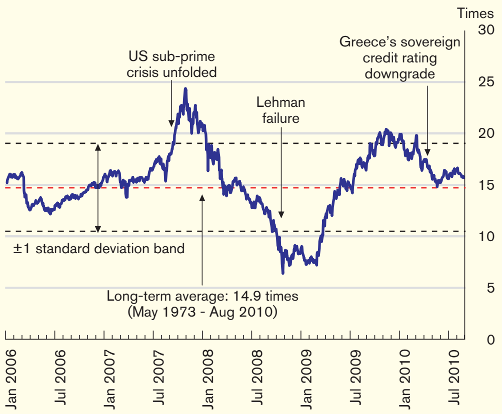
Source: Bloomberg.

Chart 4.20
Option-implied volatility of the HSI



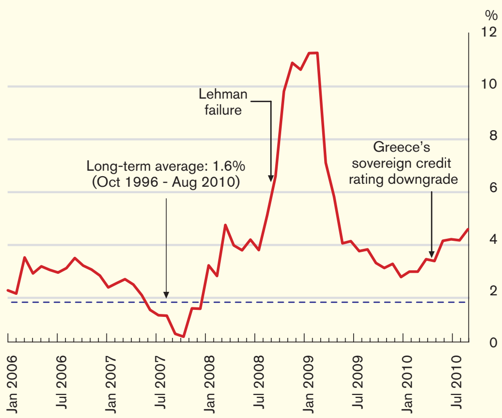
Source: Bloomberg.

Chart 4.21
Price-earnings ratio of the HSI



Source: Hang Seng Index Services Limited.

Chart 4.22
Spread between earning yield of the HSI and return of risk-free bonds



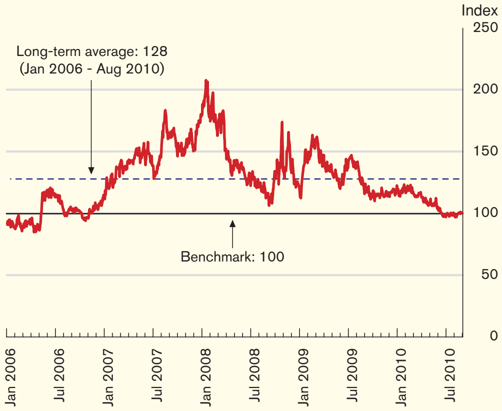
Note: The spread is given by the difference between the earnings yield of the HSI and the yield of the 10-year Exchange Fund Notes.

Sources: Bloomberg and staff estimates (*HKMA Research Memorandum 10/2006*).

While global economic recovery continued to be a key concern, local shares have rebounded since the PBoC's announcement to increase renminbi exchange-rate flexibility on 19 June 2010. The move triggered expectation of a stronger renminbi, which would ease the inflationary pressure on the Mainland and reduce the likelihood of interest-rate hikes in the near term, thus boosting the Mainland financial and property stocks. The well-received government bond auctions in Europe, the less alarming EU-wide stress-testing results on European banks and the approval of the US financial reform bill also eased some of the investor worries, driving the option-implied volatility of HSI down to 17.5% on 2 August, the lowest level since June 2007 (Chart 4.20). Fund-raising activities also picked up significantly in July, boosted by the large amount of capital raised by financial stocks. As a result, the loss of HSI and the H-share Index was reduced to 0.4% and 1.2% respectively from March to August 2010.

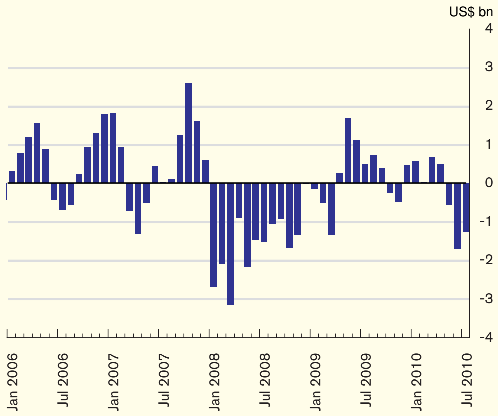
The price-earnings ratio of the HSI constituent stocks fell from 18.4 times in February to 15.8 times in August, slightly above the long-term average of 14.9 times (Chart 4.21). Meanwhile, the spread between the earnings yields of HSI constituent stocks and the returns of risk-free assets increased from 2.7% in February to 4.4% in August, raising the longer-term investment attractiveness of local stocks (Chart 4.22).

Chart 4.23
Hang Seng China AH Premium Index



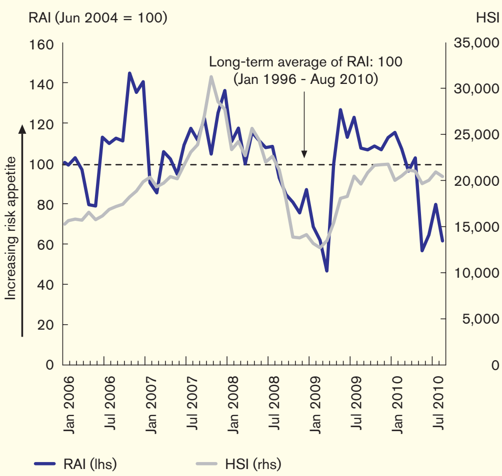
Note: When the index is higher (lower) than 100, A-shares are trading at a premium (discount) to H-shares. The index is at 100 when A-share prices are at par with H-share prices.
Source: Bloomberg.

Chart 4.24
Three-month rolling of net equity fund flows into Hong Kong



Note: A positive value indicates equity fund inflows into Hong Kong.
Source: EPFR Global.

Chart 4.25
Risk appetite index (RAI) of the HSI



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

The price discrepancies between the Mainland shares which are dual-listed on the Mainland and Hong Kong have vanished as shown by the Hang Seng China AH Premium Index in Chart 4.23. In particular, the index dropped to 97.1 in August, the lowest level since November 2006 (much below its historical average of 128), in the wake of a notable correction in the A-share market over the review period.

Nevertheless, the net equity fund flows in Hong Kong declined. With the average daily turnover of the local equity market standing low at a level of HK$59.4 billion, the three-month rolling net equity fund flows into Hong Kong declined notably from an inflow of US$27.1 million in February to an outflow of US$1.3 billion in July (Chart 4.24). Market sentiment was weighed down on fears over the weaker-than-expected economic data from the Mainland and the slower-than-expected recovery in the US. In particular, the index of investors' appetite for taking more risks on stock investments stayed at a relatively low level after a significant fall to 57.1 in May, the lowest level since March 2009 during the global financial crisis (Chart 4.25).

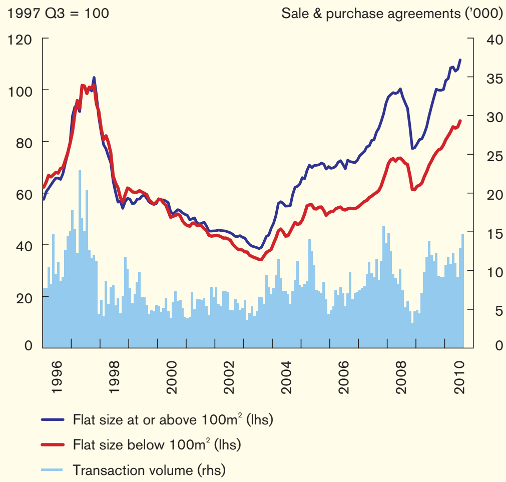
While an extended period of a low interest-rate environment in the US may support the local share prices, the outlook of the Hong Kong's equity market is still uncertain mainly due to the risk of a weaker-than-expected global economic recovery, which would trigger market volatility in the near term. Therefore, investors are likely to remain cautious on their stock investments.

4.5 Property market

Residential property market

The residential property market remained broadly buoyant, with housing prices continuing to increase and transaction volume remaining high. Notwithstanding a relatively flat second quarter as sentiments were dampened by the weak land auction results for two lots in the New Territories and the policy tightening on new home sales, housing prices in the second-hand market increased cumulatively by 11.7% in the year through July, after a full-year surge of 28.5% in 2009. Based on real estate agents' preliminary data (including the Centaline Leading Index and the Midland Property Price Chart), there is a renewed sharp rise in prices moving into the third quarter. Regarding the transaction volume, the total number of sale and purchase agreements filed with the Land Registry stayed above 10,000 each month in the year through August (except in June with 9,130 cases). Active transactions in the current cycle started in the second quarter of 2009, and duration of sustaining such a high transaction volume is considered to be long by historical standards (Chart 4.26).

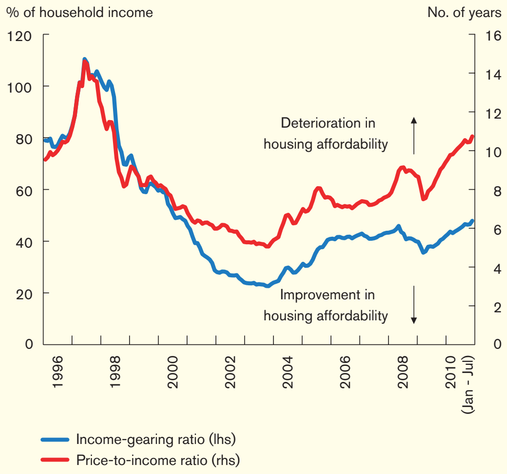
Chart 4.26
Residential property prices and transaction volumes



Sources: R&VD and Land Registry.

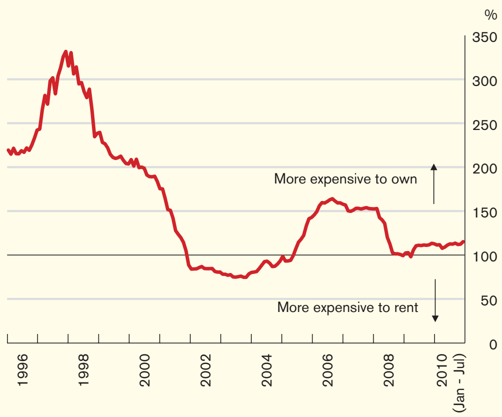
In the March issue of this Report, it was noted that price movements in the upper-middle and luxury segment (flats with a saleable area over $100m^2$) could have an important pass-through effect on the mass segment (below $100m^2$). Indeed, following a year of faster price increases in the upper-middle and luxury segment in 2009, prices in the mass segment picked up more rapidly this year, and the cumulative price increases from early 2009 to July 2010 were already roughly the same for both segments. Still, prices in the mass market remained on average 13.6% below the peak in 1997, though prices in some popular developments have already exceeded their respective peaks. Prices in the luxury segment, on the other hand, surpassed the 1997 peak by 6.5%. Transactions are estimated to be relatively more vibrant in the mass segment than in the upper-middle and luxury segment in the year through July.

Chart 4.27
Indicators of housing affordability



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

Chart 4.28
Buy-rent gap*



* Ratio of the cost of purchasing and maintaining a flat with that of renting it.
Sources: R&VD, C&SD and staff estimates.

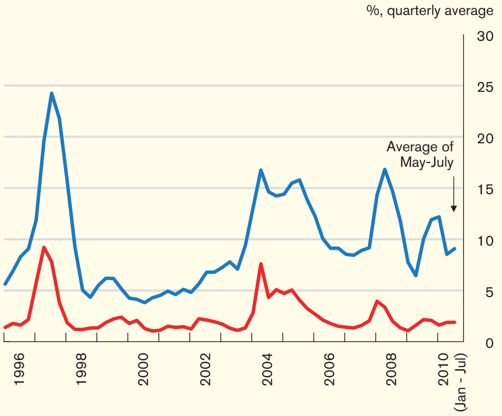
Housing affordability continued to deteriorate as a result of the surge in housing prices. Our estimated income-gearing ratio or the ratio of monthly mortgage payment to median household income rose to 48% in July from 41% same month last year. The small increase in this indicator relative to prices is mainly due to the very low interest-rate environment. To strip out the impact of low interest rate, the housing price-to-income ratio is compiled by dividing the average price of a 50m^2 flat by the annual median income of households residing in private housing. Compared with July 2009, the ratio rose from 9.2 to 10.7 years of annual income, due to a much faster increase in housing prices than household income (Chart 4.27). The comparable income-gearing and price-to-income ratios for the luxury segment also increased.[12] On the other hand, the buy-rent gap or the cost of owner-occupied housing (comprising mortgage repayment and the foregone interest on home equity) relative to rentals was relatively stable (Chart 4.28).

As to speculative and investment activities, the oft-quoted confirmor transactions as a percentage of total secondary market transactions still held below 2% in the year through July. However, confirmor transactions are a restricted form of speculation, only referring to sub-sale activities before title assignment. Alternative indicators such as resale activities with a buy-hold-and-sell period of less than 12 months can help fill the gap.[13] This indicator once rose notably in

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

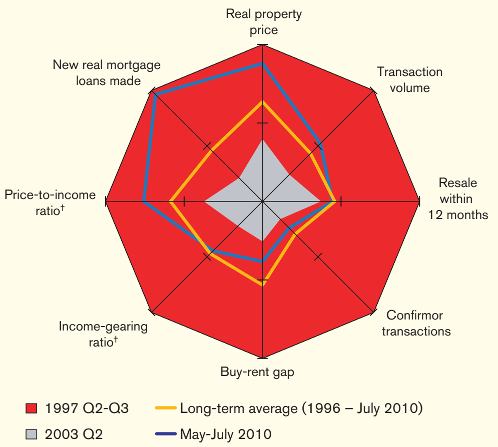
13 Historically, confirmor transactions and speculative activities have been closely related, particularly in 1997. Market conditions have nevertheless been evolving quite differently since then, and the relationship between housing prices and speculative activities (particularly confirmor transactions) may not be as clear-cut as before. In particular, the number of confirmor transactions has remained relatively low since early 2009 despite the over 40% surge in housing prices.

Chart 4.29
Confirmor transactions and resale activities with a buy-hold-and-sell period of less than 12 months



Source: Centaline Property Agency Limited.

Chart 4.30
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.

early 2010 and eased afterwards before jumping up again in July (Chart 4.29). Its future movements are likely to be affected by the market response to the new round of prudential measures for residential mortgage loans announced by the HKMA in August 2010 as discussed below.

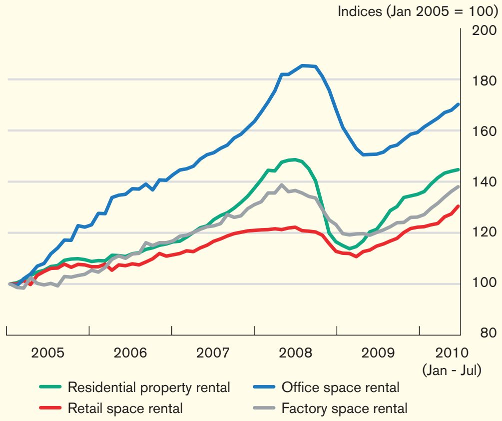
In 2005, we started using a hexagonal graphical framework to analyse the latest conditions in the residential property market with the coverage of six property market indicators: real property prices, new real mortgage loans made, transaction volume, confirmor transactions, income-gearing ratio and buy-rent gap.[14] In view of the inadequacy of confirmor transactions in gauging speculative activities and the very low interest-rate environment that has suppressed the income-gearing ratio, which may distort the picture of housing affordability, we extend the graphical framework by adding the housing price-to-income ratio and resale activities with a buy-hold-and-sell period of less than 12 months. The peak and trough levels of these eight indicators since 1997 and their recent developments are presented as octagons in Chart 4.30. Indicators in the top-left quadrant – real property prices, new real mortgage loans made and price-income ratio were stretching towards the peak levels of 1997. Indicators with interest-rate loadings – income-gearing ratio and buy-rent gap however remained relatively low by historical standards because of the very low interest-rate environment, but the former has manifestly increased. Overall transaction volume, though still below the peak in 1997, has risen above the long-term average. While speculative activities, as indicated by resale activities within 12 months and confirmor transactions, appear to be contained, tentative signs of revival emerged in July with a surge in resale activities. Given the overall buoyancy of the housing market and the very low interest-rate environment, the risks and incentives to take on excessive leverage warrants vigilance by both the public and the policymakers.

[14] For details of the original graphical framework, see Chan, Peng and Fan (2005), "A graphical framework for monitoring the property market in Hong Kong", *HKMA Quarterly Bulletin*, March 2005.

Against this background, the Government announced a series of measures in February 2010 to promote the healthy and stable development of the housing market by increasing flat supply, curbing speculative activities, enhancing transparency in property sale and preventing excessive mortgage lending. More measures were introduced in April and August. In particular, the HKMA now requires AIs to lower the maximum loan-to-value ratio to 60% for mortgages on properties valued at HK$12 million or above and non-owner-occupied properties. This measure, effective from 13 August 2010, supersedes the requirements issued in October 2009 for properties valued at HK$20 million or above. Furthermore, the HKMA requires AIs to put a ceiling on the debt servicing ratio (DSR) of mortgage applicants at 50% and to stress-test mortgage applicants' repayment ability by assuming an increase in mortgage rates of at least two percentage points while limiting the stressed DSR to 60%. These prudential measures for residential mortgage loans have been introduced to safeguard banking stability and maintain high underwriting standards of AIs.

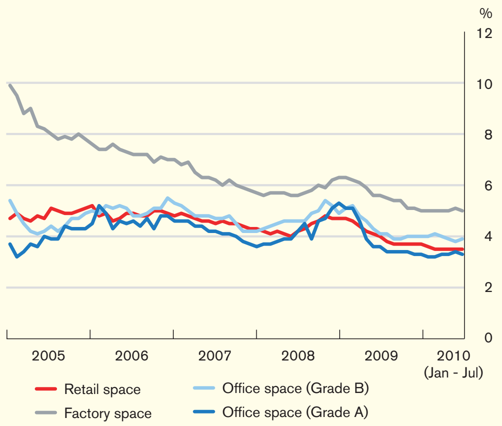
Supply of new flats has increased this year. Actual completion of new private residential units has exceeded the full-year figure for 2009 by July 2010, after falling for seven consecutive years. Supply of new flats is expected to increase in the medium term with the Government proactively boosting land supply. In the first half of 2010, 26 sites that can house a total of around 13,900 residential units were disposed, lifting the total supply of new flats in the coming few years from 53,000 units estimated at the end of 2009 to 61,000 units estimated at the end of June 2010. Moreover, the land to be made available under the 2011/12 Application List is likely to provide more than the 9,000 units under the 2010/11 List. Potential supply may further increase due to lease modifications and land exchange.

Chart 4.31
Rental indices by property type



Source: R&VD.

Chart 4.32
Rental yields by property type



Source: R&VD.

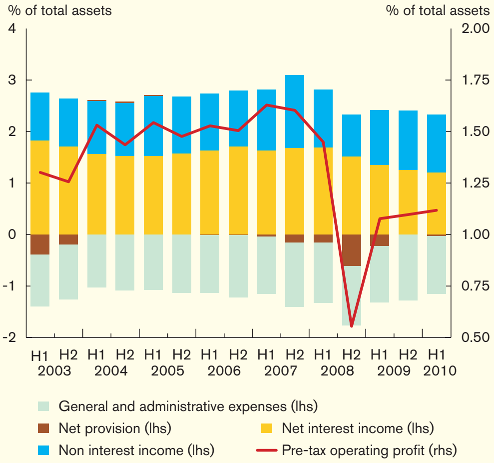
Commercial and industrial property markets

The commercial and industrial property markets remained upbeat in the year through July. Transaction volume rose sturdily, while prices shot up by 8 - 13% during the period and exceeded the pre-crisis level for most types of commercial and industrial properties. Meanwhile, the leasing market was buoyed by improving business conditions, with rentals rising by 7 - 10%. However, even with these increases, office space rentals were still 8.1% below the pre-crisis peak in 2008 and factory space rentals were 0.6% lower. Only retail space rentals surpassed the pre-crisis peak (by 6.7%) (Chart 4.31). Rental yields for most types of commercial and industrial properties edged down steadily as increases in rentals trailed slightly behind prices (Chart 4.32).

5. Banking sector performance

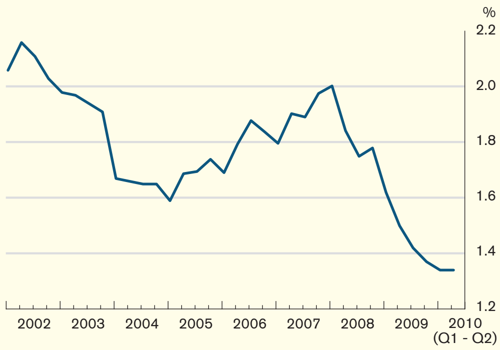
The profitability of retail banks improved slightly despite a modest decline in income. Net interest income was constrained by narrowed net interest margins amid the very low interest-rate environment. With limited direct exposure to the debt-ridden European economies, the Hong Kong banking system has not been affected much by the European sovereign debt crisis. However, continued monitoring of contagion risk through interbank linkages is required. Looking ahead, a possible reversal of capital flows and interest rates could expose the industry to significant liquidity risk, whereas an extended period of low interest rates and further capital inflows could overheat asset markets and increase the credit risk of loan portfolios. Banks should be vigilant to the possible risks arising from adverse scenarios.

Chart 5.1
Profitability of retail banks



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

Chart 5.2
Net interest margin of retail banks



Note: Quarterly annualised figures.
Source: HKMA.

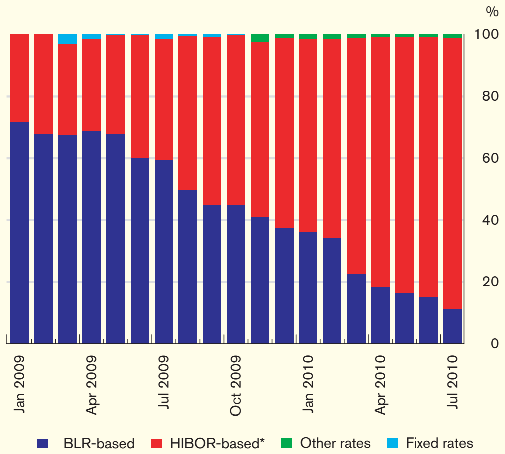
5.1 Profitability and capitalisation

Profitability

The profitability of retail banks improved slightly in the assessment period[15] mainly due to lower general and administrative expenses (Chart 5.1). However, net-interest income was constrained by a further reduction in the net interest margin (NIM) (Chart 5.2), although the negative impact was partially offset by a significant expansion of interest-bearing assets (mainly loans and advances to customers). Non-interest income also reduced somewhat due to a decline in investment income from trading and dealing activities.

[15] The assessment period in this Chapter refers to the six-month period from the end of December 2009 to the end of June 2010.

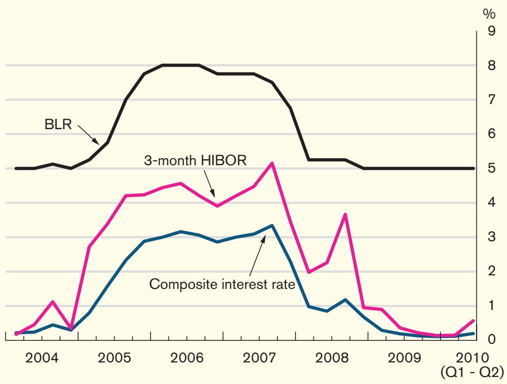
Chart 5.3
Share of newly approved mortgages by reference interest rates



* Including "Other rates" before November 2009.

Source: HKMA.

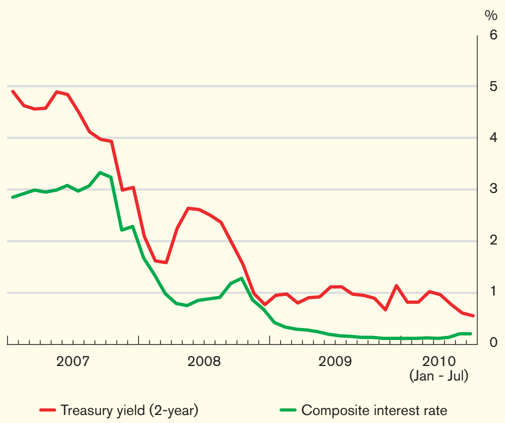
Chart 5.4
Composite interest rate



Notes:
1. End of period figures.
2. BLR refers to the rate quoted by the Hongkong and Shanghai Banking Corporation Limited.

Source: HKMA.

Chart 5.5
Interest margin of US Treasury securities

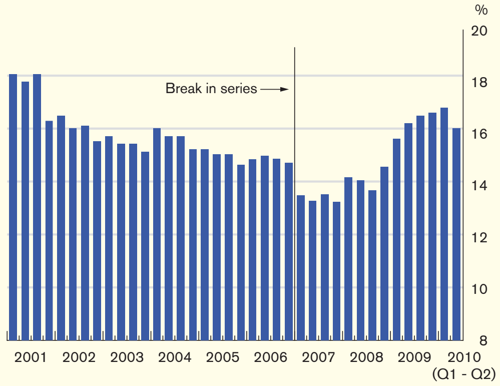


Sources: Bloomberg and HKMA.

Intensifying competition for new loans, in particular mortgages, continued to drive down the NIM. With HIBORs staying at low levels, HIBOR-based mortgages were generally priced with effective mortgage rates of around 1%, substantially lower than those of traditional BLR-based mortgages (see Table 4.A in Chapter 4). As new mortgages were mainly underwritten using HIBOR-based plans (Chart 5.3), the interest margin of banks' mortgage portfolios narrowed. Interest margins of BLR-based mortgages also reduced, as the composite interest rate, which reflects the average cost of funds, increased by nine basis points from the end of December 2009 to the end of June 2010 while the BLR remained steady (Chart 5.4).

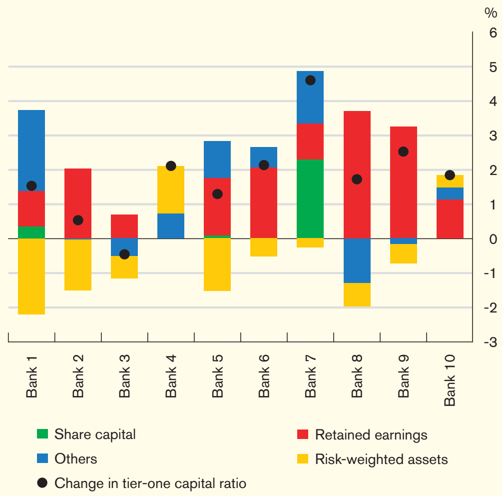
Yields of some highly liquid debt instruments decreased further in the assessment period (Chart 5.5). This added pressure on the NIM as some maturing financial instruments of banks were reinvested at lower yields.

Chart 5.6
Capitalisation of locally incorporated AIs



Source: HKMA.

Chart 5.7
Improvement in tier-one capital ratio*



* Representing the change in the tier-one capital ratio from December 2008 to June 2010, except for Bank 10, which measures the change from December 2008 to December 2009.

Note: The value of each category represents the effect of its change since 2008 on the tier-one capital ratio of the relevant bank. For example, a decrease in risk-weighted assets over the period has led to an increase in tier-one ratio and is represented by a positive value. Other categories are defined in a similar fashion.

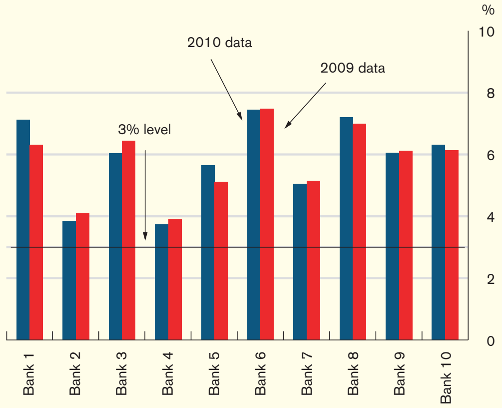
Source: Banks' 2008 and 2009 annual reports and 2010 interim reports, and staff estimates.

Capitalisation

The banking sector remained well-capitalised with a consolidated capital adequacy ratio of locally incorporated AIs of 16.2% at the end of June 2010 (down from 16.8% at the end of December 2009) (Chart 5.6).[16] The corresponding tier-one capital adequacy ratio (i.e. the ratio of tier-one capital to total risk-weighted assets) also edged down to 12.6% from 12.9% in the same period. Nevertheless, banks have generally increased their tier-one capital ratios from 2008 levels. The increase was brought primarily by increases in banks' retained earnings rather than reductions in assets (Chart 5.7).

[16] 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.

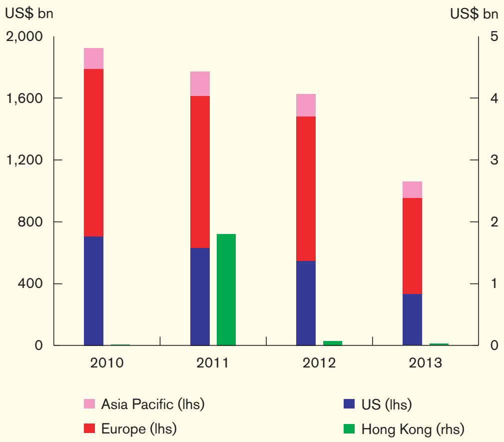
Chart 5.8
The ratio of tier-one capital to total adjusted assets of banks in Hong Kong



Notes:
1. Consolidated positions.
2. A higher value indicates a lower leverage.
3. The ratio of tier-one capital to total adjusted assets (also known as the leverage ratio) is not comparable to the tier-one capital adequacy ratio, which is defined as the ratio of tier-one capital to total risk-weighted assets. Generally, the leverage ratio is significantly lower than the tier-one capital adequacy ratio.

Sources: Banks' 2008 and 2009 annual reports and 2010 interim reports, and staff estimates.

Chart 5.9
The maturity profile (from 2010 to 2013) of debt issued by banks



Note: Excluding convertible bonds and banks in the public sector.
Source: Dealogic.

The ratio of tier-one capital to total adjusted assets[17], a supplementary measure to risk-based capital ratios, also indicates that the average ratio of listed Hong Kong banks is well above 3% (Chart 5.8).[18]

The current operating environment may increase banks' demand for new capital. Banks may need more capital to support their loan growth. As the very low interest-rate environment may continue to constrain banks' profits and thus the ability to build up capital through profit retention, banks may need to rely more on equity issuance to satisfy their capital needs. The implications of developments in the global capital market for their fund raising activities should bear watching closely.

The March 2010 issue of this Report highlighted that, the huge refinancing needs in respect of bank debt in some advanced economies in the next two years or so could adversely affect fund-raising activities of banks globally, should there be any significant loss of market confidence. In the assessment period, sentiment in the capital market weakened somewhat due to the deterioration of the European sovereign debt crisis. Nevertheless, the risk to banking sectors in Asia, including Hong Kong, should be moderate as the amount of debt issued by banks in Asia that will mature from now to 2013 is relatively small (Chart 5.9).

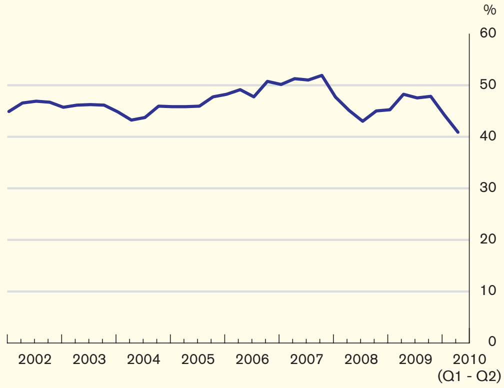
5.2 Liquidity and funding

In the second quarter of 2010, the average liquidity ratio of retail banks decreased to 40.9%, after falling to 44.2% in the previous quarter from 47.8% in the final quarter of 2009. This reflected a fall in liquefiable assets in the form of net interbank claims in the assessment period. Nevertheless, the liquidity ratio still remained

[17] Defined as total assets minus goodwill, intangible assets and deferred tax assets. This definition is similar to that adopted by the Federal Deposit Insurance Corporation in the US in calculating the regulatory leverage ratio. For details, see Appendix D to Part 225 of the Bank Holding Company Act (http://www.fdic.gov/regulations/laws/rules/6000-2200.html).

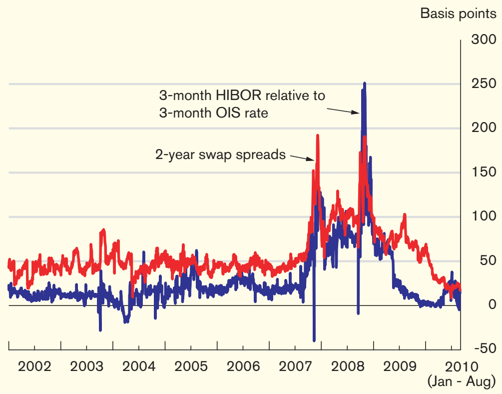
[18] The US regulatory minimum ratio of the tier-one capital to total adjusted assets is 3%.

Chart 5.10
Liquidity ratio of retail banks



Source: HKMA.

Chart 5.11
Spreads of the 3-month HIBOR relative to 3-month overnight index swap rate and 2-year Hong Kong-dollar swaps



Source: Bloomberg.

substantially higher than the regulatory minimum of 25% (Chart 5.10).

Liquidity conditions in the interbank market are a major determinant of banks' vulnerability to liquidity risk. If the European sovereign debt crisis deepens, the risk may spill over to the global banking system. Uncertainty about banks' exposure to sovereign debt issued by the debt-ridden European economies (i.e. Greece, Ireland, Italy, Portugal and Spain) may lead to greater concern about counterparty risks among banks and reduce the availability of interbank funds. Box 4 assesses the potential impact of the European sovereign debt crisis on banks in Hong Kong. The findings suggest that the direct exposure of the Hong Kong banking sector to the debt-ridden European economies was small. However, given that the UK is one of the major funding centres for banks in Europe and globally, the crisis could potentially affect the Hong Kong banking system through the direct linkage (e.g. the interbank market) between the banking systems of the UK and Hong Kong.

Nevertheless, the adverse effect of the European sovereign debt crisis on the domestic interbank market has been insignificant so far. The spread between the three-month HIBOR and its corresponding overnight index swap rate[19], which measures the availability of funds in the interbank market, rose moderately to around 14 basis points at the end of August 2010 from one basis point at the end of February 2010 (Chart 5.11). By contrast, the availability of longer-term funding continued to improve, with the two-year Hong Kong-dollar swap spread narrowing to around 17 basis points.[20 & 21]

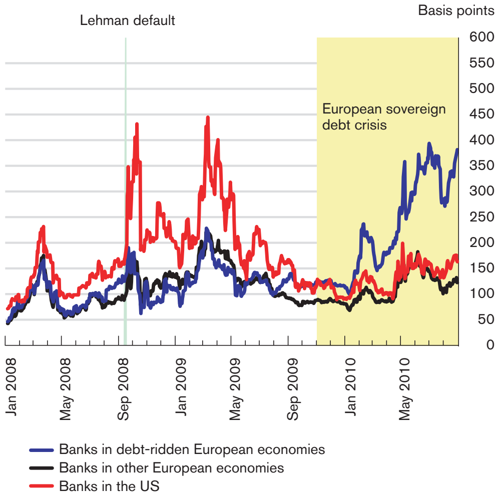
19 An overnight index swap is an interest-rate swap in which the floating leg is linked to an index of daily overnight rates. The two parties agree to exchange at maturity, on an agreed notional amount, the difference between interest accrued at the agreed fixed rate and interest accrued at the floating 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 spread of the three-month HIBOR relative to three-month overnight index swap rate generally reflects the credit and liquidity risks of the interbank market.

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

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

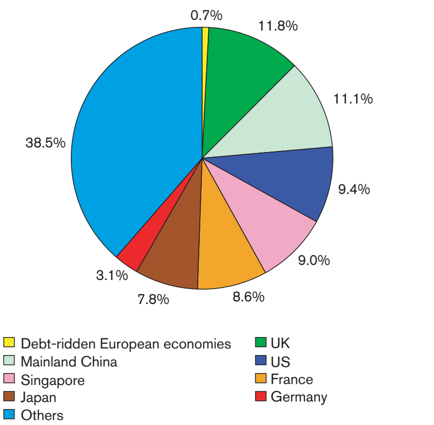
Box 4
An assessment of the impact of the European sovereign debt crisis on banks in Hong Kong

Chart B4.1
CDS spreads of banks



Note: Median of 5-year CDS spreads of the respective groups.
Source: Bloomberg.

Chart B4.2
External claims of the Hong Kong banking sector on major economies (all sectors) at the end of March 2010



Source: HKMA.

Recent rises in credit default swap (CDS) spreads of banks in the debt-ridden European economies (i.e. Greece, Ireland, Italy, Portugal and Spain) may suggest that the continuing European sovereign debt crisis has already threatened their banking systems (Chart B4.1). Meanwhile, CDS spreads of banks in other economies also increased substantially, renewing the concerns about contagion risk to the global banking system. Against the background, this box assesses the extent to which the Hong Kong banking sector may be affected if the crisis spreads further.

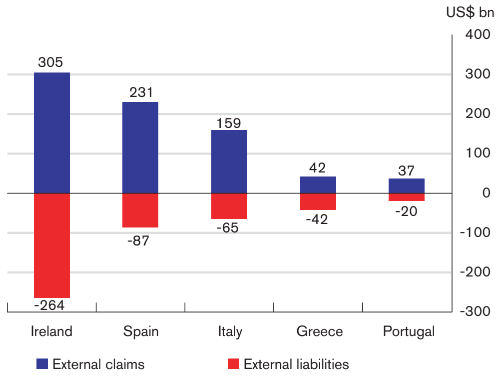
The main channel through which the Hong Kong banking sector may be affected by the debt crisis would be its direct exposure to the debt-ridden European economies. Such exposure, however, was small, as the share of total external claims on them in total external claims of the Hong Kong banking sector was only about 0.7% (Chart B4.2). Therefore, sovereign debt defaults in the debt-ridden European economies, if realised, should have negligible direct impact on the local banking system.

However, the risk still warrants attention after taking into account the indirect interconnectedness between banks in Hong Kong and those in the debt-ridden European economies. Such indirect interconnectedness may arise simply because banks in Hong Kong have considerable external claims on the UK[22 & 23], and the UK is one of the major funding centres for the debt-ridden European economies. In fact, the Bank of England reported significant external claims of the UK banks on

[22] At the end of March 2010, the share of external claims on UK (all sectors) in total external claims of the Hong Kong banking sector was around 11.8%. The share of external claims on the UK banking sector in total external claims of the Hong Kong banking sector was 11.1%.

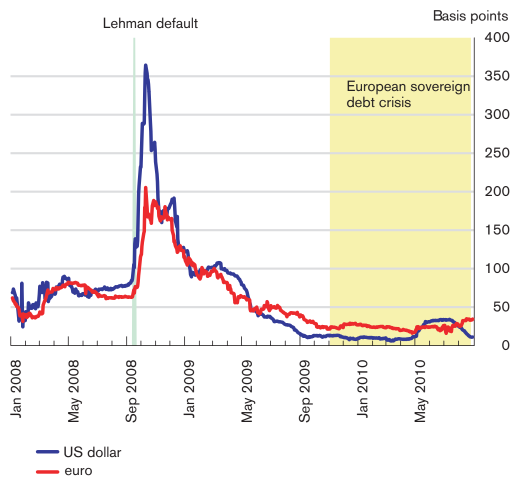
[23] Of these external claims on the UK, granular data suggest that (1) cross-border claims that are measured based on the place of incorporation were much smaller; and (2) a significant portion of such claims was government-guaranteed bank claims and intragroup exposures.

Chart B4.3
UK banks' external claims on and liabilities to debt-ridden European economies (all sectors)



Note: Figures are at the end of the second quarter of 2010.
Source: Bank of England.

Chart B4.4
Spreads of the 3-month LIBOR relative to 3-month overnight index swap rate



Source: Bloomberg.

those economies (Chart B4.3), which were around 15.3% of UK banks' total external claims. More importantly, all of them were net borrowers of the UK banking system, suggesting that they are systemically important to the UK banking system.

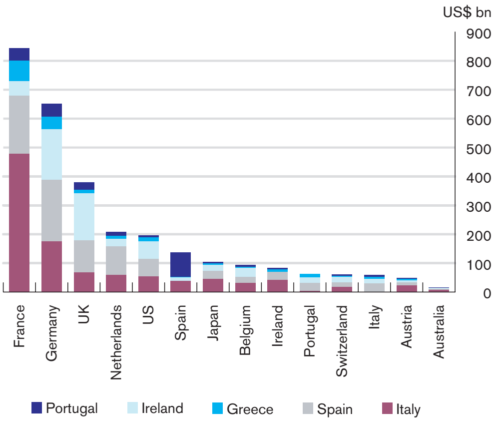
In view of the exposure of the UK banks to the debt-ridden European economies and the significant exposure of Hong Kong's banks to the UK banking system, sovereign defaults of the debt-ridden European economies may have indirect impacts on the Hong Kong banking sector on two counts. First, this would increase the credit risk of the Hong Kong banking sector's external claims on the UK banks that have significant exposure to the debt-ridden European economies. The risk however is difficult to assess due to the absence of relevant data.

Secondly, uncertainty about possible losses incurred by individual UK banks in cases of sovereign defaults in the debt-ridden European economies may make other banks more reluctant to lend in the money market, resembling what happened in the immediate aftermath of the Lehman default.[24] Should this happen, the knock-on effect on the Hong Kong interbank market, which appeared to be substantial in September 2008, may emerge again.

Nevertheless, financial market information suggests that the risk in the UK interbank market is still moderate at the moment, as the spread between the three-month LIBOR and the three-month overnight index swap rate, which measures the availability of funds in the interbank market, only increased marginally (Chart B4.4).

24 According to the European Central Bank (ECB), the result of EU-wide stress-testing for banks suggests that the EU banking system is resilient to negative macroeconomic and financial shocks. For details, see ECB press release "Publication of the results of the EU-wide stress-testing exercise" issued on 23 July 2010.

Chart B4.5
Consolidated foreign claims on debt-ridden European economies by nationality of reporting banks (on ultimate risk basis)

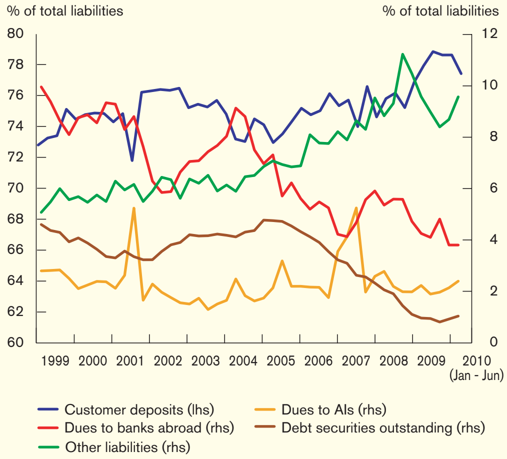


Note: End of March 2010 figures.
Source: BIS consolidated banking statistics.

That being said, how far the European sovereign debt crisis would affect the UK banking system and its implication for banks in Hong Kong still merits close attention. Developments within the banking systems in France and Germany also bear watching, as their exposures to the debt-ridden European economies were even higher than those of the UK (Chart B4.5) and the exposures of the Hong Kong banking sector to France and Germany were not immaterial, representing 8.6% and 3.1% of the Hong Kong banking sector's total external claims respectively.[25]

[25] The corresponding shares of external claims on the banking sectors of France and Germany in total external claims of the Hong Kong banking sector were 7.8% and 2.4% respectively.

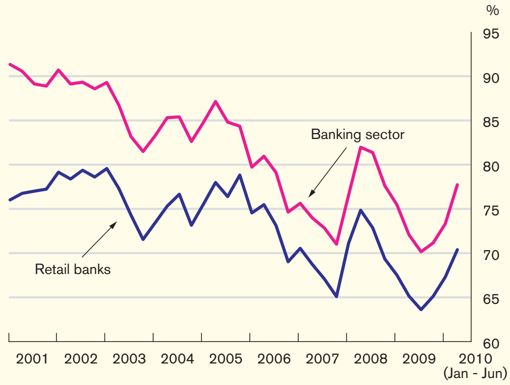
Chart 5.12
Liabilities structure of retail banks



Note: Debt securities comprise negotiable certificates of deposit and all other negotiable debt instruments.

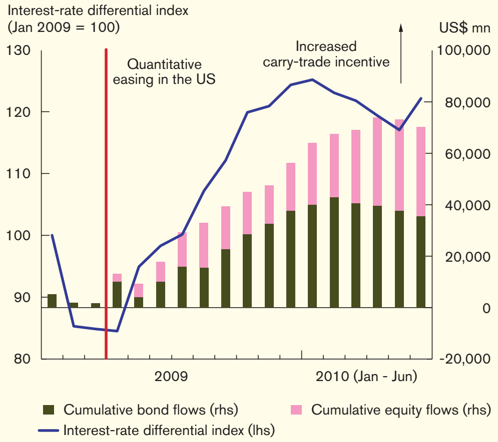
Source: HKMA.

Chart 5.13
Hong Kong-dollar loan-to-deposit ratios



Source: HKMA.

Chart 5.14
Cumulative net investment flows from the US to EMEAP



Sources: Data from Bloomberg, the US Treasury International Capital reporting system and staff estimates.

The structure of banks' liabilities, a longer-term factor influencing the degree of liquidity risk, remained stable in the assessment period. Customer deposits remained the most important funding source and its share to total liabilities slightly decreased to 77.4% at the end of June 2010 from 78.6% at the end of December 2009 (Chart 5.12).

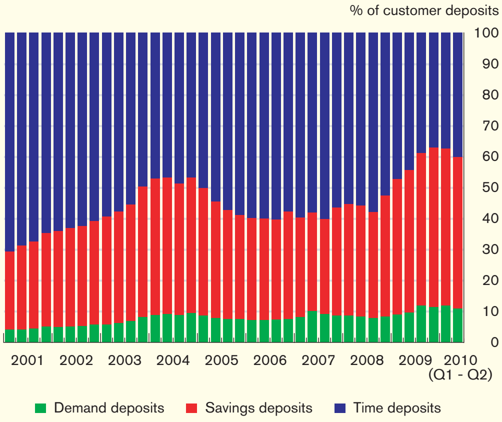
The all-currency loan-to-deposit ratio for retail banks increased further to 51.4% in June 2010 from 46.3% in December 2009, while the corresponding ratio for the banking sector as a whole rose to 59.4% from 51.5% during the period. Similarly, the Hong Kong-dollar loan-to-deposit ratio for retail banks increased from 65.2% to 70.4%, while that for the banking sector increased from 71.2% to 77.7% (Chart 5.13). The increase in the loan-to-deposit ratios was attributed to a stronger expansion of loans than that of deposits.

Despite significant loan growth, the loan-to-deposit ratios remained low by historical standards, indicating ample liquidity in the banking system. This favourable condition has been largely supported by the strong deposit growth since the last quarter of 2008, partly a result of capital inflows amid unprecedented quantitative easing in the US. Therefore, a sudden reversal of capital inflows could lead to a sharp contraction in liquidity.

Recently, this risk of a sudden reversal of capital inflows seems to have increased somewhat in Asia-Pacific economies, including Hong Kong. While recent capital inflows in the region may be largely driven by relatively strong growth prospects for Asia-Pacific economies, market data suggest that profitable indirect carry trades, through the buying of foreign currency-denominated bonds and equities funded by US dollars, may be another major reason.[26] This was evidenced by a strong positive association between an interest-rate differential index for the region and capital inflows (Chart 5.14). The interest-rate differential index, however, was at a lower level, indicating a lower carry-trade incentive. If significant unwinding of such indirect carry-trade activities were to occur, there may be notable capital outflows in the region. Large-scale fire sales of equities

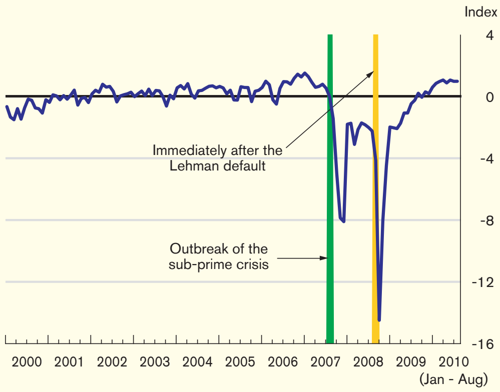
[26] Traditional carry trades involve foreign-exchange positions only.

Chart 5.15
Structure of customer deposits of retail banks



Source: HKMA.

Chart 5.16
Market liquidity index



Note: A higher value of the index indicates higher market liquidity.
Source: Staff estimates based on data from Bloomberg.

and debt in other Asia-Pacific economies due to the unwinding of the investment positions could weaken market sentiment for the whole region, which may have strong impacts on capital flows in Hong Kong. As some deposits may be sensitive to capital flows, the potential effects on liquidity merit close attention.

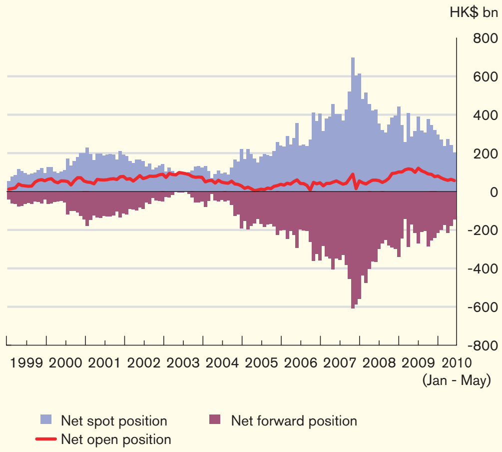
During the assessment period, some smaller banks offered higher deposit rates for longer-term time deposits to secure stable funding. As a result, time deposits reversed their downward trend and edged up by 1.40% in the first quarter of 2010 and further increased by 8.43% in the second quarter. From 2009 Q4 to 2010 Q2, the share of time deposits in total deposits increased to 40.0% from 37.1%, while the share of savings deposits decreased to 49.0% from 51.4% and that of demand deposits was reduced to 11.0% from 11.5% (Chart 5.15). These changes in the structure of customer deposits could reduce the potential funding risk arising from a shifting of customer deposits among AIs after the expiry of the government's temporary full deposit guarantee at the end of 2010. The revised Deposit Protection Scheme[27] that will take effect on 1 January 2011 is likely to reduce the risk further.

The market liquidity index[28], which measures the easiness with which banks can liquidate financial assets without seriously affecting market prices, revealed that the market liquidity risk remained low, as compared with that registered during the onset of the sub-prime crisis and the collapse of Lehman Brothers (Chart 5.16).

[27] The major revisions to the Deposit Protection Scheme include: (1) raising the protection limit of the Scheme from the current HK$100,000 to HK$500,000; (2) protecting secured deposits to enhance the clarity of coverage of the Scheme; (3) introducing cost mitigating measures to avoid the cost of providing better protection being transferred to depositors; and (4) improving the efficiency of the Hong Kong Deposit Protection Board in calculating and making compensation to depositors in a payout.

[28] The indicator consists of the following four components: (1) the spread between the three-month HIBOR and the three-month Exchange Fund Bill yield; (2) the spread between the average yield of Hong Kong corporate bonds and the average yield of government bonds; (3) the average bid-ask spread of selected Hong Kong stocks; and (4) the average return-to-volume ratio of selected Hong Kong stocks. For each component, the average value for the period from January 2000 to December 2004 is standardised to zero. For reference, see Kyle (1985), "Continuous auctions and insider trading", *Econometrica*, Vol. 53, pp. 1315-1335.

Chart 5.17
The foreign-currency position



Notes:
1. The net spot position is the spot assets minus spot liabilities of foreign currencies. The net forward position is the forward purchases minus forward sales of foreign currencies.
2. Net open position is defined as the net spot position plus the net forward position.
3. 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.

Table 5.A
Simulated impact on the interest margin of mortgage loans [1 & 2]

	Basis points
Mortgage pricing (BLR-priced mortgages)	200
HIBOR-financed loans	
Current funding cost [3]	44
Current net mortgage margin [4]	116
Estimated reduction of mortgage margin after shock	180
Simulated net mortgage margin after shock	**-64**
Time deposit rate-financed loans	
Current funding cost [3]	41
Current net mortgage margin [4]	119
Estimated reduction of mortgage margin after shock	78
Simulated net mortgage margin after shock	**41**
Effective deposit rate-financed loans	
Current funding cost [3]	15
Current net mortgage margin [4]	145
Estimated reduction of mortgage margin after shock	49
Simulated net mortgage margin after impact	**96**

Notes:
1. For a detailed description of the model, see "Interest Rate Risk in the Pricing of Banks' Mortgage Lending", *HKMA Research Memorandum 05/2005*. The simulation is for the twelve months ending June 2011. It is based on the market situation up to the end of July 2010, with the use of monthly average data up to the end of June 2010.
2. Under the scenario of an increase in 300 basis points in HIBORs, with 25 basis points a month.
3. Proxied by the simple average of the composite interest rate of selected retail banks based on their sources of funds.
4. Current net mortgage margin is derived by subtracting the funding cost and the operating and credit costs from the average mortgage pricing. The operating and credit costs are estimated to be 30 basis points and 10 basis points respectively.

Foreign-currency position

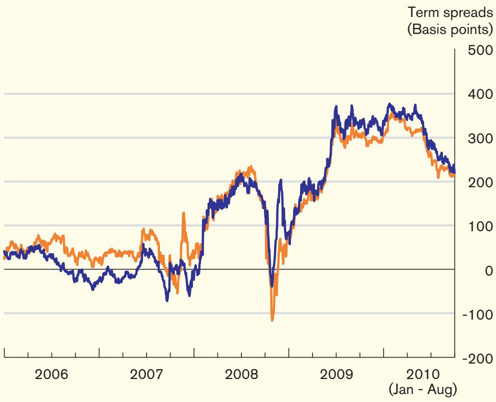
The banking sector's ability to repay liabilities denominated in foreign currencies when they become due can be assessed by the aggregate foreign-currency position of AIs. The overall position, including both spot and forward positions, reduced to HK$57 billion at the end of May 2010 (Chart 5.17) and was around 0.5% of total assets. The small aggregate foreign-currency exposure of the banking sector suggests that the risk from foreign-currency positions should not be a major concern.

5.3 Interest-rate risk

The basis risk arising from mortgage lending continued to be a significant source of interest-rate risk for some banks for the following two reasons. First, as highlighted in the March 2010 issue of this Report, many HIBOR-based mortgage plans in the market cannot reduce the basis risk effectively because of the BLR-based interest-rate cap offered to the borrowers. Secondly, although new mortgages underwritten in recent months have been mainly HIBOR-based, BLR-based mortgages still account for the major portion of the mortgage portfolios for many banks.[29] Therefore, a sharp reversal of the spread between BLRs and HIBORs could lead to significant downward pressure on the interest margin of mortgage loans, in particular for banks that are heavily reliant on interbank markets to fund their mortgage portfolios. Table 5.A presents the simulation results of the impact of interest-rate increases on the interest margin of residential mortgage loans over the next 12 months. The simulation incorporates the transmission effect of a 300-basis-point increase in HIBORs on BLRs. The magnitude of the shock implicitly assumed that HIBORs returned to the pre-crisis levels. The results show that, if HIBORs rise by 300 basis points in the next 12 months, the interest margin of HIBOR-financed residential mortgage loans will become negative (-64 basis points).

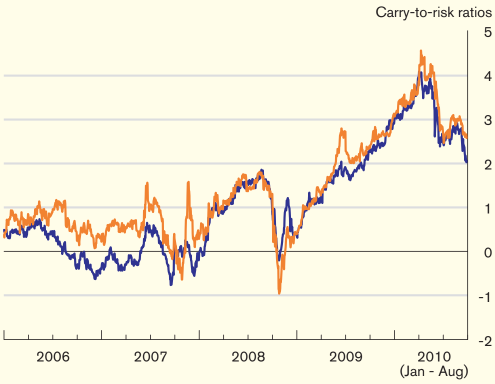
[29] At the end of June 2010, BLR-based mortgages account for around two-third of the mortgage portfolios for retail banks.

Chart 5.18
Term spreads of Hong Kong and US dollars*



* Defined as 10-year swap rates minus 3-month money market rates of the respective currencies.
Source: Staff estimates based on data from Bloomberg.

Chart 5.19
Carry-to-risk ratios*



Notes:
* 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. A higher ratio indicates a higher risk-adjusted return for borrowing short-term (i.e. 3-month) funds to buy long-term (i.e. 10-year) interest-bearing securities.
Source: Staff estimates based on data from Bloomberg.

High spreads between the long-term and short-term interest rates for the US dollar and the Hong Kong dollar (Charts 5.18 and 5.19) may be another source of interest-rate risk to the banking system. The spreads have widened significantly since the last quarter of 2008, indicating higher profitability of borrowing short-term funds to purchase long-term interest-bearing assets. Although the spreads decreased during the assessment period, they remained higher than the pre-crisis levels. Under such monetary conditions, banks may have higher incentives to take larger interest-rate exposure, both for their lending business and financial investments. If the spreads continue to stay at high levels, there may imply greater banks' maturity mismatches and interest-rate risk.

5.4 Credit risk

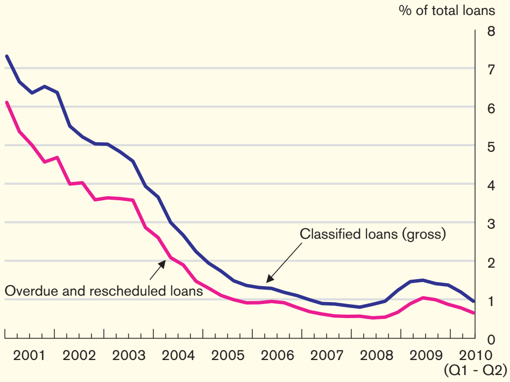
As the economy continued to recover, retail banks' asset quality registered a broad-based improvement in the assessment period. The classified loan ratio declined further to 0.96% in June 2010 from 1.38% in December 2009, while the ratio of overdue and rescheduled loans reduced to 0.66% from 0.88% (Chart 5.20).

Domestic lending[30] by AIs expanded by 5.0% in the first quarter of 2010 and a further 7.6% in the second quarter. Domestic lending is likely to rise further in the near term, as a majority of surveyed AIs expected that domestic loan demand will increase in the next six months, according to the HKMA Survey on Credit Condition Outlook in June 2010 (Table 5.B).

Household exposures

Household loans[31] continued to expand in the assessment period. They rose by 11.5% in the second quarter of 2010 on a year-on-year basis (Chart 5.21) and accounted for 31.7% of domestic lending. Mortgage lending grew by 10.9%, while credit card lending and other personal loans for private purposes increased by 4.8% and 17.9% respectively.

Chart 5.20
Asset quality of retail banks



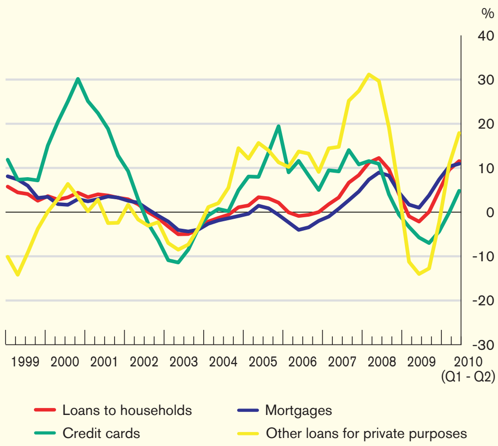
Note: Classified loans are those loans graded as "substandard", "doubtful" or "loss".
Source: HKMA.

Table 5.B
Expectation of domestic loan demand in the next six months

	Jun 2009	Sep 2009	Dec 2009	Mar 2010	Jun 2010
	(% of total respondents)				
Increased considerably	0	0	0	0	0
Increased somewhat	24	38	52	67	67
Remain stable	57	48	43	33	33
Decreased somewhat	19	14	5	0	0
Decreased considerably	5	0	0	0	0

Source: HKMA Survey on Credit Condition Outlook.

Chart 5.21
Annual growth of lending to households by AIs

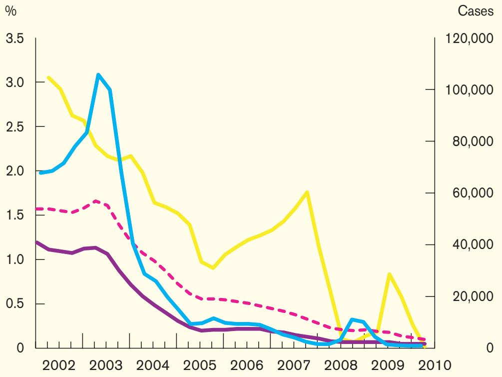


Source: HKMA.

30 Defined as loans for use in Hong Kong plus trade-financing loans.

31 Loans to households constitute lending to professional and private individuals, excluding those for business purposes. Mortgage lending accounts for a major proportion of loans to households, while the remainder comprises mainly unsecured lending through credit cards and other personal loans for private purposes.

Chart 5.22
Negative-equity and mortgage-delinquency ratios of surveyed AIs

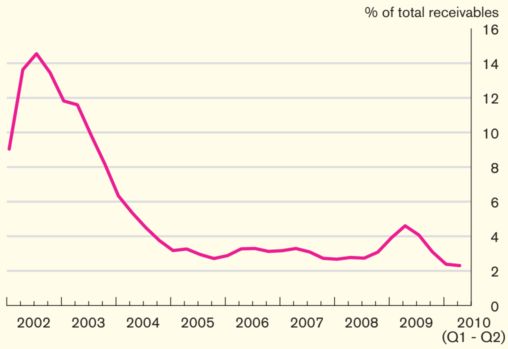


Delinquency ratio in negative equity (lhs)
Mortgage delinquency and rescheduled loan ratio (lhs)
Mortgage delinquency ratio (lhs)
Number of mortgage loans in negative equity (rhs)

Notes:
1. The earliest available data for the delinquency ratio of mortgage loans in negative equity are the second quarter of 2002.
2. The mortgage delinquency ratio refers to the ratio of total amount of loans overdue for more than three months to total outstanding loans.
3. The number of mortgage loans in negative equity was at its peak of about 106,000 cases at the end of June 2003.

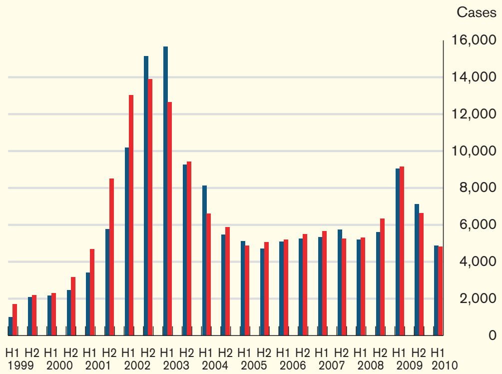
Source: HKMA.

Chart 5.23
Charge-off ratio for credit-card receivables of surveyed AIs



Note: Quarterly annualised figures.
Source: HKMA.

Chart 5.24
Number of bankruptcies



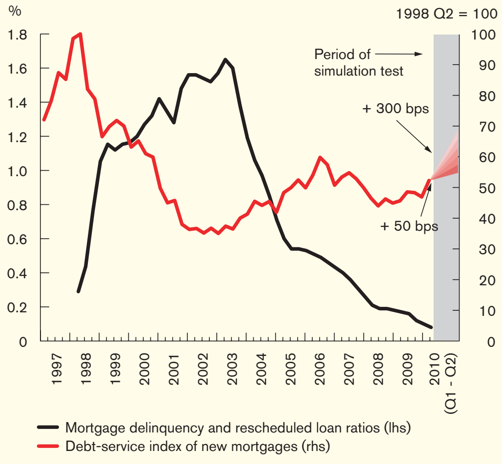
Number of bankruptcy orders made
Number of bankruptcy petitions

Source: Official Receiver's Office.

There was a broad-based improvement in the quality of household loans. As property prices continued to increase, the asset quality of residential mortgage lending improved further. The delinquency ratio for banks' overall mortgage portfolios stood low at 0.03% at the end of June 2010, while the rescheduled loan ratio hit a record low of 0.05% (Chart 5.22). The number of negative equity cases fell further to 310 at the end of June 2010 from 466 at the end of December 2009, with the three-month delinquency ratio falling to around 0% from 0.57%.

The credit risk of unsecured household lending also improved. The annualised credit card charge-off ratio declined further to 2.31% in the second quarter of 2010, after decreasing to 2.39% in the previous quarter from 3.10% in the final quarter of 2009 (Chart 5.23). The number of bankruptcy orders made and petitions presented dropped markedly to 4,862 and 4,831 respectively in the first half of 2010, representing respective decreases of 31.6% and 27.0% from the second half of 2009 (Chart 5.24).

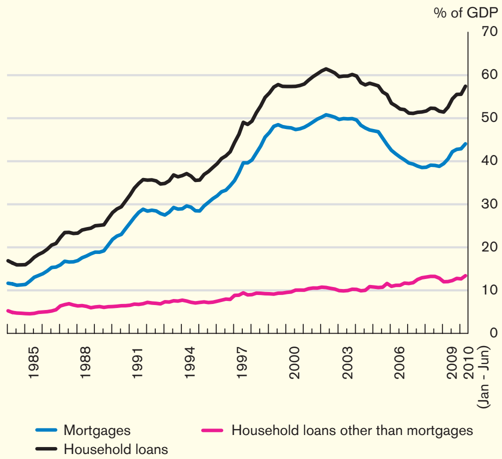
Chart 5.25
Household debt-service burden of new mortgages



Source: Staff estimates.

Note: The calculation is based the average interest rate for BLR-based mortgages.

Chart 5.26
Household debt leverage



Source: Staff estimates.

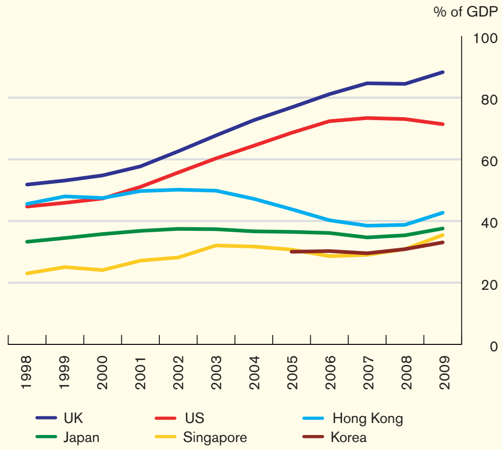
Despite robust improvements in the asset quality of household loans, clearer signs of higher debt-service burdens and household leverage appeared. The debt-service index of new mortgages[32], which serves as an indicator of the debt-service burden of mortgagors, increased to 52.3 in the second quarter of 2010, after deceasing to 46.9 in the previous quarter from 48.3 in the final quarter of 2009 (Chart 5.25). The increase in the debt-service index mainly reflected an expansion in the size of average mortgage loans. The findings of our sensitivity test suggests that if interest rates were to increase to their long-run averages (e.g. by 300 basis points) and other things being constant, the debt-service burden of households would be driven up remarkably, as compared with a mild rise for a 50-basis-point increase.

The ratio of household debt to GDP indicated that household debt leverage continued to increase. The ratio increased to 57.4 % at the end of June 2010 from 55.5% at the end of December 2009 (Chart 5.26). Cross-country evidence (Chart 5.27) indicated that household leverage (measured by the ratio of mortgage loans to GDP) for Hong Kong and some selected Asian economies was much lower than that of the US and the UK. This seems to suggest that household leverage may be a lesser concern for the Asian economies. However, continued vigilance is warranted as a clear upward trend in household leverage is observed for Hong Kong.

All in all, despite a broad-based improvement in the asset quality of overall household loans, some new household loans, in particular mortgages, may be underwritten with higher risks but lower returns. This is clearly indicated by the higher value for the debt-service index of new mortgages and prevailing low effective mortgage rates

[32] A higher value of the debt-service index indicates that there is either a drop in household incomes, or an increase in interest rates, or an increase in the average mortgage loan amount drawn by households. Historical movements in the index suggest that a sharp rise in the index may lead to deterioration in the asset quality of household debt.

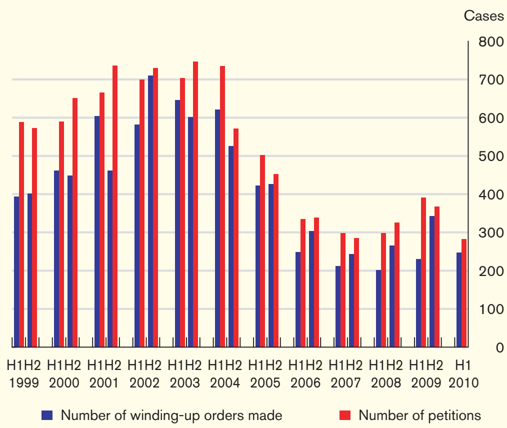
Chart 5.27
Household (mortgage) debt leverage ratio of selected economies



Notes:
1. The leverage ratio is defined as the ratio of outstanding mortgage loans to annual nominal GDP.
2. A higher value indicates a higher leverage.
3. The definition on mortgage loans varies across the economies.
4. Data for Singapore exclude loans from the Housing and Development Board.
5. The earliest available data for Korea are 2005.

Source: Staff estimates based on data from relevant central banks.

Chart 5.28
Winding-up orders and petitions



Source: Official Receiver's Office.

(see Section 5.1). Although there is still no conclusive sign of relaxation in credit standards, the trend should be monitored. While the risk may not be apparent during the strong credit growth phase, it could have drastic systemic impact on the banking sector if property price corrections occur. Therefore, banks should manage risks associated with residential mortgage lending prudently, and resist any temptation to relax their underwriting standards despite the abundant liquidity in the banking system and the intense competition for residential mortgage business. Prospective buyers are also reminded to take fully into account the impact on their repayment ability when interest rates return to more normal levels and avoid overstretching themselves.[33]

Corporate exposures[34]

Loans to corporations[35] grew by 15.3% in the second quarter on a year-on-year basis mainly due to significant increases in lending for building, construction, property development and investment (13.3%) and lending to the wholesale and retail trade sector (35.6%). At the end of June 2010, loans to corporations accounted for 68.0% of domestic lending.

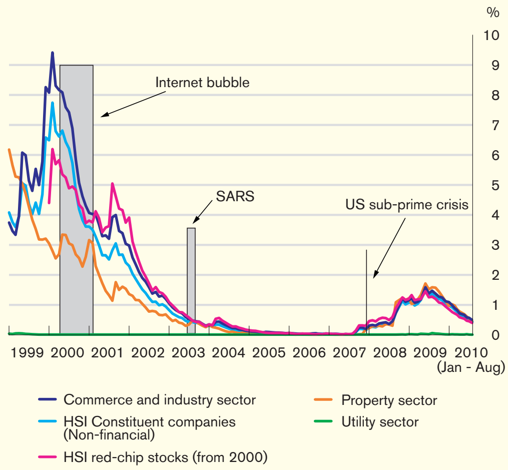
The credit risk of corporate lending improved robustly, as suggested by the movements of some indicators. The number of compulsory winding-up orders of companies and that of petitions presented declined in the first half of 2010 by 28.0% and 23.4% respectively from the second half of 2009 (Chart 5.28).

[33] In this regard, the HKMA issued a letter on 8 January 2010 to AIs to remind them of prudent principles and practices when underwriting residential mortgage lending. To safeguard banking stability and help banks manage credit risk more prudently, the HKMA further announced three prudential measures on 13 August 2010 which took immediate effect. For details, see the HKMA press release on "Prudential measures for residential mortgage loans" issued on the same date.

[34] Excluding interbank exposures.

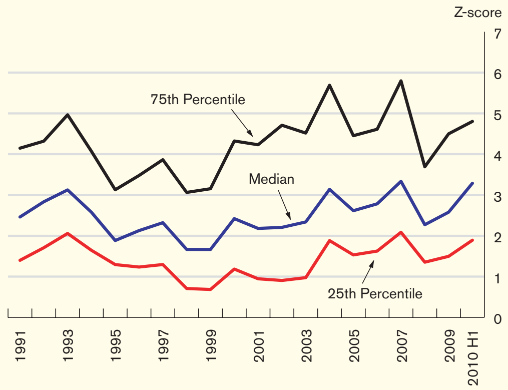
[35] Loans to corporations comprise domestic lending except lending to professional and private individuals.

Chart 5.29
Aggregate default probabilities of the HSI non-financial constituent companies



Source: Staff estimates.

Chart 5.30
Bankruptcy risk indicators of listed non-financial companies: Altman's Z-score



Note: A lower Z-score indicates higher default risk.

Source: Staff estimates based on data from Thomson Financial and Bloomberg.

The estimated aggregate default probability of the HSI non-financial constituent companies, a market-based indicator of default risk for the Hong Kong corporate sector, edged down further to 0.4% in August 2010 from 1.0% in December 2009 (Chart 5.29).

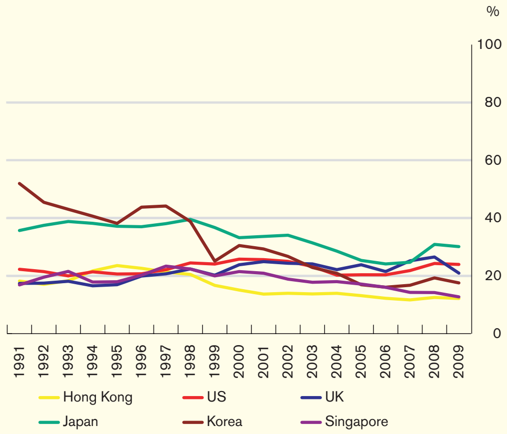
The Altman's Z-score[36], a typical credit risk measure based on accounting data, indicated a further improvement in the financial health of the non-financial corporate sector[37] in the first half of 2010 (Chart 5.30).

Low interest rates have helped to reduce debt-service burdens of corporates and underpinned the strong recovery of the Hong Kong corporate sector. However, with borrowing costs staying low, corporates may be tempted to increase leverage excessively, which will affect banking stability if a sharp reversal of interest rates

[36] See 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.

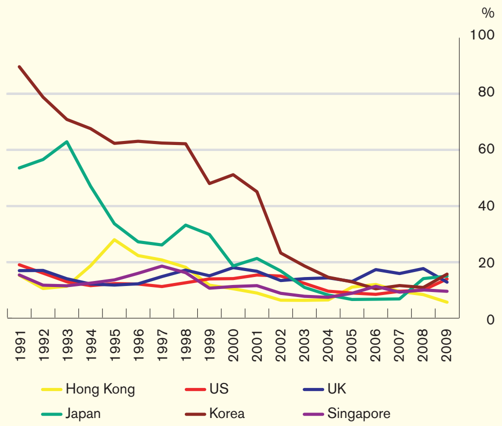
[37] Non-financial corporations refer to companies listed in the Hong Kong Main Board and the Growth Enterprise Market, excluding H-share companies, investment companies, and those engage in banking, insurance and finance. The 2010 figures are preliminary and cover only a limited number of companies that have announced their 2010 interim results at the time of writing. They are subject to revisions and should be used with caution.

Chart 5.31
Median leverage ratios of listed non-financial companies



Notes:
1. The leverage ratio is defined as the ratio of short-term plus long-term borrowings to total assets.
2. A higher value indicates a higher leverage of companies.
Source: Bloomberg.

Chart 5.32
Median income-gearing ratios of listed non-financial companies



Notes:
1. The income-gearing ratio is defined as the ratio of interest expenses to earnings before interest and tax.
2. A higher value indicates a higher debt-service burden.
Source: Bloomberg.

occurs. To assess the risk, Chart 5.31 shows the median leverage of the listed non-financial companies in Hong Kong and five other selected economies. After the Asian financial crisis, the leverage ratio of Hong Kong's corporate sector declined significantly, hovering at around 12% in 2009, the lowest among the selected economies. This finding suggests that the leverage of the Hong Kong corporate sector remained at a healthy level.

Although corporate leverage varies across the economies, the debt-service burdens of corporates measured by the ratio of interest expenses to earnings before interest and tax (i.e. the income-gearing ratio) appear to be similar in these economies and they stayed at an affordable level (Chart 5.32). This may be partly due to the very low interest-rate environment. In general, corporates spend less than 20% of their earnings to service interest payments for outstanding debt. Judging from this, an abrupt increase in interest rates may only have a moderate impact on their debt-service burdens and default risk.

Mainland exposures

During the assessment period, the banking sector's exposure to both banks and non-bank customers on the Mainland increased significantly. In view of the intense competition in the domestic market leading to thinner profit margins, some banks in Hong Kong are likely to speed up their expansion in the Mainland market to search for higher returns. Therefore, the trend of increasing Mainland exposures is likely to persist. This warrants closer monitoring of the credit risk associated with the Mainland economy.

Recent regulatory measures on the Mainland to cool the property market indicated an increase in credit risk for property-related lending. Banks should assess whether they are directly or indirectly exposed to significant credit risk associated with potential property price corrections.

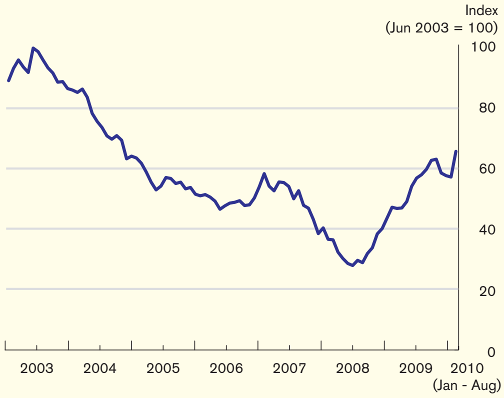
Retail banks' aggregate exposures to non-bank Mainland entities[38] increased further to HK$903 billion (11.2% of total assets) at the end of June 2010 from HK$764 billion

[38] Including exposures booked in the retail banks' banking subsidiaries on the Mainland.

(9.8% of total assets) at the end of December 2009. For the banking sector as a whole, the total amount of non-bank Mainland exposures also increased to HK$1,246 billion (10.0% of total assets) from HK$1,006 billion (8.3% of total assets) during the same period, with the banking sector's aggregate exposures to companies and individuals for purchasing properties on the Mainland increasing to HK$20.9 billion from HK$15.6 billion.

In the assessment period, the Hong Kong banking sector's external claims on Mainland banks increased by around 54% from HK$379 billion at the end of December 2009 to HK$583 billion at the end of May 2010. It is uncertain if this reflects an increased funding demand for Hong Kong banks' subsidiaries or affiliates on the Mainland or an intended shift seeking higher yields. The latter may have significant implications for banks' credit risk if the trend persists.

Chart 5.33
The aggregate distance-to-default index for the non-financial corporate sector on the Mainland



Note: A higher value of the index indicates a lower level of default risk.
Source: Staff estimates.

The average default risk of the Mainland corporate sector remained moderate in the assessment period. The aggregate distance-to-default[39] index for the non-financial constituent companies of the Shanghai Stock Exchange 180 A-share Index[40] increased to 65.7 at the end of August 2010 from 56.8 at the end of December 2009 (Chart 5.33).

In view of the strong growth prospects on the Mainland, many banks in Hong Kong have expanded their Mainland operations by setting up subsidiaries there. Box 5 reviews recent developments in respect of these subsidiaries. The findings suggest that the global financial crisis in 2008 - 2009 did not have a significant adverse impact on their asset growth. As Mainland operations of Hong Kong banks are likely to expand

[39] The distance-to-default is a market-based default risk indicator based on the framework by Merton (1974), "On the pricing of corporate debt: the risk structure of interest rates", *Journal of Finance*, Vol. 29, pp. 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. For reference, see Bharath and Shumway (2008), "Forecasting Default with the Merton Distance to Default Model", *Review of Financial Studies*, Vol. 21, No. 3, pp. 1339-1369.

[40] Non-financial corporations refer to all non-financial constituent companies (i.e. excluding investment companies and those engaged in banking, insurance and finance) of the SSE 180 A-share Index.

further, the implications of changes in the Mainland's macroeconomic environment on the asset quality of these banks is worth close monitoring.

Macro stress testing of credit risk[41]

To assess the vulnerability of banks in Hong Kong to macroeconomic shocks, stress testing is performed on banks' credit exposure with a macro stress-testing framework.[42] The assessment takes the economic conditions in the second quarter of 2010 as the current environment, and examines the effect of four individual shocks (including reductions in Hong Kong's real GDP, falls in the Mainland real GDP, rises in real interest rates, and reductions in real property prices) on the credit losses of the banking sector for a two-year period (up to the second quarter of 2012). Some shocks are assumed to be similar to those occurring during the Asian financial crisis in 1997-1998.[43] The Monte Carlo simulation method is adopted to generate the credit loss distribution for each scenario. A baseline scenario, which assumes no shock throughout the two-year period, is also simulated for comparison.

Salient results are presented in Table 5.C. In the baseline scenario, the expected credit-loss rate in the second quarter of 2012 is 0.24% of the total loan portfolios. In the stress scenarios, the expected credit-loss rates are substantially larger, ranging from 0.45% (interest-rate shock) to 1.03% (Hong Kong GDP shock). The stress-testing result suggests that the impact on the credit loss rate in the Hong Kong banking sector is moderate.

Focusing on the tails of the credit-loss distributions, Table 5.C shows that under the extreme case for the VaR at the confidence level of 99.9%, the maximum credit loss would range between 2.84% (Interest-rate shock) and 4.50% (Hong Kong GDP shock) of loan portfolios, similar

Table 5.C
The mean and VaR statistics of simulated credit loss distributions

		Stressed scenarios			
Credit loss (%) [1]	Baseline scenario	GDP shock[2]	Property price shock[3]	Interest-rate shock[4]	Mainland China GDP shock[5]
Mean	0.24	1.03	0.91	0.45	0.61
VaR at 90% CL[6]	0.50	1.80	1.59	0.88	1.22
VaR at 95% CL	0.66	2.16	1.94	1.12	1.57
VaR at 99% CL	1.09	3.05	2.82	1.76	2.50
VaR at 99.9% CL	1.89	4.50	4.29	2.84	4.06

Notes:
1. Measured as a percentage of the loan portfolios.
2. Reductions in Hong Kong's real GDP quarter-on-quarter by 2.3%, 2.8%, 1.6% and 1.5% respectively in each of the four consecutive quarters starting from 2010 Q3 to 2011 Q2.
3. 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 2010 Q3 to 2011 Q2.
4. A rise of real interest rates (HIBORs) by 300 basis points in the first quarter (i.e. 2010 Q3), followed by no change in the second and third quarters and another rise of 300 basis points in the fourth quarter (i.e. 2011 Q2).
5. A fall in Mainland China's real GDP quarter-on-quarter by 3.0% in the first quarter (i.e. 2010 Q3), followed by a fall of 4% in the second quarter (i.e. 2010 Q4).
6. CL denotes the confidence level.

Source: Staff estimates.

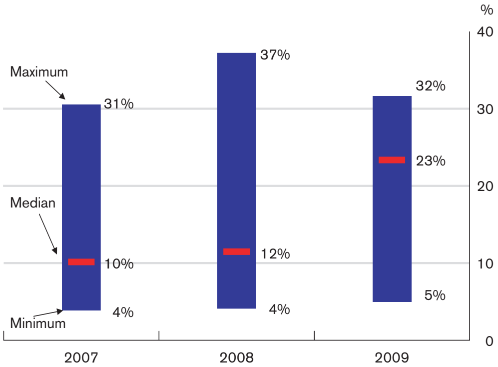
41 Macro stress testing refers to a range of techniques used to assess the vulnerability of a financial system to "exceptional but plausible" macroeconomic shocks.

42 Details of the model specification can be found in Wong et al. (2006), "A framework for stress testing banks' credit risk," *HKMA Research Memorandum 15/2006*. An updated framework is used for the current estimations.

43 Except for the Mainland China GDP shock. For details of different types of shocks, see the notes under Table 5.C.

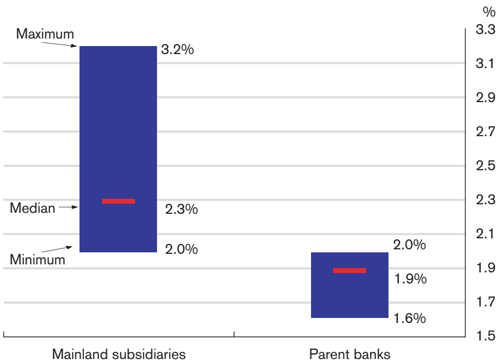
Box 5
Recent development of Hong Kong banks' subsidiaries on the Mainland

Chart B5.1
Total assets of subsidiary bank on the Mainland as a percentage of total assets of parent bank in Hong Kong



Note: The chart presents the maximum, median and minimum percentages of the six sample banks.
Source: Staff estimates based on data from Bankscope.

Chart B5.2
The net interest margins for subsidiary banks on the Mainland and parent banks in Hong Kong



Note: The chart presents the maximum, median and minimum net interest margins of the six sample banks.
Source: Staff estimates based on data from Bankscope.

Hong Kong banks have expanded their Mainland operations in recent years through their subsidiaries on the Mainland (Chart B5.1).[44] While this development represents new profit opportunities for them, it also has significant implications for banking stability.[45] Against this background, this box discusses these implications and some stylised facts of the operations of Hong Kong banks' subsidiaries. The analysis is based on the balance-sheet data of Mainland subsidiaries of six selected locally incorporated licensed banks in Hong Kong for the period from 2007 to 2009.[46] Key observations are summarised as follows.

First, the net interest margin for the Mainland subsidiaries in general is found to be higher than that of their parent banks[47] (Chart B5.2), suggesting that the Mainland operations of the Hong Kong banks are likely to increase their profits. This observation is largely in line with the international evidence that more profitable opportunities are a main reason for banks' foreign expansion. Intensifying competition in the local market in recent years may be another reason for banks in Hong Kong to speed up their expansion in the Mainland market to look for higher returns.

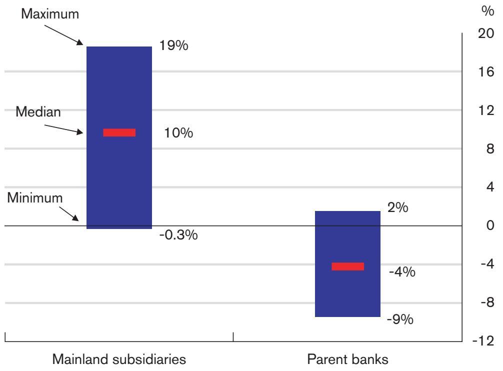
44 At the end of 2009, a total of 13 locally incorporated banks had business operations on the Mainland. Eight of them were operating through subsidiary banks incorporated on the Mainland.

45 For instance, the credit quality of banks in Hong Kong becomes increasingly dependent on the macroeconomic conditions on the Mainland as their operations there continue to expand. For details about the implications of business integration with the Mainland for the Hong Kong banking sector, see Carse (2008), "Review of the Hong Kong Monetary Authority's work on banking stability", which is available on the HKMA website.

46 Data for three banks are available up to the end of 2008, while those for the other three banks are up to the end of 2009. The assessment result must be interpreted with caution due to significant time lag of the data.

47 This is partly due to the fact that the interest-rate environment on the Mainland remains less affected by the US monetary conditions.

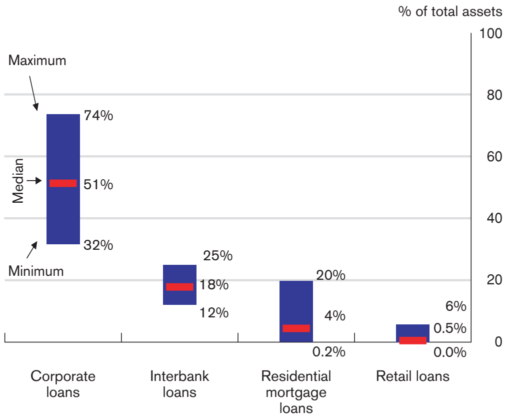
Chart B5.3
Asset growth from 2007 to 2008



Note: The chart presents the maximum, median and minimum asset growth rates of the six sample banks.

Source: Staff estimates based on data from Bankscope.

Chart B5.4
Asset composition of subsidiary banks on the Mainland



Notes:
1. The chart only presents the maximum, median and minimum percentages of five of the six sample banks due to data unavailability of one sample bank.
2. Assets booked in parent banks' Hong Kong offices and Mainland branches are excluded.

Source: Staff estimates based on data from Bankscope.

Secondly, the expansion of Hong Kong banks on the Mainland would lead to more diversified exposures. To a certain extent, this should strengthen the resilience of the Hong Kong banking sector to external shocks arising from a single economy/region. This is particularly apparent in the run-up to the global financial crisis in 2008, when most banks' balance sheets contracted significantly due to impaired lending capacity and low demand for loans, but their Mainland subsidiaries were found to have registered significant asset growth (Chart B5.3).[48]

Thirdly, the asset composition of the Hong Kong banks' subsidiaries on the Mainland indicates that corporate lending in general formed the major portion of their assets (Chart B5.4), suggesting that the financial health of the Mainland corporate sector is a key determinant of the credit quality of the Mainland subsidiaries. Although residential mortgage lending constituted a smaller share in their assets, a sharp property price correction would have significant implications for their loan losses given that the financial health of some corporates may be sensitive to property prices (e.g. property developers or corporates with significant investment in the Mainland property market).[49]

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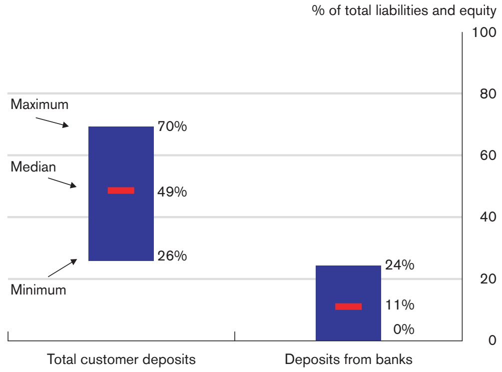
[48] In fact, the Mainland banking sector as a whole (not just the Hong Kong banks' subsidiaries) remains relatively unscathed from the global financial crisis in 2008.

[49] Data for detailed breakdowns of corporate lending are not available for further analysis on the impacts of property prices on loan losses of corporate lending for the Mainland subsidiaries.

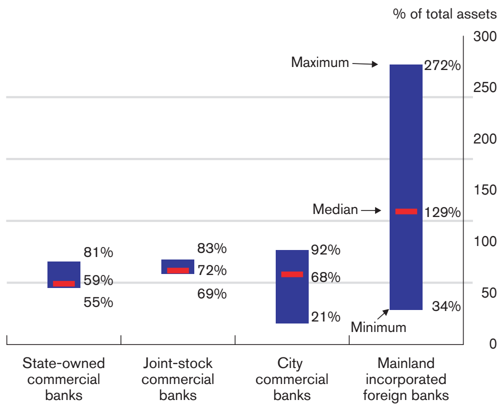
Chart B5.5
Funding structure of subsidiary banks on the Mainland



Note: The chart presents the maximum, median and minimum percentages of the six sample banks.

Source: Staff estimates based on data from Bankscope

Chart B5.6
Loan-to-deposit ratios of commercial banks on the Mainland



Notes:
1. The chart presents the maximum, median and minimum percentages of each banking group. Some banks are omitted in the calculation due to data unavailability.
2. Mainland incorporated foreign banks include six subsidiaries of Hong Kong banks and 18 subsidiaries of banks from other economies.
3. Loans exclude interbank lending while deposits exclude deposits from banks.
4. Latest available balance-sheet data for the period 2007-2009 are used.

Source: Staff estimates based on data from Bankscope.

Finally, the Mainland subsidiaries' funding structure reflects that customer deposits constitute the major source of their funding, followed by interbank borrowing (Chart B5.5). Equity, which is regarded as a more stable source of funding, on average shared around 13% of their total funding[50], compared with an average of 9% for their parent banks in Hong Kong. Issuing debt instruments is not a major source of funds, probably due to regulatory constraints. In the near term, liquidity management is likely to pose a challenge to the Mainland incorporated foreign banks (including the Mainland subsidiaries of Hong Kong banks) as their loan-to-deposit ratios in general were at relatively high levels (Chart B5.6).[51] The Mainland subsidiaries need to assess the potential impact on maturity mismatches arising from further growth in their balance sheets. Hong Kong parent banks will also need to examine and manage funding risks arising from their Mainland subsidiaries, since there may be important reputational risks to the parent banks if their subsidiaries run into liquidity difficulties.

Looking ahead, the intense competition coupled with thinner profit margins in the domestic market amid the very low interest-rate environment in Hong Kong is likely to speed up the expansion of Hong Kong banks into the Mainland market. While this leads to a more diversified portfolio for the Hong Kong banking sector which enables it to become more resilient to external shocks arising from a single economy/region, it also means that banking stability in Hong Kong will increasingly hinge on the financial health of the Mainland's corporate sector and property market.

[50] The simple average of the six Mainland subsidiaries of Hong Kong banks. Latest balance-sheet data for the period 2008-2009 are used.

[51] According to the China Banking Regulatory Commission (CBRC), foreign-funded banks need to conform to a maximum of 75% loan-to-deposit ratio by the end of 2011. Owing to the limited information on the definition of the loan-to-deposit ratio for this regulatory requirement, (see http://www.cbrc.gov.cn/chinese/home/jsp/docView.jsp?docID=2421), the analysis here cannot assess liquidity of the banks using the exact CBRC's definition. Instead, the calculations for Chart B5.6 are based on a conventional definition, i.e. the ratio of deposits from non-bank customers to loans to non-bank customers).

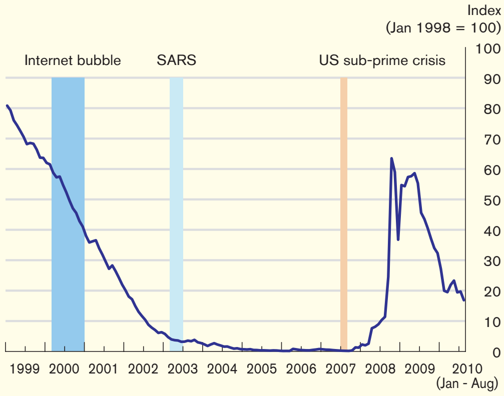
to those experienced just after the Asian financial crisis.[52] Nevertheless, the occurrence of such extreme scenarios would have a very small probability.

5.5 Systemic risk of the banking system

Systemic risk of the Hong Kong banking system remained low. The banking distress probability, which is estimated from the composite early warning system[53], decreased and continued to stay within the range of the lowest fragility category.[54] Low systemic risk was mainly underpinned by a significant improvement in economic fundamentals. However, continued rises in property prices raised concerns about an overheating property market and the potential effect on systemic risk.

The banking distress index[55] (January 1998 = 100) of banks in Hong Kong, which is a market-based systemic risk indicator, hovered at low levels, reflecting market views that the European sovereign debt crisis should have an insignificant impact on the systemic risk of the Hong Kong banking system. The index edged up to 23 in May 2010 from 20 at the end of February 2010 and then fell to 17 at the end of August 2010 following the stabilisation of the market sentiment with the approval of various rescue packages in the euro area[56] (Chart 5.34).

Chart 5.34
The banking distress index



Source: Staff estimates.

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[52] The credit loss of banks is estimated to have risen from 1.4% before the Asian financial crisis to 6.0% after the shock. These rough estimates are based on an assumed loss-given-default of 70%, and the actual default rates of overall loans at 2.01% in the third quarter of 1997 and 8.58% in the third quarter of 1999.

[53] 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 economic. For details, see Wong et al. (2010), "Predicting banking distress in the EMEAP economies", *Journal of Financial Stability*, Vol. 6(3), pp. 169-179.

[54] The composite early warning system is a four-level risk rating system. Demirgüc-Kunt and Detragiache (2000), "Monitoring Banking Sector Fragility: A Multivariate Logit Approach", *World Bank Economic Review*, Vol. 14, No. 2, pp. 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.

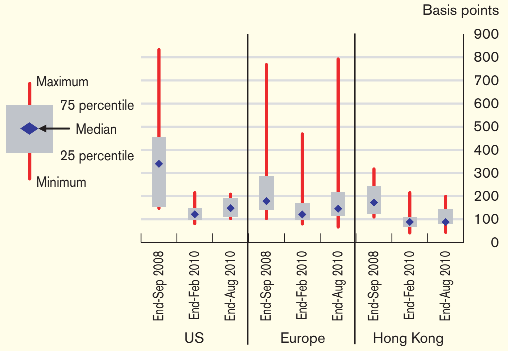
[55] The banking distress index was stated as the multiple default risk index of the banking system in Hong Kong in the previous Reports. For details, see Yu et al. (2006), "Assessing the risk of multiple defaults in the banking system", *HKMA Research Memorandum 06/2006*.

[56] On May 2010, EU and IMF agreed on a €110 billion loan for Greece and the establishment of European Financial Stability Facility totalling €750 billion.

Chart 5.35
The composite financial stress index

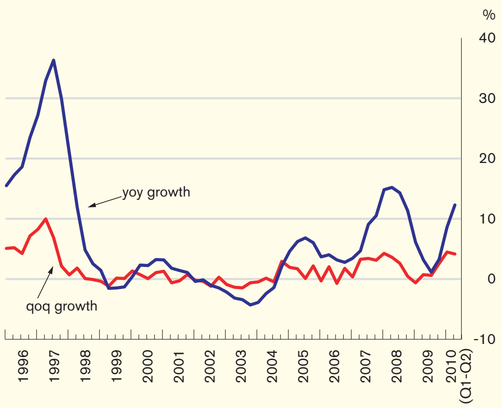
Source: Staff estimates.

Chart 5.36
Credit default swap spreads of banks in the US, Europe and Hong Kong



Source: Bloomberg.

Chart 5.37
Growth of property-related loans



Source: HKMA.

The composite financial stress index[57] declined steadily from its recent peak of 39 around November 2008 and reached 5 in August 2010 (Chart 5.35), close to the mid-2007 level. The decline in the index was mainly brought by the reduced stress in the banking system and the equity market, the two major components of the index.

Credit default swap spreads of banks in Hong Kong remained at a comfortable range (Chart 5.36). However, default risk of European banks increased generally, which could threaten global banking stability given the significant interconnectedness among banking systems (see the assessment in Box 4).

Looking ahead, systemic risk in the Hong Kong banking sector will largely be influenced by the external environment. If a weaker-than-expected recovery of the US economy occurred, the low interest-rate environment would be likely to persist for an extended period and trigger further capital inflows into Hong Kong. This could increase the risk of an overheating asset market in Hong Kong. Historically, persistent increases in asset prices, in particular property prices, are likely to be coupled with increased exposure of banks to asset markets (Chart 5.37), making the banking sector more vulnerable to asset price corrections. Therefore, banks' exposures to different asset markets need to be monitored closely.

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

[57] The composite financial stress index is an average of a set of financial variables covering the major segments of Hong Kong's financial sector. Specifically, these financial variables include the TED spread, inverted term spread, distress index of banking sector, implied volatility of exchange rate, volatility of equity market and sovereign bond spread. For details, see Yiu et al. (2010), "A measure of financial stress in Hong Kong financial market - the financial stress index", *HKMA Research Note 02/2010*.

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

	Jun 2009	Mar 2010	Jun 2010
Interest rate			
1-month HIBOR[2] (quarterly average)	0.16	0.07	0.18
3-month HIBOR (quarterly average)	0.59	0.13	0.25
BLR[3] and 1-month HIBOR spread (quarterly average)	4.84	4.93	4.82
BLR and 3-month HIBOR spread (quarterly average)	4.41	4.87	4.75
Composite interest rate[4]	0.19	0.12	0.20
		Retail banks	
Balance sheet developments[5]			
Total deposits	3.8	0.5	1.3
Hong Kong dollar	7.5	0.4	1.0
Foreign currency	-1.1	0.8	1.8
Total loans	2.8	5.8	7.0
Domestic lending[6]	3.4	5.6	6.7
Loans for use outside Hong Kong[7]	-3.8	8.1	10.4
Negotiable instruments			
Negotiable certificates of deposit (NCD) issued	-14.4	17.3	11.5
Negotiable debt instruments held (excluding NCD)	19.3	2.4	-1.7
Asset quality[8]			
As percentage of total loans			
Pass loans	96.14	97.08	97.50
Special mention loans	2.35	1.72	1.53
Classified loans[9] (gross)	1.51	1.20	0.96
Classified loans (net)[10]	1.01	0.78	0.60
Overdue > 3 months and rescheduled loans	1.05	0.79[r]	0.66
Profitability			
Bad debt charge as percentage of average total assets[11]	0.16	0.04	0.03
Net interest margin[11]	1.56[r]	1.34	1.34
Cost-to-income ratio[12]	45.8	48.2[r]	49.3
Liquidity ratio (quarterly average)	48.2	44.2	40.9
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.05	0.03	0.03
Credit card lending			
Delinquency ratio	0.50	0.32	0.25
Charge-off ratio — quarterly annualised	4.61	2.39	2.31
— year-to-date annualised	4.17	2.39	2.30
		All locally incorporated AIs	
Capital adequacy ratio (consolidated)	16.4	17.0	16.2

Notes:

1. Figures 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 on the HKMA website.
5. Quarterly change.
6. Loans for use in Hong Kong plus trade finance.
7. Including “others” (i.e. unallocated).
8. Figures 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.

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.

Backing Assets/Backing Portfolio

Specific US dollar assets of the Exchange Fund that have been designated to provide backing to the Monetary Base.

Backing Ratio

The ratio between the Backing Assets and the Monetary Base. When the Currency Board Account was first set up, sufficient US dollar assets were transferred to the Currency Board Account to provide a 105% backing of the Monetary Base (the Backing Portfolio). Under a new arrangement approved by the Financial Secretary in January 2000, when the Backing Ratio reaches 112.5% (the upper trigger point), assets will be transferred out of the Backing Portfolio to the Investment Portfolio of the Exchange Fund assets to reduce the ratio to 110%. Conversely, should the ratio drop to 105% (the lower trigger point), assets will be injected from the Investment Portfolio to restore it to 107.5%. This arrangement enables a higher investment return on excess assets while ensuring sufficient liquid assets in the Backing Portfolio.

Best Lending Rate

A benchmark interest rate that banks use to price loans. In Hong Kong, the Best Lending Rate is often 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.

Delinquency Ratio in Negative Equity

Negative equity residential mortgage loans (RMLs) delinquent for more than three months as a percentage of total negative equity RMLs.

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.

Mortgage Loans in Negative Equity

A mortgage loan with the outstanding loan amount exceeding the current market value of the mortgaged property.

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
bn	Billion
BLR	Best lending rate
BoP	Balance of Payments
CBRC	China Banking Regulatory Commission
CCPI	Composite Consumer Price Index
CDS	Credit default swap
CIs	Certificates of Indebtedness
C&SD	Census and Statistics Department
CPI	Consumer Price Index
CU	Convertibility Undertaking
DAX	Deutscher Aktien Index
DSR	Debt servicing ratio
ECB	European Central Bank
EFBN	Exchange Fund Bills and Notes
EU	European Union
FAI	Fixed-asset investment
FDI	Foreign direct investment
GDP	Gross Domestic Product
HIBOR	Hong Kong Interbank Offered Rate
HKD	Hong Kong dollar
HKMA	Hong Kong Monetary Authority
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
mn	Million
MSCI	Morgan Stanley Capital International

NCD	Negotiable Certificates of Deposit
NDF	Non-deliverable forward
NDRC	National Development and Reform Commission
NEER	Nominal effective exchange rate
NIEs	Newly industrialised economies
NIM	Net interest margin
OECD	Organisation for Economic Co-operation and Development
OIS	Overnight index swap
p.a.	Per annum
PBoC	The People's Bank of China
PMI	Purchasing Managers' Indices
PPI	Producer Price Index
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
RMLs	Residential Mortgage Loans
SARS	Severe Acute Respiratory Syndrome
SHIBOR	Shanghai Interbank Offered Rate
SMEs	Small and medium-sized enterprises
S&P 500	Standard and Poor's 500 Index
SSE	Shanghai Stock Exchange
TOPIX	Tokyo Stock Price Index
US	United States
USD	US dollar
VaR	Value-at-risk
yoy	Year-on-year

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