HALF-YEARLY MONETARY AND FINANCIAL STABILITY REPORT

December 2007

This Report reviews statistical information between end-May and end-November 2007.

Summary

The strong growth momentum of the Hong Kong economy in the second and third quarters is expected to continue in the remainder of the year reflecting continued rapid expansion of domestic demand. Inflationary pressure is likely to remain, although rising labour productivity will be a mitigating factor. Despite the turmoil in international financial markets since August, the Linked Exchange Rate system (LERS) has shown remarkable resilience. The Hong Kong Monetary Authority sold Hong Kong dollars for US dollars in the foreign exchange market in late October, and since then the exchange rate has remained well within the Convertibility Zone. However, uncertainty in the world economy is arguably greater now than at any time in the past several years. The outlook for the economy for the coming year is, therefore, subject to higher than usual margins of error. The most likely scenario suggests a modest slowdown in real GDP growth in Hong Kong and a moderate increase in inflation.

Hong Kong's GDP grew by 6.2% year on year during the third quarter. Private consumption growth continued to be the main driver, helped by further improvements in labour market conditions and buoyant asset markets. Reflecting weakening external demand, merchandise exports slowed markedly, whereas exports of services held up well growing at double-digit rates.

Labour market conditions continued to improve, with the seasonally adjusted three-month moving-average unemployment rate declining to 3.9% in October, the lowest since mid-1998. The tightening in the labour market helped boost labour earnings, with data for the first half of the year pointing to rapid increases in both nominal wage growth and payroll per person. Despite the rapid increase in nominal payroll, however, the growth in unit labour costs was contained because of the sustained strong increase in labour productivity.

Inflationary pressures continued to rise reflecting vigorous expansion in domestic demand and higher basic food prices. After netting out the effect of government rates concessions, inflation measured by the composite consumer price index increased to 3.3% in the third quarter from 2.7% in the second, both measured on an annualised quarter-to-quarter basis. Various indicators point to rising inflation. For example, the personal consumption expenditure deflator was up 4.4% in the third quarter relative to the same quarter last year. In addition, cost pressures from higher rents might be more visible in 2008 as lower mortgage rates and buoyant property market transactions are expected to boost property prices for the rest of the current year. This may translate into higher housing rents.

After depreciating for much of the first half of the year, the Hong Kong dollar started to appreciate from early August. From a low of 7.8295 on 3 August the dollar rose rapidly during the subsequent two and a half months. On 23 October it touched the strong-side Convertibility Undertaking (CU) of 7.75 leading the Hong Kong Monetary Authority to intervene in the foreign exchange market through purchases of United States dollars for Hong Kong dollars. Further interventions were carried out on 26 and 31 October, after which the exchange rate started to weaken again, closing at 7.7908 at the end of November.

Despite the need to intervene in the foreign exchange market and the increased volatility in short-term Hong Kong dollar interest rates in October and November, the LERS performed remarkably well. This covered the period of stress in international financial markets triggered by the sub-prime mortgage problems in the United States and the subsequent general tightening in credit markets. The performance of the LERS testifies to the substantial credibility the system has gained since the introduction of the "three refinements" in May 2005.

Chapter 3 of the report examines the state of the banking system, which shows that retail bank profitability, as measured by pre-tax operating profits relative to assets, continued to improve. Profitability was supported by strong growth in both net interest income and non-interest income, partly boosted by share-related earnings. The aggregate consolidated capital adequacy ratio of locally incorporated authorized institutions stood at 13.6% at the end of September, well above the minimum international standard of 8%.

Underpinned by the strength of the domestic economy, the asset quality of retail banks improved further since the *June Report*. The proportion of classified loans and that of overdue and rescheduled loans continued to fall. Banks' exposure to household mortgage credit risk declined as the rebound in property prices strengthened household balance sheets. Likewise, the various indicators of credit risk in the corporate sector also remained healthy.

Interbank liquidity tightened generally from August onwards, largely due to the disruption in global credit markets as a result of the sub-prime mortgage problems in international markets and IPO activities. Although liquidity conditions appear to have eased and stabilised since late October following the interventions by the HKMA, they need to be closely monitored given rising volatilities in global financial markets. Banks should also be aware of the possible risk of a sharp correction in stock prices, given their increasing exposure to share-related lending and incomes.

The macroeconomic outlook for 2008 is discussed in Chapter 4 together with an assessment of the major associated risks. The outlook for Hong Kong depends critically on the evolution of the external environment, particularly the growth rate of our main trading partners and, given the link to the US dollar, the monetary policy of the US Federal Reserve. With the current turmoil in financial markets, the degree of uncertainty surrounding the baseline outlook for the coming year is unusually high. However, the central consensus forecast for the Hong Kong economy points to a modest slowdown in real GDP growth to slightly above 5%, from the rate of around 6% likely to be recorded for 2007, and an increase in inflation to 3.3%.

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

Half-Yearly Monetary and Financial Stability Report
December 2007

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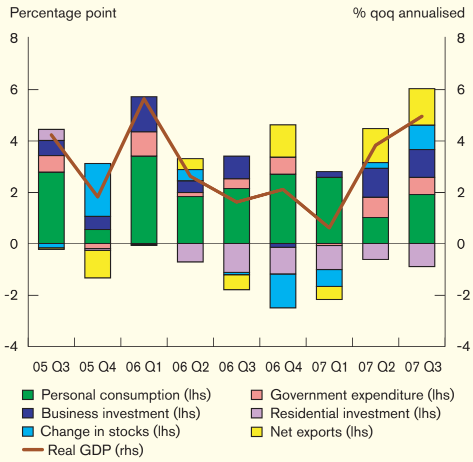
1. Global and regional setting

External environment

Despite increased uncertainty in the global economy following the financial turbulence in August and September, growth in the US accelerated unexpectedly in the third quarter. The euro area and Japan also saw a rebound from their disappointing second quarter performance. With external demand holding up, growth in East Asia remained firm, albeit at a slower pace. But, recent indicators show signs of slowing in the major economies.

Chart 1.1
US: contributions to GDP growth



Source: Bureau of Economic Analysis.

1.1 United States

After four consecutive quarters of weak growth, the US economy witnessed a strong rebound from the previous report, with real GDP growth increasing to 3.8% and 4.9% in Q2 and Q3 respectively.[1] Growth has also been more balanced in Q3, with a recovery in capital spending, resilient private consumption and narrowing trade deficits more than offsetting the continued drag from home construction (Chart 1.1). Supported by strong corporate earnings, growth in business spending picked up, surging to 11.0% in Q2 before moderating to 9.4% in Q3. Despite the continued housing slump and credit market turmoil that started this summer, consumer spending growth held up well after a slowdown in Q2, contributing 1.9 percentage points to the overall growth in Q3. Export growth surged to a four-year high of 18.9% in Q3, boosted by robust global demand and a depreciating US dollar, while imports rose by 4.3% following a decline in Q2. Consequently, the US current account deficit narrowed to 5.5% of GDP in Q2, compared with 6.2% in 2006.

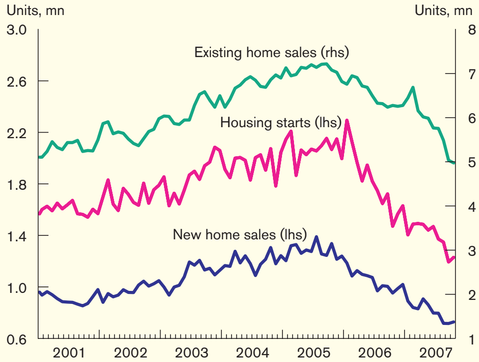
[1] For the US, the euro area, the UK, Japan and Non-Japan Asia (ex-Mainland China), all quarterly real GDP percentage changes are on a seasonally adjusted annualised basis, unless otherwise stated.

Table 1.A
US: monthly indicators of activity

	Jun	Jul	Aug	Sep	Oct	Nov
Manufacturing PMI	56.0	53.8	52.9	52.0	50.9	50.8
Non-manufacturing PMI	60.7	55.8	55.8	54.8	55.8	54.1
Industrial production (% 3m-on-3m)	0.9	0.8	1.1	1.1	0.7	n.a.
Durable goods orders (% 3m-on-3m)	3.6	3.1	2.6	2.1	-2.0	n.a.
Core capital goods orders[1] (% 3m-on-3m)	3.1	1.4	0.1	0.8	0.9	n.a.
Retail sales (% 3m-on-3m)	1.3	1.4	0.6	0.9	0.7	n.a.
Real personal consumption expenditure (% 3m-on-3m)	0.3	0.4	0.6	0.7	n.a.	n.a.
Real disposable income (% 3m-on-3m)	0.1	0.2	0.7	1.1	n.a.	n.a.
Change in nonfarm payroll (thousand persons)	69	93	93	96	166	n.a.
Unemployment rate (%)	4.5	4.6	4.6	4.7	4.7	n.a.
Consumer confidence (index)						
Conference Board	105.3	111.9	105.6	99.5	95.2	87.3
Job prospects[2]	7.1	11.3	7.8	3.2	1.3	n.a.
University of Michigan	85.3	90.4	83.4	83.4	80.9	76.1

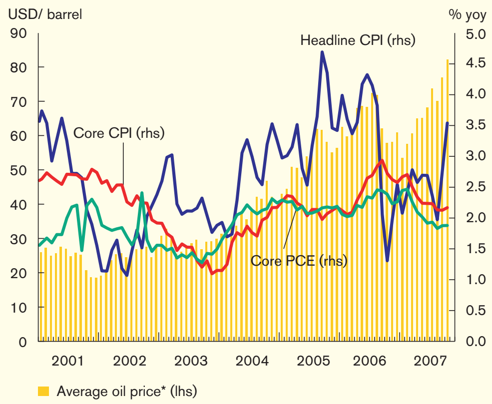
Note 1: Non-defence capital goods orders excluding aircraft.
2: Jobs plentiful less jobs hard to get.
Source: Bloomberg.

Chart 1.2
US: Housing market activity indicators



Sources: US Department of Commerce and US Department of Housing and Urban Development.

Chart 1.3
US: Headline and core inflation[1]



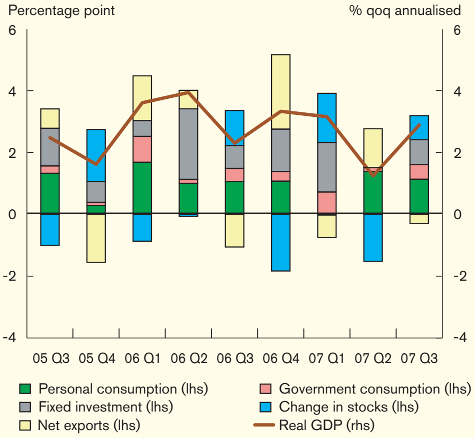
1. Excluding food and energy.
* Simple average of WTI, Brent and Dubai oil prices.

Sources: U.S. Department of labour and Bloomberg.

On balance, monthly data suggest that while the growth performance in Q3 has surprised on the upside, the pace of expansion is likely to slow in the fourth quarter, reflecting the continuing housing correction and likely weaker household consumption (Table 1.A). The sub-prime problems have deteriorated significantly since the last Report, spreading from the mortgage market to the credit market in general. Amid rising defaults and tightening lending standards, housing indicators continued to deteriorate in October, showing little sign of a turnaround in the near term (Chart 1.2). While US consumers have shown remarkable resilience in the face of the severe housing downturn, there are increasing risks that the housing woes will have an adverse impact on consumer spending. Retail sales growth edged down to 0.7% three month on three month in October and the unemployment rate crept up to 4.7%. The continued surge in oil prices could further weigh on household spending and consumer sentiment, with the latter plunging to a multi-year low in November. Looking ahead, while the Fed's pre-emptive rate cuts in September and October should help contain risks to a significant growth slowdown, economic activities are likely to moderate. It appears increasingly likely that the housing correction and the financial market turmoil will spill over to the broader economy.

The outlook for inflation became less certain towards the end of the year. While inflationary pressures have been broadly under control since the last Report, the pass-through from higher gasoline prices and the weaker US dollar pose risks to inflation. Reflecting surging gasoline prices and higher food prices, the headline CPI inflation rose from 2.0% in August to 2.8% and then to 3.5% in September and October respectively (Chart 1.3). On the other hand, the year-on-year core CPI inflation continued to decline in Q2, reaching 2.1% in September before rising to 2.3% in October. Core PCE inflation, the Fed's preferred price gauge, has remained below 2% since June.

Chart 1.4
Euro area: contributions to GDP growth



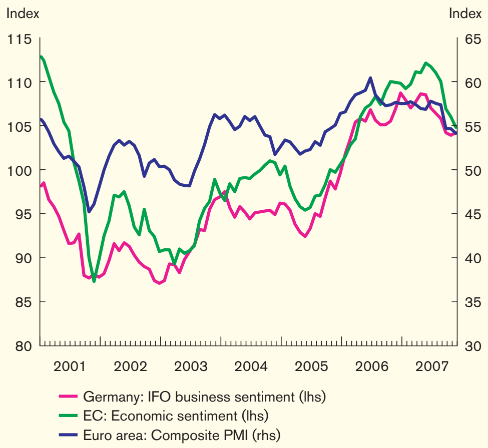
Source: Eurostat.

Table 1.B
Euro area: survey indicators of activity

(Index)	Jun	Jul	Aug	Sep	Oct	Nov
Composite PMI	57.8	57.5	57.4	54.7	54.7	54.1
Manufacturing PMI	55.6	54.9	54.3	53.2	51.5	52.8
Services PMI	58.3	58.3	58.0	54.2	55.8	54.1
European Commission survey						
Economic sentiment	111.7	111.0	110.0	106.9	106.0	104.8
Industrial confidence	6.0	5.0	5.0	3.0	2.0	3.0
Orders component	7.0	6.0	7.0	3.0	1.0	2.0
Consumer confidence	-2.0	-2.0	-4.0	-6.0	-6.0	-8.0
ZEW economic sentiment	19.0	7.2	-6.1	-20.3	-19.0	-30.0
Germany IFO						
(business climate)	107.0	106.4	105.8	104.2	103.9	104.2

Sources: Bloomberg and Reuters.

Chart 1.5
Euro area: economic sentiment indicators and the PMI



Sources: Bloomberg, Reuters, and European Commission.

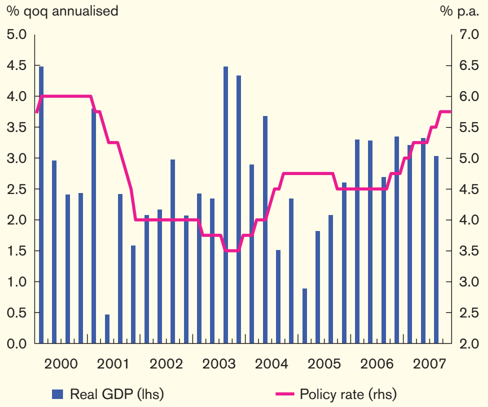
1.2 Euro area and UK

Euro-area economic growth picked up in Q3 after an unexpectedly sharp slowdown in the second quarter, with real GDP growth rising to 2.9%, compared with 1.2% in Q2. The expansion was led by healthy consumer spending, a rebound in business investment, and a build-up in inventory (Chart 1.4). Both Germany and France staged a strong rebound, growing by 2.8% and 2.9% respectively, and growth in Italy also increased to 1.5%.

While growth in business investment was flat in Q2, sustained corporate earnings and profitability supported a solid rebound of 3.7% in Q3. Household spending growth held up well, helped by continued improvement in employment conditions as reflected in the gradual decline in the unemployment rate. Despite the substantial appreciation of the euro, export growth rose strongly to 10.2% in Q3. However, as imports grew at an even stronger pace, net trade made a negative contribution to overall growth. Looking ahead, confidence indicators have shown continued and considerable decline since June, and euro-area composite PMI also fell to a two-year low in November, suggesting that the economy is likely to slow going forward, against the background of uncertain external demand, tighter domestic lending conditions, continued euro appreciation, and higher oil prices (Table 1.B, and Chart 1.5).

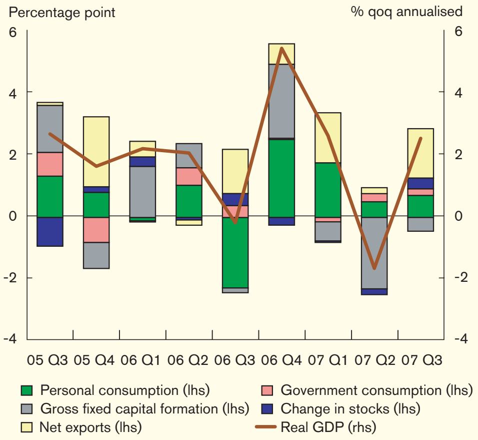
Inflationary pressures remained high in view of rising capacity utilisation and tightening labour market conditions. While the headline HICP inflation stayed below the ECB's ceiling of 2% for its inflation target for the 12 months to August, the core HICP inflation has been around 1.9% since February, compared with the 1.4% average in 2006. The recent surge in energy and food prices, together with unfavourable base effects from last year's oil price declines, pushed headline HICP inflation to 2.6% in October, and it is likely to stay above 2% into 2008.

Chart 1.6
UK: Real GDP growth and interest rates



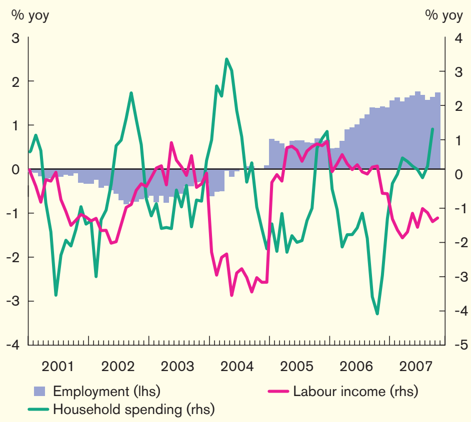
Sources: UK National Statistics and Bank of England.

Chart 1.7
Japan: contributions to GDP growth



Source: Cabinet Office of Japan.

Chart 1.8
Japan: employment, labour income and household spending



Sources: Ministry of Health, Labour and Welfare.

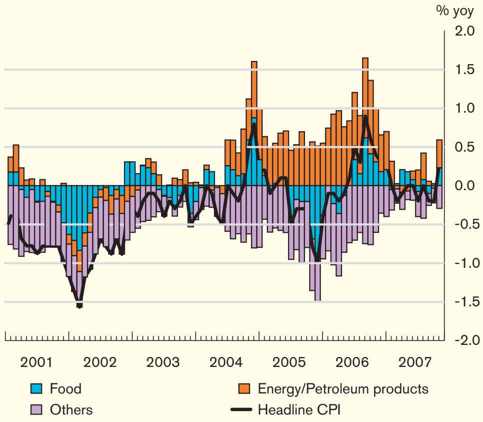
The UK economy continued to grow at a solid pace since the last Report, with real GDP growth rising to 3.3% in Q2 before moderating to 3.0% in Q3 (Chart 1.6). The expansion in the third quarter was led by robust domestic demand, with consumer spending picking up and business investment registering a strong rebound. As the effects of the US sub-prime mortgage market have spread to the UK financial sector and the policy rate has stayed at a six-year high, growth is likely to slow in Q4 amid credit market tightening and rising costs of borrowing. Inflationary pressures have receded since the last Report, although risks remain. The headline CPI inflation declined gradually from the record high of 3.1% in March, to 1.8% year on year in Q3 before edging up to 2.1% in October.

1.3 Japan

In Japan, real GDP growth increased to 2.6% in 2007 Q3 from a 1.6% contraction in the previous quarter, supported by robust net exports (Chart 1.7). However, strong net exports also reflect weaker domestic demand and thus imports, which cast doubt on the sustainability of economic growth into next year. With sluggish wage growth and an increasing unemployment rate, the weakness in consumer demand is expected to continue (Chart 1.8).

Manufacturing activities strengthened in Q3. On a quarter-on-quarter comparison, industrial production rose by 2.3%. The latest Bank of Japan's quarterly *Tankan* survey showed that, despite the large swing in the global financial markets during August and September and the increasing uncertainty of US economic growth in the near term, the confidence of large manufacturers remained positive in September with expanding investment plans into 2008. This partly reflects the increasing importance of external demand from the euro area and the rest of Asia where growth continues to hold up well.

Chart 1.9
Japan: contributions to consumer price inflation



Sources: Ministry of Internal Affairs and Communications and staff estimates.

Merchandise exports registered solid growth in Q3, increasing by 5.5% quarter on quarter (in US dollar terms) after growth of 1.4% in the previous quarter, despite shrinking import demand from the US. Exports to Mainland China and other emerging economies grew solidly.

Inflationary pressure eased in Q3 against a backdrop of sluggish consumer demand. Headline CPI registered a 0.3% year-on-year change in October, while excluding fresh food and energy, the CPI decreased by 0.3% (Chart 1.9). The fall was largely due to a decline in the prices of non-food commodities, including housing utensils and recreation. The soft inflation data suggest the probability of an interest rate rise by the Bank of Japan in the near term remains low.

1.4 *Other Asia (ex-Mainland China)*

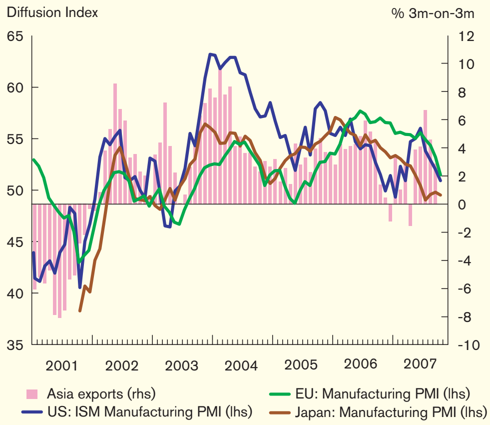
Table 1.C
East Asia: real GDP growth

(% qoq, annualised)	06Q2	06Q3	06Q4	07Q1	07Q2	07Q3
NIE:	**2.3**	**6.2**	**3.9**	**4.5**	**6.8**	**8.9**
Korea	3.2	5.0	3.8	3.6	7.4	5.4
Singapore	5.4	3.9	7.9	9.1	14.5	4.3
Taiwan[1]	0.1	8.7	3.2	4.9	4.2	15.8
ASEAN:	**5.0**	**6.7**	**6.7**	**4.2**	**6.4**	**7.3**
Indonesia[1]	5.1	9.6	8.8	0.7	6.5	10.3
Malaysia[1]	5.4	5.8	5.2	4.9	7.1	9.4
Philippines	5.0	4.7	7.0	10.6	7.4	1.1
Thailand	4.6	4.0	3.7	4.4	5.2	6.3
East Asia:	**3.8**	**6.5**	**5.4**	**4.3**	**6.6**	**8.1**

Note 1: Staff estimates.
Sources: CEIC and staff estimates.

In the rest of East Asia, economic growth in Q3 remained firm. Real GDP for the region rose by 8.1% in Q3, compared with 6.6% in the previous quarter.[2] Growth in Korea, Singapore and Taiwan averaged 8.9%, while Indonesia, Malaysia, the Philippines and Thailand grew by an average rate of 7.3% (Table 1.C).

Chart 1.10
East Asia: exports and the PMI in the US, the euro area and Japan

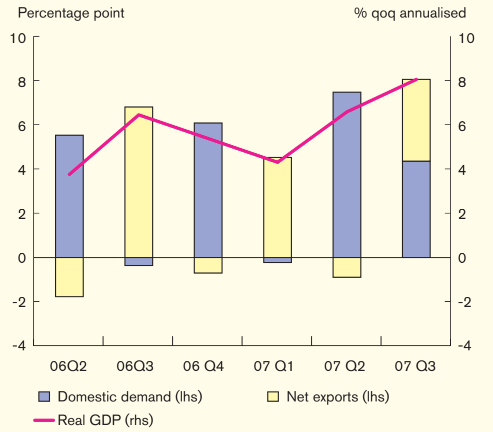


Sources: CEIC, Reuters, Bloomberg and staff estimates.

Exports softened in Q3, due to weak import demand from the US, although Mainland China and other emerging economies are becoming more important export markets for the region (Chart 1.10). On the back of robust intra-regional demand, growth in industrial production remained steady in Q3. Nevertheless, the effects of a slowdown in the US economy continue to cast doubt on the sustainability of such buoyant

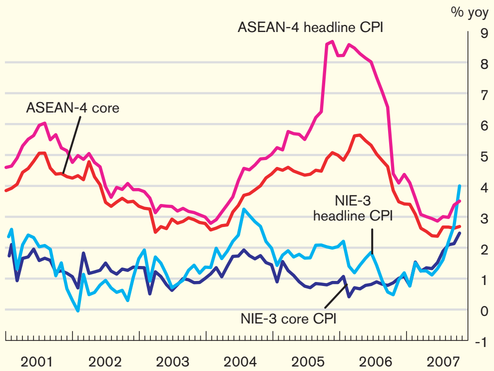
2 Aggregate real GDP growth for Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand, which is weighted by the GDP of the respective economies in 2006 valued at PPP exchange rates.

Chart 1.11
East Asia: contributions to GDP growth



Sources: CEIC and staff estimates.

Chart 1.12
East Asia: headline and core CPI inflation[1]



Note 1: Simple average.
Sources: CEIC and staff estimates.

production growth in the region. Domestic demand remained strong in Q3, following robust expansion in the previous quarter (Chart 1.11).

Inflationary pressure increased in most Asian economies in October, due to rapidly rising energy and food prices which gradually fed through to other prices and wages. In Korea, Singapore and Taiwan, the year-on-year headline CPI inflation increased to an average rate of 4% in October from 1.3% in June (Chart 1.12). Headline inflation in Indonesia, Malaysia, the Philippines and Thailand also rose to an average of 3.5% during the same period. The rising energy and food prices point to increasing inflationary pressure in the region.

Mainland China

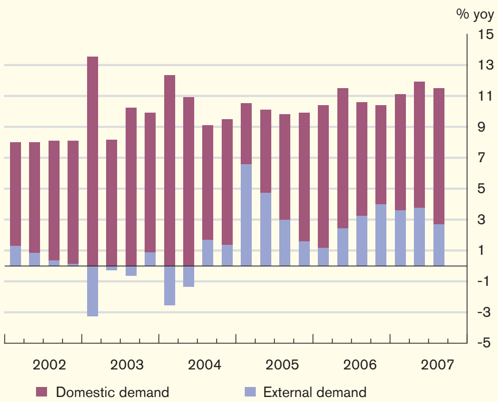
Growth momentum has remained strong, headline consumer price inflation has risen sharply, and trade surpluses have continued to stay at record high levels. The authorities have increased the frequency of monetary policy response, but its effectiveness remains uncertain. In an environment of increasing food, commodity, and energy prices, inflation expectations are likely to rise in the absence of a more decisive policy package or a sharp slowdown of the global economy.

1.5 Output growth, external trade and inflation

Output growth

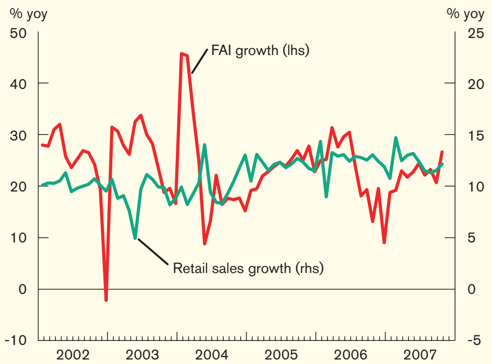
Real GDP growth softened slightly to 11.5% year on year in 2007 Q3, 0.4 percentage points below that of the previous quarter. The seasonally adjusted quarter-on-quarter growth also moderated by 2.5 percentage points from Q2. Compared with the previous two quarters, the contribution from external demand to growth declined by about one percentage point (Chart 1.13). The growth in fixed assets investment (FAI) and retail sales was broadly stable (Chart 1.14), although year-on-year growth in FAI in sectors such as construction, electricity, gas, and water declined by more than seven percentage points, compared with the previous quarter. Austerity measures to rein in rapid expansion in investment and declining profit growth may have contributed to the softening of investment activities in these sectors.

Chart 1.13
Mainland China: real GDP growth and the contribution from domestic and external demand



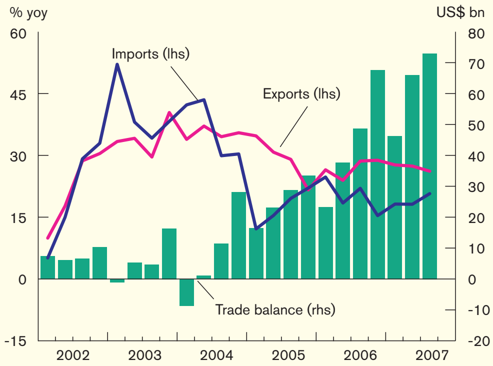
Note: Real external demand is proxied by the merchandise trade balance adjusted by the GDP deflator.
Sources: CEIC and staff estimates.

Chart 1.14
Mainland China: real growth in FAI and retail sales



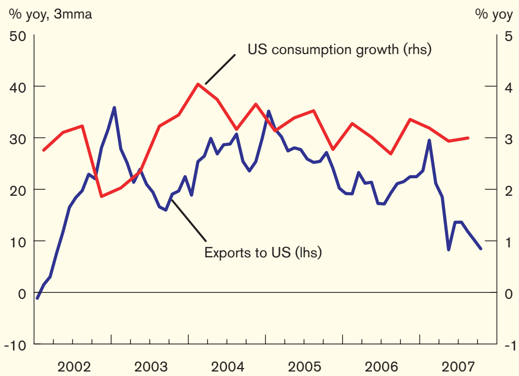
Sources: CEIC and staff estimates.

Chart 1.15
Mainland China: external trade



Sources: CEIC and staff estimates.

Chart 1.16
Mainland China: the US consumption and imports from China



Note: The US imports from China include Hong Kong's re-exports.
Sources: CEIC and staff estimates.

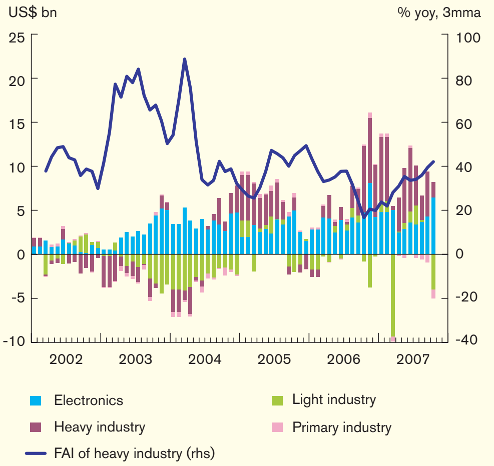
External trade

Exports rose by 26.2% year on year in the third quarter, slightly slower than Q2 (Chart 1.15). Latest data show that the reductions in export tax rebates implemented as far back as January 2004 may have had a visible impact on exports recently. In September, for example, the year-on-year growth in exports subject to tax rebate cuts fell by more than seven percentage points from that of the first eight months.

Growth moderation in China's key trading partners may have also reduced demand for Chinese exports. As shown in Chart 1.16, there seems to be a notable correlation between the US consumption growth and its imports from China. In particular, exports of machinery and transport equipment, miscellaneous manufacturing articles, and manufactured goods seem to be mostly affected by US economic growth. Nevertheless, as the relative importance of the US market declined sharply from about 35% in 2001 to around 22% in 2007 Q3, the Mainland economy has become much less dependent on the US market.

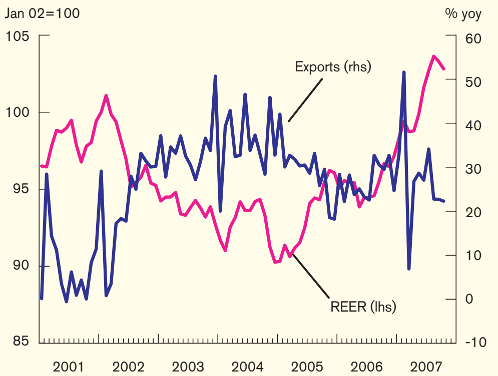
Imports rose by 20.8% year on year in Q3, 2.5 percentage points higher than in Q2. Import growth rose further to 25.5% in October. Despite the recent narrowing between export and import growth, the trade surplus reached a historic high of US$73.1 billion in Q3.

Chart 1.17
Mainland China: trade balance across industries and FAI growth in heavy industry



Sources: CEIC and staff estimates.

Chart 1.18
Mainland China: REER and exports growth



Note: An increase in the REER implies an appreciation of the renminbi.
Sources: CEIC and staff estimates.

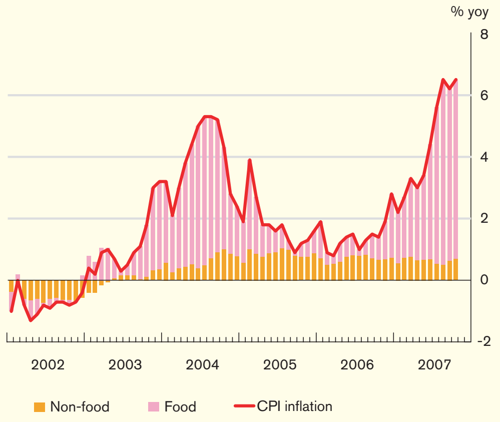
Table 1.D
Mainland China: exports elasticity across sectors

Products	Elasticity	t-st.
Office machinery and ADP	1.34*	2.06
Furniture manufacturing	0.96*	2.85
Textile industry	0.89*	2.09
Electrical machinery	0.87*	1.95
Garment and other fibre products	0.50*	1.41
Metallic mineral manufactures	0.10*	0.29
Electrical machinery and apparatus	0.33	0.64
Leather, fur and related products	0.56	0.59
Rubber products	0.58	1.02
Plastic products	1.73	1.37
Ordinary trade	0.93*	1.88
Processing trade	0.05*	0.18

Note: The elasticity is estimated by regressing the year-on-year growth in exports on the year-on-year growth in the REER of the renminbi and the export-weighted average of GDP growth in the Mainland's 10 largest export markets. The products listed in the above table are those with the 10 largest export-dependence ratios. Estimation is undertaken with quarterly data of 1995 Q1 – 2007 Q2. The numbers with * are in absolute terms.
Sources: CEIC and staff estimates.

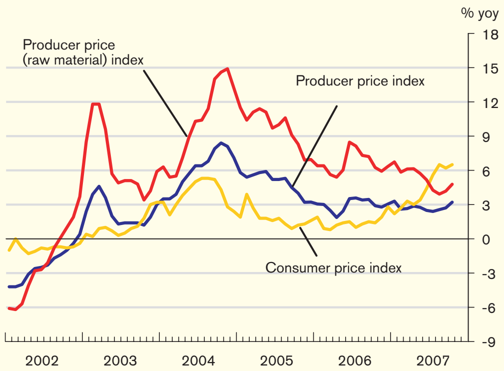
Looking ahead, the size of the trade balance is likely to depend on how the pattern of domestic investment evolves, the path of the renminbi real effective exchange rate (REER), and the strength of external demand. The declining growth in imports since 2004 might be explained by the increasing capability of Chinese industries to substitute imports in general. Trade surpluses in heavy industry increased significantly following investment booms in this sector (Chart 1.17). As investment in this sector has greatly increased domestic production capacity, the need for imports has declined. An appreciation of the REER is likely to play a positive a role in restraining China's exports (Chart 1.18). The effect of the renminbi REER, however, varies considerably across different products (Table 1.D). Generally, exports in ordinary trade (i.e., exports largely relying on domestic content) have been relatively elastic to changes in the renminbi REER, while exports in processing trade (i.e., exports mostly relying on imported intermediate products) seem to be much less elastic to REER changes.

Chart 1.19
Mainland China: contributions to CPI inflation



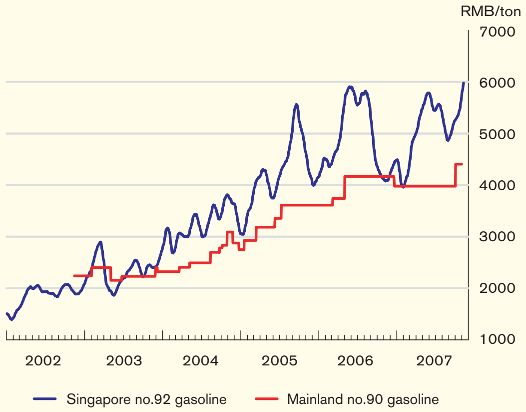
Sources: CEIC and staff estimates.

Chart 1.20
Mainland China: price indicators



Source: CEIC.

Chart 1.21
Mainland China: domestic and international oil prices



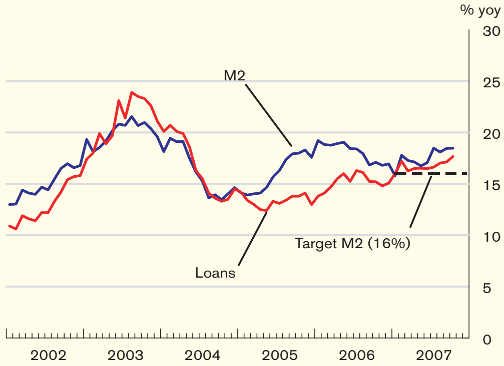
Sources: www.oilchem.net and Bloomberg.

Inflation

Headline CPI inflation rose sharply in Q3 and touched an 11-year high of 6.2% year on year (Chart 1.19), 3.6 percentage points above that in Q2. It continued to rise in October, reaching 6.5% after a temporary moderation in September. The surge in CPI inflation was mostly driven by rising food prices (pork and fresh vegetable prices in particular). On the other hand, the year-on-year non-food price inflation was around 1%. The PPI inflation also remained benign, partly due to the fall in raw materials prices inflation in recent quarters (Chart 1.20). There is some uncertainty about the extent to which food price increases in China reflect international food price developments, and to what extent they reflect supply constraints or demand pressures. Nevertheless, if rising food prices continue for an extended period, more general inflation expectations are likely to become stronger and lead to increases in other prices and wages, given the importance of food expenditure in the consumption basket.

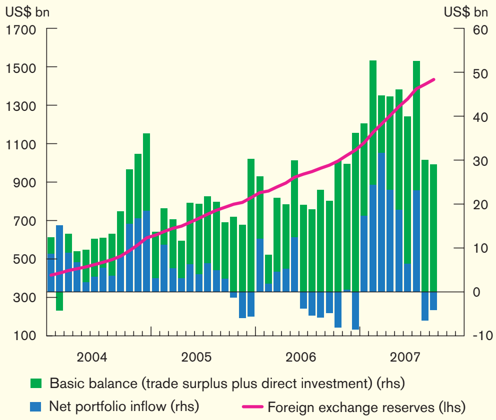
Energy prices have also been rising. The National Development and Reforms Commission raised refining oil prices by about 8% at the end of October to address the shortage of fuels. The noticeable gap between domestic and international oil prices (Chart 1.21) and China's increasing dependence on oil imports suggest that the domestic energy price may continue to move upwards. In addition, the expected stricter enforcement of environmental standards, coupled with rising industrial wages, point to a likely rise in the cost of industrial production.

Chart 1.22
Mainland China: growth in M2 and financial institution loans



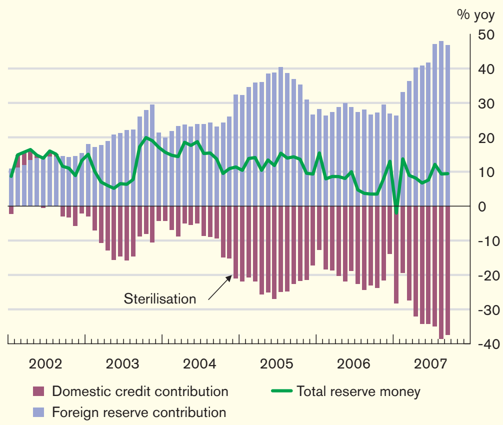
Sources: CEIC and staff estimates.

Chart 1.23
Mainland China: external capital inflows



Sources: CEIC and staff estimates.

Chart 1.24
Mainland China: contribution to reserve money growth



Note: Total reserve money is adjusted for increases in the reserve requirement ratio.
Sources: CEIC and staff estimates.

1.6 Monetary conditions, asset prices and the renminbi exchange rate

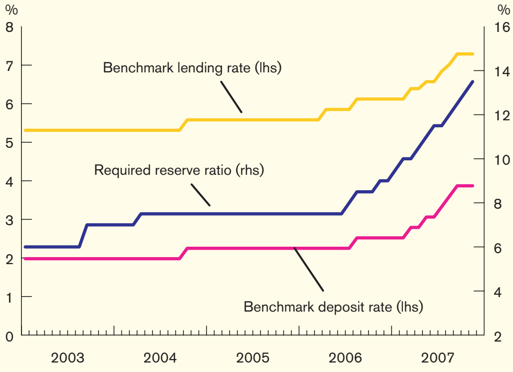
Monetary conditions

M2 expanded well above the 16% target set by the PBoC for the year, registering a year-on-year growth of 18.5% in Q3, higher than 17.3% and 17.1% for 2007 Q1 and Q2 respectively. Meanwhile, loan growth of financial institutions also rose by 17% in Q3 year on year (Chart 1.22).

Foreign exchange reserves reached US$1,433 billion at the end of September. In the third quarter, a net amount of US$101 billion was added to the reserves. The trade surplus, representing 83% of basic balance (trade surplus plus FDI), was the major contributor to the net foreign reserve increases in 2007 Q3. Although the net portfolio inflows played an important role in contributing to the accumulation of reserves in the first half of the year, the net inflows turned negative in August and September (Chart 1.23).

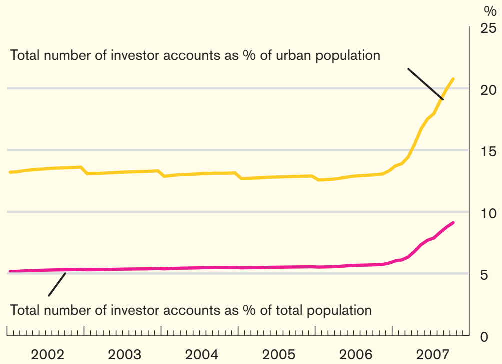
Despite rapidly rising foreign exchange reserves, their impact on the growth of reserve money remains limited. The net capital inflows were mostly sterilised by the PBoC through open market operations and higher reserve requirements (Chart 1.24). Growth in reserve money has been stabilised to around 10% so far this year after adjusting for the increase in the reserve requirement ratios for commercial banks.

Chart 1.25
Mainland China: RRR and benchmark interest rates



Source: CEIC.

Chart 1.26
Mainland China: stock market penetration



Sources: CEIC and staff estimates.

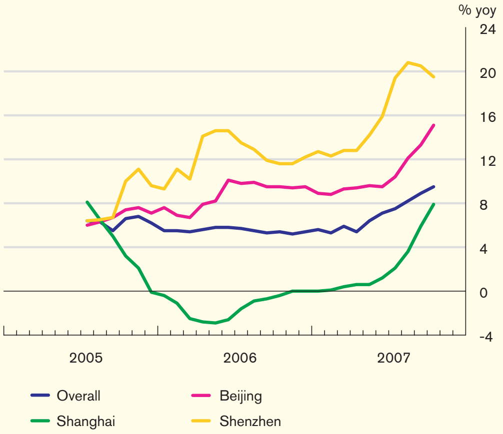
The PBoC used a suite of policy instruments to rein in credit expansion. Indeed, policy interventions – measured by the changes in the reserve requirement ratio (RRR), lending and deposit rates – have occurred 19 times so far this year (Chart 1.25). The RRR was raised to 13.5%, a 10-year high, in October 2007. The one-year policy lending and deposit rates reached 7.29% and 3.87%, respectively. As inflation risks remain high, more monetary policy tightening measures will probably be required in the near term. However, if the risks of a sharp economic slowdown in China's major trading markets materialise, the need for further monetary tightening may become uncertain.

Asset prices

Amid higher volatility, share prices have shown signs of stabilising, although market valuation remained high. The Shanghai Stock Exchange Composite Index briefly reached the 6,000 level in 2007 Q3 with a record high Price/Earning ratio at a daily average of 53.5. From its peak on 16 October, the index then declined by 20% and closed at about 4,870 at the end of November. Overall, the Shanghai Stock Exchange Composite Index grew by 45.3% in Q3 and by 82.1% from January to November 2007.

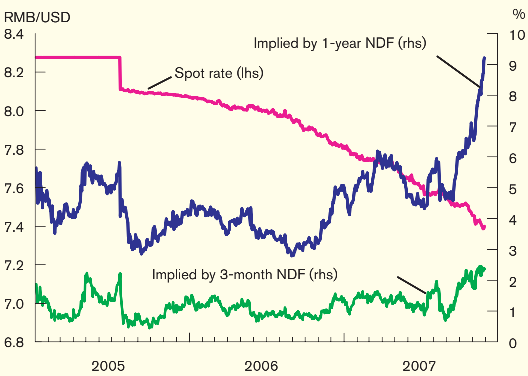
The stock market in China has become an important place for households to invest their savings and for firms to raise capital. Stock investment has quickly spread to a large segment of the population. In October 2007, potentially one in five city dwellers had an account for stock trading. The market participation ratio for the total population in China reached 9%, up by three percentage points since January 2007 (Chart 1.26). This may have larger economic implications due to market fluctuations. During the same period, funds raised through IPO and rights issues reached RMB538.2 billion, compared with a RMB3,537.2 billion increase in bank loans. Free float market capitalisation of China's two stock exchanges increased to 40.3% of GDP and represented 22% of broad money in October, up by 13 percentage points since January 2007.

Chart 1.27
Mainland China: housing prices in major Chinese cities



Source: CEIC.

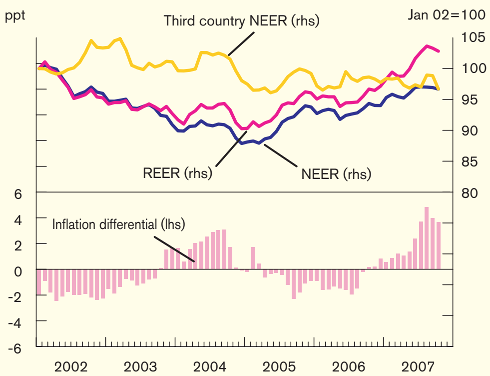
Chart 1.28
Mainland China: spot rate and expected appreciation of renminbi



Note: The expected rate of appreciation of the renminbi is calculated as the percentage difference between the spot rate and the non-deliverable forward rate.

Sources: Bloomberg and staff estimates.

Chart 1.29
Mainland China: REER, NEER, and inflation differential between the Mainland and its trade partners



Note: The third-country NEER reflects China's external competitiveness in a third market. The methodology of constructing the third-country effective change rate is presented in Box 2 of the December 2006 report.

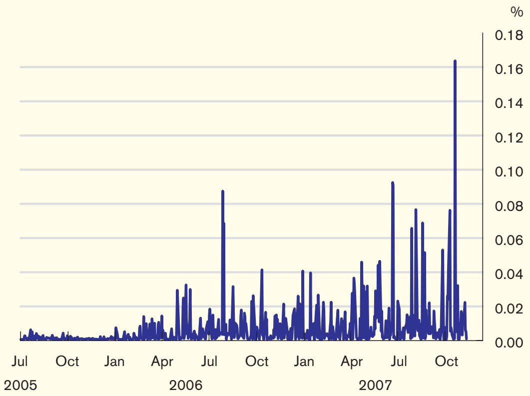
Sources: CEIC and staff estimates.

Alongside the booming stock market, property prices nationwide increased by nearly 9% year on year in 2007 Q3 (Chart 1.27), despite the recent rise in the down payment requirement by the PBoC for residents acquiring a second home. The rises in Beijing and Shenzhen were particularly rapid. Although the causality is not clear, it appears the booming property market coincides with the booming stock market.

The renminbi exchange rate

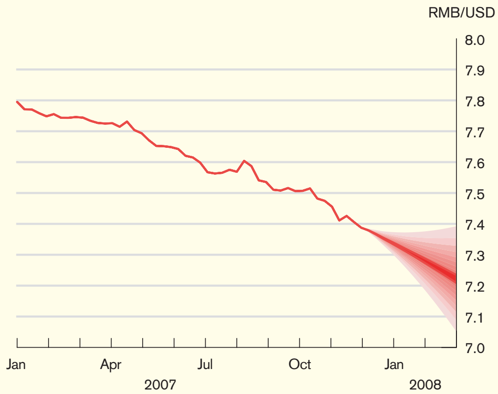
The renminbi spot rate has appreciated against the US dollar by about 5.4% since January 2007, compared with an annual appreciation of 3.4% in 2006 (Chart 1.28). Since the reforms in July 2005, the RMB/USD spot rate has appreciated by more than 10%. Meanwhile, the pace of appreciation in the renminbi REER has also quickened due to rapidly rising domestic consumer price inflation. The REER has appreciated by 4.6% by the end of October since January 2007, while the nominal effective exchange rate (NEER) appreciated by only 1.4% over the same period, with the third-country NEER remaining largely steady (Chart 1.29).

Chart 1.30
Mainland China: RMB volatility



Sources: Bloomberg and staff estimates.

Chart 1.31
Mainland China: fan chart forecasting of exchange rate



Note: Forecast is done with $y_t=\phi_0+\Sigma_{l=1}^{4}\phi_l y_{t-l}+\varepsilon_t$, which features 4 lags of the exchange rate capturing the dynamics.

Sources: Bloomberg and staff estimates.

The volatility of the RMB/USD exchange rate increased markedly during the third quarter of 2007, compared with the first two quarters (Chart 1.30). While the widening of the trading band on 18 May was expected to increase the volatility, the daily changes mostly remained within 0.3%.

Looking ahead, the renminbi exchange rate may continue its gradual appreciation. Using the data from January to November and projecting forward, the RMB/USD exchange rate is likely to fall between 7.34 and 7.31 by the end of 2007, in line with market forecasts. The renminbi exchange rate may ease below the 7.20 mark against the US dollar by early March 2008, which is again roughly in line with market expectations (Chart 1.31).

1.7 Policy response

During the review period, the Mainland authorities have continued their gradual approach to addressing the challenges to macroeconomic and financial stability. They have increased the frequency of monetary policy response, started to encourage both official and private capital outflows, allowed a faster appreciation of the exchange rate, and tightened administrative measures to prevent the rapid rise of the property market. However, the authorities appear reluctant to increase the strength of price-based policy measures, and are likely to resort to administrative measures if overheating pressures become more acute. Indeed, the China Banking Regulatory Commission (CBRC) has reportedly imposed a lending freeze on commercial banks in the fourth quarter to contain overheating pressures.

While the PBoC has shown its willingness to respond swiftly to changing monetary conditions, its room for policy manoeuvring has become more limited. With the risk of rising inflation expectations, deposit rates will need to be raised further to stabilise money demand. However, the limited tolerance for nominal exchange rate appreciation may constrain the PBoC's ability to raise interest rates. The recent cuts in the US Fed policy rate by 75 basis points will make capital inflows through carry trade more attractive and raise the cost of sterilisation operations because of the declining interest rate differentials between the US and China. As illustrated in Box 1, the renminbi exchange rate could be used more flexibly to help tighten monetary conditions.

The authorities have made important progress in encouraging both official and private capital outflows. The much discussed China Investment Corporation was formally set up on 29 September with a registered capital of US$200 billion to invest in foreign assets. The purpose of the first Chinese sovereign wealth fund is to encourage orderly outflows of capital from China, relieve the sterilisation burdens of the central bank, and improve returns on foreign exchange reserves. Plans have also been made to encourage private capital outflows. The State Administration of Foreign Exchange (SAFE) announced on 20 August that domestic investors would be allowed to invest directly in stocks in overseas markets. Although the implementation of the plan is now being delayed, the policy intention is clear and is unlikely to be reversed.

Foreign exchange restrictions on firms have also been relaxed further. SAFE will no longer require domestic businesses to submit their foreign exchange proceeds from current account transactions. To make the QDII programme more attractive, the China Securities Regulatory Commission has expanded the range of financial products that QDIIs are allowed to invest in to include stocks, depository receipts, REITs, structured products and derivatives.

In an effort to contain property price increases, the PBoC and the CBRC jointly released measures to tighten mortgage lending by raising the minimum down payment ratio for second residential homes and also the ratio for commercial properties. While these measures may, to some extent, contain speculative activities, a major challenge will be how to restrain bank lending to the property market effectively to make the banking system safe in an economic downturn. In addition, policy incentives need to be created for local governments to provide more affordable housing to low and middle income families.

Box 1
A New Keynesian model for analysing monetary policy in Mainland China

Table B1.A
The New Keynesian model

Equation 1: The Phillips Curve

$$\pi_t = 0.20E_t\pi 4_{t+4} + 0.80\pi 4_{t-1} + 0.08\hat{Y}_{t-1} + 0.12(z_t - z_{t-1}) + \varepsilon_t^{\pi}$$

π_t : quarterly CPI inflation at annualised rate;

$\pi 4_t$: four-quarter CPI inflation;

$\hat{Y}_t$: output gap;

z_t : log of REER with an increase implying depreciation;

E : expectation operator (rational expectation assumed);

Equation 2: The IS Curve

$$\hat{Y}_t = 0.10E_t\hat{Y}_{t+1} + 0.91\hat{Y}_{t-1} - 0.04\hat{r}_{t-1} + 0.06\hat{m}_{t-1} + 0.02(z_t - z_{t-1}) + 0.08\hat{Y}_t^{w} + \varepsilon_t^{Y}$$

$\hat{r}_t$: deviation of real interest rate from its equilibrium;

$\hat{m}_t$: deviation of real money growth from its equilibrium;

$\hat{Y}_t^{w}$: world output gap;

Equation 3: The Monetary Reaction Function

A. The Quantity Rule

$$M_t = M_t^* + 0.88M_{t-1} - 0.16\hat{Y}_t - 0.06(\pi_t - \pi_t^*) + \varepsilon_t^{m}$$

M_t : nominal money growth;

M_t^* : equilibrium nominal money growth;

π_t^* : target inflation;

B. The Interest Rate Rule

$$R_t = R_t^* + 0.82R_{t-1} + 0.15E_t(\pi 4_{t+4} - \pi_{t+4}^*) + 0.51\hat{Y}_t + 0.16(z_t - z_{t-1}) + \varepsilon_t^{R}$$

R_t : nominal interest rate;

R_t^* : equilibrium nominal interest rate;

China's monetary policy differs from those of developed economies in at least two aspects. First, it has multiple targets. Other than its legal mandates to maintain price stability and promote economic growth, China's monetary policy also targets unemployment and balance of payments. It also has a responsibility to promote financial liberalisation and financial sector reform. Secondly, the central bank appears to apply a hybrid rule that uses both quantity targets and interest rate instruments to implement monetary policy in order to achieve those targets. This hybrid approach to implementing monetary policy may be rooted in the special characteristics of China's current monetary and financial system: (1) Commercial banks are less market-oriented and consequently may be less sensitive to changes in interest rates than their counterparts in developed economies. (2) Money market segmentation has also prevented interest rates from being an effective transmission mechanism. (3) Although there is no relationship between quantity of money and output in the short term, a quantity target for monetary aggregates does have a useful role in helping stabilise expectations of inflation in the medium or long term. While the hybrid approach is intuitively appealing, there has been little empirical evidence to demonstrate quantitatively that this has been the case. Therefore, a model may be required to evaluate whether the hybrid approach to monetary policy implementation is appropriate for China at its current stage of financial and economic development. This box highlights the major findings of a recent HKMA paper on this important issue.[3]

The model

The New Keynesian model consists mainly of a Phillips curve, an IS curve, and a monetary reaction function (Table B1.A). The Phillips curve (Equation 1) contains both forward and backward-looking elements of

[3] A full version by Liu and Zhang has been published as Working Paper No. 18/2007 of the Hong Kong Monetary Authority.

inflation, in addition to standard explanatory variables such as real GDP gap and real exchange rate. The IS curve (Equation 2) contains both forward and backward looking real GDP gaps, external demand gap, real interest rate, real money growth gap, and changes in real exchange rate. The IS curve distinguishes itself from the conventional one in that the quantity of money is also included to illustrate the impacts of monetary policy in addition to interest rate. Unlike a standard New Keynesian model, the hybrid rule has both a quantity of money rule (Equation 3A) and an interest rate rule (Equation 3B). The quantity rule is specified empirically to allow it to target both potential GDP and the equilibrium inflation rate. The interest rule is an expanded Taylor rule, which contains backward-looking nominal interest rate and a linear combination of the equilibrium interest rate, deviation of the expected annual inflation from the target, GDP gap, and changes in the real exchange rate. The quantity rule can be traced back to Taylor (1979), while interest rate follows an expanded Taylor rule that also reacts to exchange rate, in addition to inflation and output.[4]

Although these equations are similar to those derived from open-economy dynamic stochastic general equilibrium (DSGE) models, they have been modified to reflect the characteristics of China's economy. Note that variable ε denotes white noise in all equations. Exogenous variables such as the world output gap are assumed to follow AR(1) processes. The first three equations are estimated with quarterly data of the early 1990s - 2005, while Equation 3B is parameterised following the estimates of Xie and Luo (2002) and Scheine and Vibes (2005).[5]

[4] See Taylor, J. B. (1979), "Estimation and control of a macroeconomic model with rational expectations", *Econometrica* 47 (5), 1267-1286.

[5] See Scheibe, J. and D. Vines (2005), "A Phillips curve for China", manuscript, University of Oxford and Xie, P. and X. Luo (2002), "Taylor rule and its empirical tests in China's monetary policy", *Economic Research* (Chinese), No. 3.

Table B1.B
Mainland China: standard deviations of inflation and output gap (single replication)

Rule	Inflation	Output
Taylor	0.169	0.104
Quantity	0.196	0.139
Hybrid	0.105	0.067

Source: Staff estimates.

Table B1.C
Mainland China: standard deviations of inflation and output gap (multiple replications)

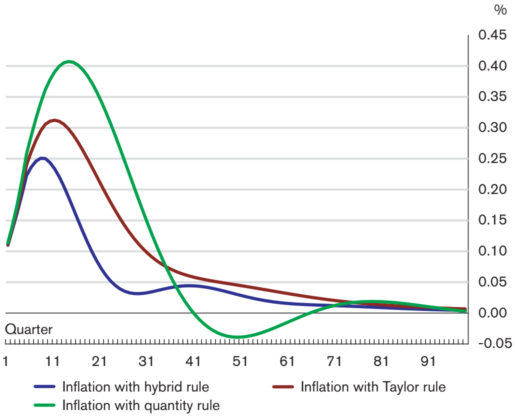
Rule	Inflation	Output
Taylor	0.160	0.102
Quantity	0.188	0.136
Hybrid	0.099	0.065

Source: Staff estimates.

Model evaluation: single policy rule versus hybrid policy rule

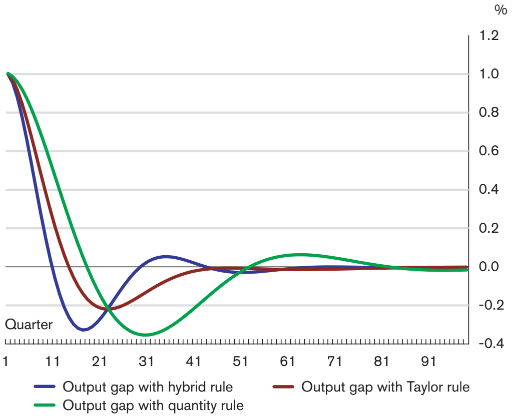
In the literature, the optimal monetary policy rule is usually defined as the one that minimises a weighted sum of variances of inflation and output gap. Following this approach, one can evaluate alternative monetary policy rules in the above model in three scenarios: (1) Only interest rate reacts to inflation and output (Taylor rule); (2) only money responds to inflation and output (quantity rule); and (3) both interest rate and quantity of money are applied to manage the economy (hybrid rule). The simulation is done by assuming both inflation and output are subject to random shocks. Variances of inflation and output gap generated by single and multiple replications are shown in Table B1.B and Table B1.C, respectively. It appears that both inflation and output gap have the lowest volatility under the hybrid rule, suggesting the hybrid monetary policy rule brings about the best policy outcome. Therefore, it should be preferred.

Chart B1.1
Mainland China: response of inflation to overheating under different policy rules



Source: Staff estimates.

Chart B1.2
Mainland China: response of output to overheating under different policy rules



Source: Staff estimates.

Table B1.D
Mainland China: sum of squared deviations from steady states

Rule	Inflation	Output
Taylor	0.003	0.012
Quantity	0.006	0.019
Hybrid	0.001	0.010

Source: Staff estimates.

Policy simulations

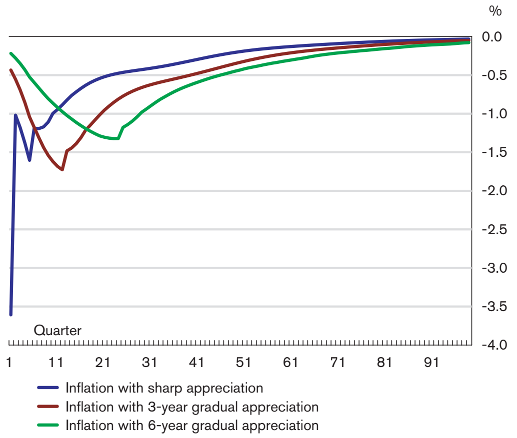
Economic overheating

Suppose the economy is initially growing one percentage point above its potential, how would the economy perform in terms of inflation and output under different monetary policy rules? The responses of inflation and output gap to overheating under the three policy rules are shown in Chart B1.1 and Chart B1.2, respectively. It is obvious that both inflation and output experience the smallest fluctuations under the hybrid rule. In particular, inflation may pick up by over 0.4 and 0.3 percentage points under the quantity rule and the interest rate rule, respectively, compared with a rise of less than a 0.25 percentage points in the case of the hybrid rule. These visual observations are also confirmed by examining the sum of squared deviations from steady states of inflation and output (Table B1.D).

Sharp versus gradual exchange rate appreciation

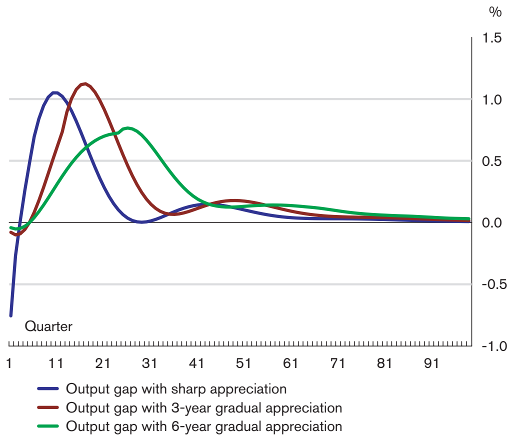
The slowly appreciating renminbi exchange rate has been blamed as the key reason behind China's recent macroeconomic problems such as the increasing external imbalance, unsustainable economic growth, and more recently the rapidly rising inflation. Therefore, it has been suggested that the exchange rate should be altered by a one-off and large appreciation. The simulation below investigates the effects of such a policy in our model. Specifically, three scenarios are considered: (1) The nominal exchange rate of the renminbi appreciates sharply by 30% and remains constant thereafter. (2) The nominal exchange rate appreciates by 10% a year for three consecutive years and remains unchanged afterwards. (3) The nominal exchange rate appreciates by 5% a year for six consecutive years and stays unchanged afterwards. That is, the exchange rate

Chart B1.3
Mainland China: response of inflation to exchange rate appreciation



Source: Staff estimates.

Chart B1.4
Mainland China: response of output gap to exchange rate appreciation



Source: Staff estimates.

appreciates by 30% in total in each case at a different pace. The responses of inflation and output gap to exchange rate appreciation under the hybrid rule in the three scenarios are shown in Chart B1.3 and Chart B1.4, respectively. While a large nominal appreciation has a strong and negative impact on inflation, it is very disruptive for the inflation and output processes of the economy. In addition, its impact on output growth appears to be limited. On the other hand, the gradual approach to the exchange rate appreciation seems to be less disruptive to the economy and could also bring about the intended policy effect to curb inflation, if the pace of the renminbi exchange rate appreciation could be adjusted in light of rising domestic inflationary pressures.

Concluding remarks

The main findings of the New Keynesian model for analysing China's monetary policy can be summarised as follows:

(1) The hybrid monetary policy rule seems to perform better than its alternatives (interest rate rule or quantity rule alone) in that it brings about lower fluctuations in the economy.

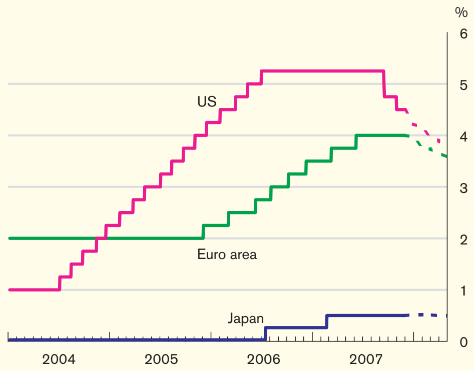
(2) Gradual exchange rate appreciation seems to be preferable to a sharp appreciation because of the less disruptive inflation and output processes and low risk of leading the economy to deflation.

(3) In addition, the gradual approach to the renminbi appreciation could also bring about the intended policy effect, if the pace of exchange rate appreciation could be allowed to adjust and used as an instrument to reduce inflationary pressure in time of need.

Monetary and financial conditions

The financial market turmoil triggered by the fallout in the US sub-prime mortgage sector has caused a shift in monetary policy towards easing around the world. In the US, policy rates have been cut by a total of 75 basis points. In Europe, where interest rates were still on the rise in the beginning of the review period, central banks have held their policy rates constant.

Chart 1.32
Policy rates for the US, Euro area and Japan



Note: Broken lines are future paths implied by future prices (based on changes in the three-month futures prices for euro area and Japan) on 30 November 2007.

Sources: Respective central banks and Bloomberg.

1.8 *Interest rates*

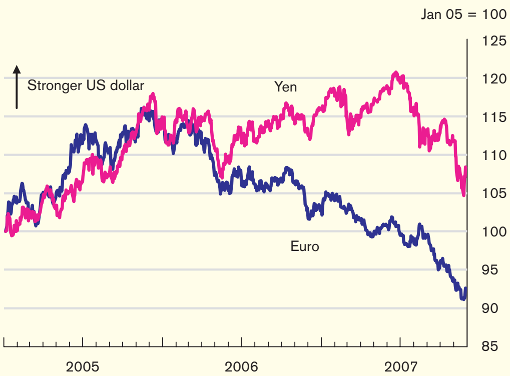
The unexpected ferocity of the sub-prime crisis in the US has added to the difficulties in steering monetary policy over the past six months. The losses in investing in sub-prime-mortgage-backed securities, exacerbated by downgrades by credit rating agencies, triggered a sharp tightening in credit markets during the summer. This led to large sell-offs in other financial markets. In response, major central banks injected liquidity into their markets and widened the range of securities qualified for collaterals at the discount window. The turbulence immediately tilted the balance of the policy stance towards the easing side. In a bid to restore calm in financial markets, the Fed has cut both its target and discount rates by a total of 75 basis points to 4.5% and 5% respectively since September. More rate cuts are likely to be in the pipeline amid expectations of further intensification of sub-prime defaults. The prices of the Fed funds futures contracts currently suggest a 62% chance of a 25 basis point rate cut and 38% chance of a half percentage cut in December (Chart 1.32). Across the Atlantic, the European Central Bank (ECB) and Bank of England (BoE) were still raising interest rates at the start of the summer, but further increases have been put on hold due to the recent turmoil. The latest BoE Inflation Report even indicated that monetary policy may be eased soon. Asia has emerged from the recent turbulance relatively unscathed, with monetary tightening continuing in China in the face of mounting inflationary pressures.

Early in the review period, long-term Treasury yields rebounded sharply on stronger-than-expected economic

Chart 1.33
US Treasury yields

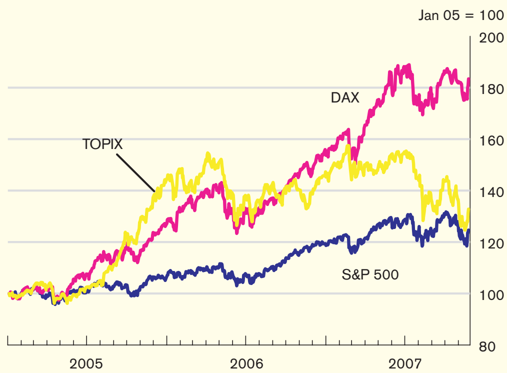
Source: US Federal Reserve

Chart 1.34
Bilateral US dollar exchange rates



Source: Bloomberg.

Chart 1.35
World equity indices



Source: Bloomberg.

data. However, the onset of the credit market turmoil caused a major risk reappraisal and a global flight to quality, which increased demand for Treasuries. Subsequent rate cuts by the Fed and weaker economic data further powered the rally to new highs, benefiting particularly the shorter end of the yield curve. During this period, the 1-year and 10-year Treasury yields declined by 169 and 93 basis points respectively since the last Report (Chart 1.33).

1.9 Exchange rates

The second half of 2007 saw a significantly weaker dollar against major currencies, particularly the euro. Several factors have contributed to the dollar weakness. Against the backdrop of a widely anticipated depreciation due to the large current account deficit, a worsening economic outlook for the US and the rate cuts by the Fed were the prime factors behind the timing of the sell-off. The dollar still performed its safe haven role during global financial market turbulence, but this provided the currency with only temporary support. The depreciation of the dollar against the yen was relatively less smooth due to carry trade and its unwinding in times of large corrections in capital markets. Overall, the US dollar has depreciated by 8.8% and 8.6% against the euro and the yen respectively since the last Report (Chart 1.34).

1.10 Equity markets

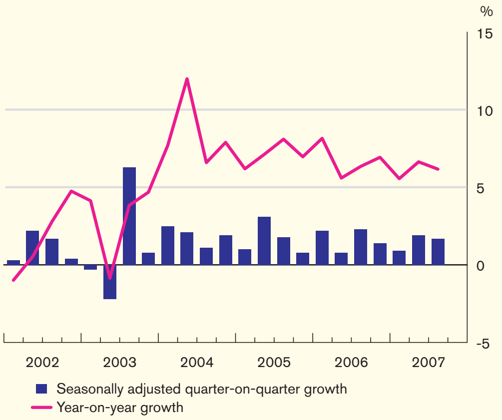
Major equity markets began the review period on a strong note, supported by vibrant merger and acquisition activities, and strong corporate performance. However, the gains were eroded as the strains on financial markets, caused by further weakness of the housing sector in the US, dampened investor sentiment. Financials were hit hardest with prices of a number of leading institutions falling by more than one third during the period, as sub-prime-related losses translated into write-downs by the institutions and downgrades by analysts and credit rating agencies. Although monetary easing has reduced the financial stress to some extent and stimulated market sentiment, global equities generally finished lower, with the S&P500, DAX and TOPIX declining by 3.2%, 0.2%, and 12.7% respectively since the last Report (Chart 1.35).

2. Domestic economy

Demand

The Hong Kong economy maintained its strong growth momentum in the second and third quarters of 2007. Growth was mainly driven by vibrant private consumption, helped by a further improvement in labour market conditions and buoyant asset markets. Reflecting the softer external demand following the turmoil in international financial markets, merchandise exports slowed, although exports of services held up well.

Chart 2.1
GDP at constant market prices



Source: C&SD.

2.1 Aggregate demand

Real GDP grew 6.2% year on year in Q3, after rising by 5.6% and 6.6% in Q1 and Q2 respectively (Chart 2.1). On a seasonally-adjusted quarter-on-quarter basis, real GDP grew 1.7% in Q3, following the 0.9% and 1.9% growth in Q1 and Q2 respectively.[6]

The strong growth momentum in Q3 was fuelled by robust domestic demand, and in particular, by a surge in private consumption expenditure. Investment, on the other hand, saw more moderate growth as construction rose only marginally after the Q2 bounce. Equipment spending slowed due to a high base of comparison. Growth in the exports of goods moderated, in line with a slowdown in external demand, although exports of services continued to grow at a double-digit pace, reflecting resilience in sectors such as offshore trade, travel and financial services.

[6] These GDP growth rates are estimated using the recently implemented chain volume method. Box 2 discusses in detail this method in measuring constant-price GDP and analyses the resulting revisions to historical real GDP estimates.

2.2 Domestic demand

Domestic demand remained the key driver of growth in Q3. The international credit market turbulence did not seem to have any significant impact on consumer and business sentiment in Hong Kong, as confidence was partly bolstered by the cut in US interest rates and the announcement of a pilot scheme for Mainland individuals to invest directly in Hong Kong securities. On a year-on-year comparison, domestic demand grew by 8.2% in Q3, following the same rate of increase in Q2 (Table 2.A). The expansion was led by notable increases in private consumption, while investment spending and government expenditure showed signs of moderating growth. Inventory build-up slowed in Q3, but its contribution to GDP growth remained positive.

Table 2.A
Real GDP growth by expenditure component

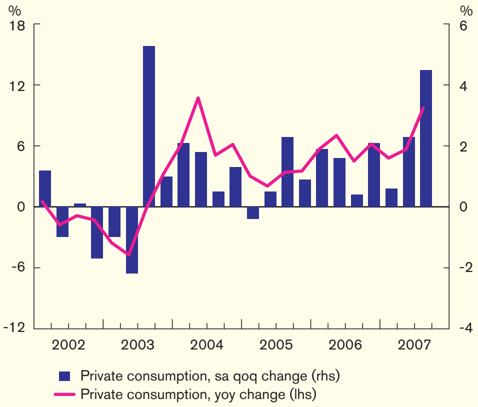
(% yoy)	2005	2006	2006 Q4	2007 Q1	2007 Q2	2007 Q3
Gross Domestic Product	**7.1**	**6.8**	**6.9**	**5.6**	**6.6**	**6.2**
Domestic demand	1.6	5.8	6.4	5.0	8.2	8.2
Consumption						
Private	3.0	5.9	6.2	4.8	5.7	9.7
Public	-3.2	0.3	2.3	2.4	2.7	1.2
Gross domestic fixed capital formation	4.1	6.3	6.4	2.8	10.0	2.0
Private	8.0	10.1	8.3	5.4	11.5	3.1
Public	-14.1	-16.5	-6.8	-12.3	-4.6	-8.0
Change in inventories[1]	-1.0	0.3	0.5	0.8	1.6	1.0
Net exports of goods[1]	3.1	-0.3	-0.3	-1.3	-3.4	-3.6
Net exports of services[1]	2.5	1.9	1.8	2.4	2.6	2.9

Note: 1. Percentage point contribution to annual growth of GDP.
Source: C&SD.

Consumption

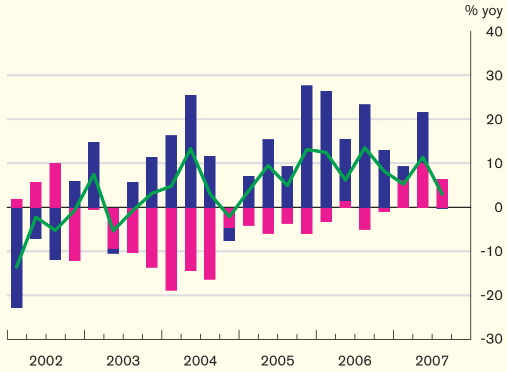
Private consumption expenditure grew markedly by 9.7% year on year in Q3, recording the highest growth rate since 2004 Q3, after growing by 5.7% in 2007 Q2. On a seasonally adjusted quarter-on-quarter comparison, the growth in private spending increased to 4.5% in Q3, compared with 2.3% in Q2 (Chart 2.2). The vibrant growth in private consumption was supported by favourable labour market conditions, growing household income, and booming asset prices. Spending on financial services, such as stock trading, contributed significantly to this growth. On the other hand, government consumption expenditure grew only modestly by 1.2% in Q3 from a year ago, following an increase of 2.7% in Q2 (Table 2.A). Looking ahead, private sector consumption is likely to continue as a major driver of growth for the remainder of 2007, with labour market conditions remaining supportive, asset prices staying high, and interest rates declining.

Chart 2.2
Private consumption



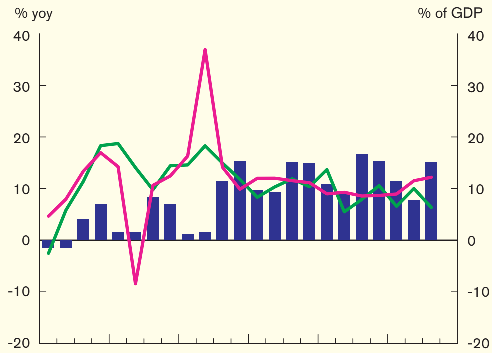
Source: C&SD.

Chart 2.3
Private investment by component



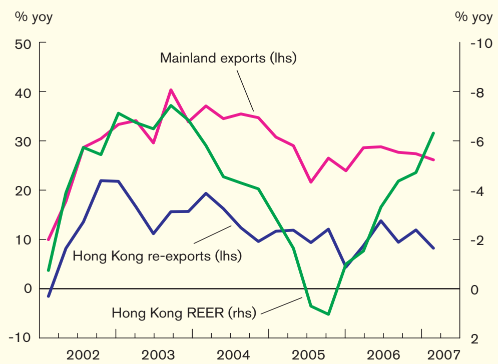
Source: C&SD.

Chart 2.4
Export growth and trade balance (in real terms)



Source: C&SD.

Chart 2.5
Re-exports[1], real effective exchange rate (REER)[2] and Mainland exports[3]



Notes: 1. Re-export growth is in real terms.
2. Hong Kong REER is in reverted scale.
3. Mainland export growth in nominal terms.

Sources: C&SD and CEIC.

Investment

Overall investment spending increased moderately by 2.0% year on year in Q3, following a 10.0% growth in Q2. The moderation was associated with sluggish private sector spending on machinery and equipment, which fell marginally by 0.2% from a year ago in Q3 after growing by 11.5% in Q2 (Chart 2.3). This slowdown was, however, exaggerated by the high base of comparison, as the underlying growth momentum remained firm. Looking to Q4, the Quarterly Business Tendency Survey pointed to continued optimism among businesses about their operating environment, and sentiment was particularly positive in such areas as business volume and selling price. Separately, private sector spending on building and construction continued to grow by 6.5% in Q3 after growing by 10.2% in Q2, showing some tentative signs of stabilisation after a period of contraction in 2003 to 2006. The recent pick-up in property market activity might provide some underlying support to the sector.

Public sector investment spending registered its fifteenth quarter of decline in Q3, falling by 8.0% from a year ago, as public building and construction activity declined. However, the implementation of a number of large-scale infrastructure projects announced in the Policy Address should boost public sector investment, although the exact timing is still uncertain.

2.3 External trade

Merchandise exports rose 6.4% year on year in Q3, slowing somewhat from the 10.1% growth in Q2 (Chart 2.4), reflecting softer external demand in the aftermath of the turmoil in global financial markets. On a seasonally adjusted quarter-on-quarter basis, exports of goods declined by 0.2% in Q3, after an expansion of 2.2% the previous quarter.

Export growth continued to be led by increases in re-exports, which were supported by the Mainland's strong trade performance and a real depreciation in the Hong Kong dollar effective exchange rate (Chart 2.5). Re-exports grew by 8.2% year on year in Q3, moderating from the 11.9% growth in Q2. Domestic exports, on the other hand, saw an accelerated decline of 22.9% in Q3,

Table 2.B
Total exports of goods by major market[1]

(% yoy)	Share[2] %	2005	2006	2006 Q4	2007 Q1	2007 Q2	2007 Q3
Mainland China	47	14	14	17	13	16	13
United States	15	6	3	7	2	1	-2
European Union	14	16	5	6	5	7	6
ASEAN5[3] + Korea	7	7	8	7	5	11	7
Japan	5	10	1	-2	2	4	-6
Taiwan	2	3	3	7	4	11	-4
Others	10	10	11	17	14	20	17
Total	**100**	**11**	**9**	**12**	**9**	**12**	**8**

Notes: 1. Within the total, re-exports accounted for 95% in 2006.
2. Share in 2006.
3. ASEAN5 includes Indonesia, Malaysia, the Philippines, Singapore and Thailand.

Sources: C&SD and CEIC.

following a fall of 18.7% in the previous quarter, with categories such as fuels, machinery and equipment showing particular weakness. Analysed by destination, merchandise exports to the Mainland, which made up almost half of total goods exports, maintained a double-digit growth rate in Q3 (Table 2.B). However, exports to the US and some Asian economies slowed, offering some prima facie evidence to discount the idea of decoupling between growth in the US and growth in the rest of the world. Meanwhile, imports of goods increased by 8.3% in Q3 from a year ago, compared with 11.6% in Q2, as imports for re-exports slowed in tandem with the moderation in re-exports.

Exports of services continued to grow strongly in Q3, rising by 12.3% year on year, following an increase of 11.6% in Q2. In particular, exports of financial and other services posted marked increases, helped by buoyant fundraising activities in the stock market. Exports of trade-related services recorded solid growth, reflecting the steady rise in offshore trade, while exports of travel services also rose on the back of record inbound tourist arrivals. At the same time, imports of services grew by 8.9% in Q3 from 8.0% in Q2, as the demand for financial and other services and outgoing travel services increased.

Overall, the trade surplus increased considerably to 15.2% of GDP in Q3 from 7.8% in Q2, as the trade deficit in goods narrowed and the surplus of trade in services widened (Chart 2.4).

Box 2
Chain volume GDP and its implications for growth and inflation measures

The Census and Statistics Department (C&SD) recently released the chain volume measures of GDP, which is a significant step towards improving the quality and international comparability of national account statistics in Hong Kong. The chain volume measures use price and quantity data of the preceding year as the base year to remove the price effect on nominal GDP, so that aggregate output in volume terms can be derived. This box discusses the effects of using the chain volume method on measuring real GDP and the implications for output growth and inflation measures.[7]

Merits of using the chain volume method

Chain volume GDP is a better output measure compared with the fixed-base-year method particularly in times of significant shifts in prices of goods and services. Compared with the previous method, whose base year is usually changed every five to 10 years, the chain volume method updates the base year every year, thus better reflecting changes in price structures due to shifts in output composition over time. For example, relative prices of electronics and IT products with the same quality tend to fall over time. If the base year is fixed at a greater distance in the past, the extent of price changes of electronics goods would be under-estimated, thus overstating the growth rate in volume terms.[8]

While the chain volume method removes the upward bias in measuring output growth, its major shortcoming is that the sum of GDP components may not be equal to the aggregate GDP figure in real terms, particularly in the periods prior to the base year. This is because the weight of individual GDP components, such as private consumption and business investment, will change when

[7] For a detailed explanation of the methodology about the chain volume measures of GDP, please refer to the special report "Chain Volume Measures of Gross Domestic Product" prepared by the Census and Statistics Department, October 2007.

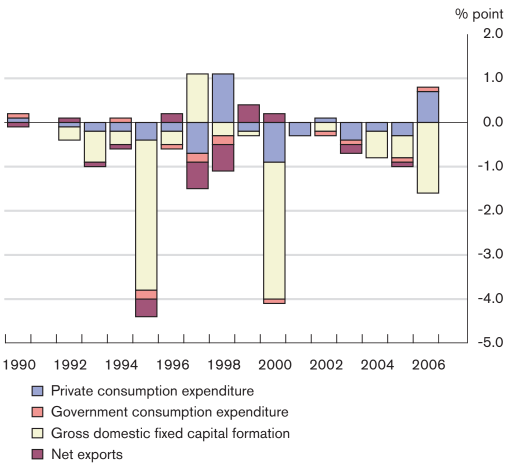
[8] In technical terms, the GDP deflator is a Paasche price index using quantities information in the current year to derive the overall price index, which has the property of downward bias in measuring price changes over two periods.

Table B2.A
Revisions to output growth and GDP deflator inflation after the implementation of the chain volume measures

(% point)	Revision to output growth	Revision to GDP deflator inflation
1995	-1.6	1.7
1996	–	–
1997	–	0.1
1998	-0.5	0.6
1999	-1.4	1.3
2000	-2.0	2.0
2001	-0.1	-0.1
2002	–	–
2003	-0.2	0.2
2004	-0.1	0.1
2005	-0.4	0.3
2006	-0.1	0.3

– denotes revisions within 0.05 percentage points.
Source: C&SD.

Chart B2.1
Revisions to real growth rates of expenditure-based GDP components



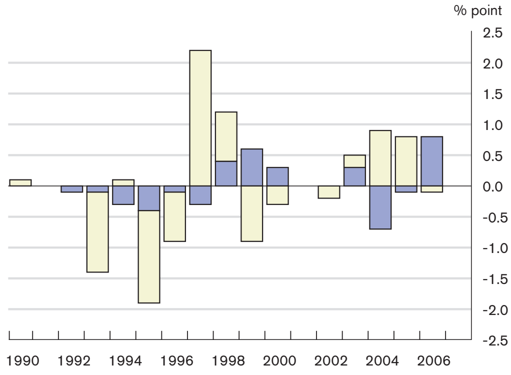
Sources: C&SD and staff estimates.

the price structure is updated annually. As a result, the larger the gap between the prior year and the base year, the larger the discrepancy. Nevertheless, the non-additive property of the chained volume method will not affect the measure of real growth rates of GDP and its components.

Effects of the chain volume method on measuring GDP and its deflator

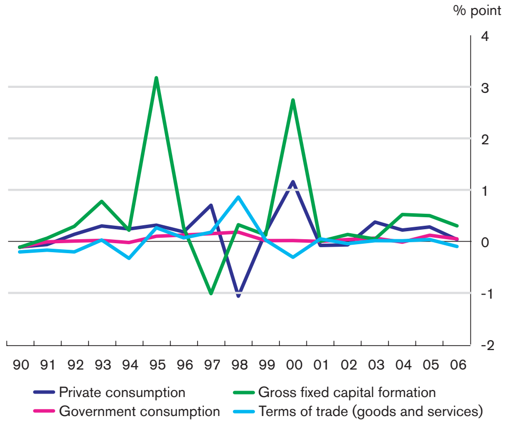
With the implementation of the chain volume method, the downward bias on measuring price changes using the fixed-base-year method is removed. Thus, output growth derived from chain volume GDP is usually lower than previous estimates using the fixed-base-year method. Table B2.A compares output growth and inflation based on real GDP and GDP deflator under the fixed-based-year and chain volume methods respectively from 1995 to 2006. As expected, real GDP growth based on the chain volume measures was revised downward, while inflation calculated from the GDP deflator was revised upward. Nevertheless, most of the revisions are relatively small except for the years 1995, 1999 and 2000, mainly reflecting larger downward revisions to growth in gross fixed capital formation (GFCF) (Chart B2.1). Disaggregate data show that most of the revisions to capital investment growth reflected changes in growth of construction investment, which accounted for 15% of GDP in the 1990s, the third largest component after

Chart B2.2
Revisions to real growth rates of construction and business equipment spending



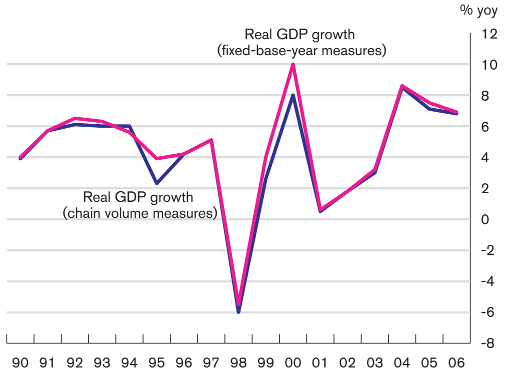
Sources: C&SD and staff estimates.

Chart B2.3
Revisions to GDP deflator inflation by major expenditure component



Sources: C&SD and staff estimates.

Chart B2.4
Real GDP growth measured by fixed-based-year method and chain volume measures



Source: C&SD.

exports and private consumption (Chart B2.2). The relatively large revisions to real growth in GFCF in part reflected more drastic changes in the price structure of construction and business equipment spending over the past decades (Chart B2.3).

Another factor contributing to the larger adjustment in real GDP growth rates in 1999 and 2000 could be due to the downward bias in measuring price changes during the period of deflation as people increase their spending on items with the largest declines in relative prices, thus exaggerating the extent of deflation. Given that the inflation rate measured by the GDP deflator started to turn negative in 1999, the downward bias on price changes under the fixed-base-year approach has overstated real GDP growth by 1.4 percentage points and the rate of deflation by 1.3 percentage points relative to the chain volume measures (see Table B2.A). The distortion caused by deflation has been smaller after 2000, probably because of the re-basing of GDP in that year.

Implications for output growth and inflation measures

While the use of the chain volume method has led to downward revisions to real GDP growth, it does not make much difference to the characteristics of the past economic cycles (Chart B2.4). However, revisions to real growth rates have been much larger at the disaggregate level, with both positive and negative changes in different GDP components roughly offsetting each other.

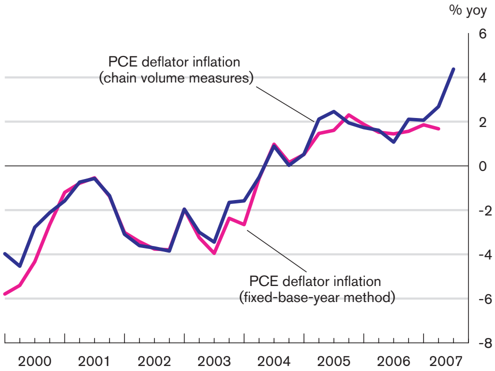
GDP by expenditure components shows that most of the upward revisions in real growth rates come from services, while downward revisions are mostly made for goods transactions. In the past 10 years, real growth in private consumption of services in the domestic market was revised upward by a total of 0.9 percentage points, while that of food and other consumer goods was revised downward by a total of 1.0 and 8.2 percentage points respectively. The external trade sector shows a similar pattern of revisions, with upward revisions to real growth of trade in services but downward revisions to growth of merchandise trade. Real growth rates in construction spending and business equipment investment have also

Table B2.B
Revisions to real growth of goods and services by key expenditure component (97-06)

(% point)	Revisions to output growth (sum of revisions, 1997-2006)
Private consumption	**-1.1**
Food	-1.0
Consumer goods	-8.2
Services	0.9
Building & construction	**3.4**
Machinery, equipment & computer software	**1.3**
Net export of goods & services	**-0.9**
Export of goods	-3.1
Import of goods	-1.3
Export of services	0.9
Import of services	1.4
Government consumption	**-0.7**

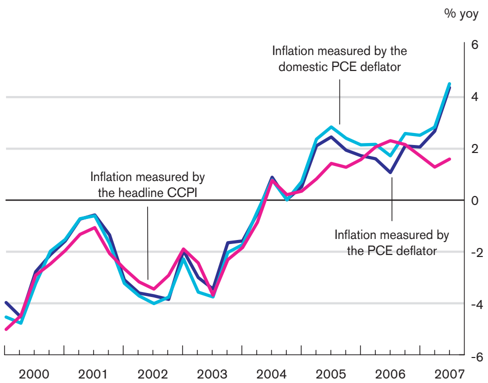
Sources: C&SD and staff estimates.

Chart B2.5
PCE deflator inflation measured by fixed-base-year method and chain volume measures



Sources: C&SD and staff estimates.

Chart B2.6
Consumer price inflation by the CPI and chain-dollar PCE deflator



Sources: C&SD and staff estimates.

been revised upward (Table B2.B). The upward revisions to the real growth rate of the service components indicate a general overstatement of increases in service prices under the fixed-base-year method. This might suggest that growth in service prices is generally commensurate with improvement in service quality based on the chain volume measures.

The use of the chain volume method for measuring various deflators of GDP components also provides more updated information on price changes in areas like consumption, investment and external trade. Given that the personal consumption expenditure (PCE) deflator includes similar categories of goods and services covered in the CPI, the former is usually used as an alternative measure of inflationary pressures. In the past, the PCE deflator used to be a less preferable indicator of inflation compared with the CPI, as the latter is a monthly indicator and the composition of the consumption basket is updated more frequently at five-year intervals. However, with the introduction of the chain volume method, the consumption basket of the PCE deflator will be updated annually, which could be better in terms of measuring the effect of price changes on consumption behaviour, especially given the dynamic and service-oriented nature of the Hong Kong economy.

A comparison between the year-on-year inflation rates calculated from the PCE deflator using the fixed-base-year method and chain volume measures shows that the former measures underestimate inflation by close to one percentage point in recent years. However, this may not be too surprising given the downward bias of the previous method in measuring price changes (Chart B2.5).[9] The use of the chain-dollar PCE deflator helps remove this downward bias, thus providing a better measure of consumer price inflation. Compared with the CPI, the inflation rate measured by the chain-dollar PCE deflator has been more volatile partly due to the inclusion of residents' spending abroad, whose prices may have larger fluctuations due to changes in foreign prices and exchange rates (Chart B2.6). After stripping

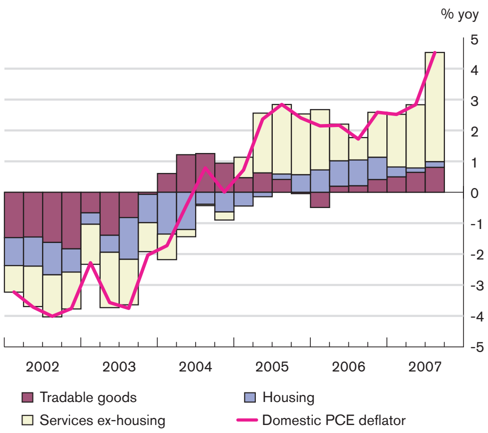
[9] The PCE deflator, like the GDP deflator, is a Paasche price index which tends to have a downward bias on measuring price changes.

Table B2.C
Compositions of the consumption basket covered by CPI and chain-dollar PCE deflator

(% weight)	Composite CPI	Chain-dollar PCE deflator
Tradable goods	29	40
Housing	29	17
Services ex-housing	42	43

Sources: C&SD and staff estimates.

Chart B2.7
Contributions to inflation measured by the chain-dollar domestic PCE deflator



Sources: C&SD and staff estimates.

out the external components, the inflation rate calculated from the domestic PCE deflator becomes less volatile in recent years.

The higher inflation rate measured by the PCE deflator relative to CPI inflation could be attributed to the larger weight of the service and goods components in the former. A rough calculation shows that services and goods account for about 83% of the consumption basket covered by the PCE deflator, versus 71% in the CPI basket (Table B2.C). While housing is the single largest component (with a weight of about 30%) in the CPI, it constitutes only 17% of the consumption basket covered by the PCE deflator. Given the larger weight of tradable goods in the PCE deflator and the more rapid growth in service prices recently, inflation measured by the domestic PCE deflator accelerated to 4.5% in Q3, mainly driven by a sharp rise in service costs (Chart B2.7). Disaggregate data show that catering and financial services are the key contributors to the overall increase in service price inflation, reflecting increased spending on dining out and securities investment services.

Given the small, open and service-oriented nature of the Hong Kong economy, economic activity has been undergoing significant changes in the face of globalisation, particularly with the closer economic and financial linkages between Hong Kong and Mainland China. As a result, more frequent updating of price structures is necessary as this will better reflect the economic strength of different sectors, which is crucial for the government's long-term economic policy formulation.

Output and supply

The service sector, particularly financial and external trade-related services, continued to propel total output growth. Labour market conditions further improved, while labour productivity picked up following a faster increase in output relative to total employment.

2.4 Output

The service sector continued to lead growth in the first half of 2007 (Table 2.C).[10] In particular, financing, insurance and other business services increased by 15.2% in H1, following the 15.4% rise in the second half of 2006, reflecting strong growth in banking services and vibrant stock market activities. The financial sector is also likely to benefit from further liberalisation of the Mainland's capital account, such as an extension of the Qualified Domestic Institutional Investor (QDII) scheme and the implementation of the pilot scheme for individual Mainland investors to invest directly in Hong Kong-listed securities. On the other hand, output of the external trade-related sector slowed, growing by 8.8% in H1, in line with the softening of external demand, after posting a higher 10.8% growth in 2006 H2. For the industrial sector, manufacturing continued to contract, while the construction sector posted its first positive year-on-year growth in Q2 since 2002. Whether this represented a turn in the trend remains to be seen.

Activity in the financial and business services sector accounted for about 50% of the growth of total output in H1, which highlighted the gain in significance of the sector as a driver of growth, at the expense of the trade-related sector (Table 2.D). As household consumption spending was brisk, the wholesale, retail, restaurant and hotel sector gained slightly in its share of output growth in H1. Taking a break from being a drag on growth, the construction sector made a marginally positive contribution to total output in Q2.

Table 2.C
Real GDP growth by major economic sector (year-on-year)

(% yoy)	2005	2006	2006		2007	
			Q3	Q4	Q1	Q2
GDP at factor cost	**6.7**	**6.8**	**6.6**	**7.2**	**6.3**	**6.8**
Industrial sector	-1.2	-1.5	-1.9	-3.1	-2.3	0.9
Of which:						
Manufacturing	2.1	2.2	-0.6	-1.4	-1.5	-2.3
Construction	-8.1	-8.3	-11.4	-4.3	-6.7	3.0
Service sector	7.6	7.7	7.5	8.2	7.2	7.4
Of which:						
Wholesale, retail, restaurant and hotel	7.7	6.9	7.8	6.6	7.4	7.5
Import and export	15.9	10.1	11.0	10.6	8.4	9.2
Transport and storage	6.9	7.9	7.0	8.8	3.6	4.0
Financing, insurance and business services	10.7	15.8	13.9	16.9	15.3	15.2

Source: C&SD.

Table 2.D
Contribution to real GDP growth by major economic sector (year-on-year)

(% point)	2005	2006	2006		2007	
			Q3	Q4	Q1	Q2
GDP at factor cost	**6.7**	**6.8**	**6.6**	**7.2**	**6.3**	**6.8**
Industrial sector	-0.1	-0.1	-0.2	-0.3	-0.2	0.1
Of which:						
Manufacturing	0.1	0.1	0.0	0.0	0.0	-0.1
Construction	-0.3	-0.2	-0.3	-0.1	-0.2	0.1
Service sector	6.8	7.0	6.7	7.5	6.5	6.7
Of which:						
Wholesale, retail, restaurant and hotel	0.5	0.4	0.5	0.4	0.5	0.5
Import and export	3.3	2.3	2.6	2.6	1.8	2.0
Transport and storage	0.6	0.7	0.6	0.7	0.3	0.3
Financing, insurance and business services	1.8	2.8	2.3	2.9	2.9	3.1

Source: C&SD.

10 GDP by economic sector for 2007 Q3 was not available at the time of the publication of this Report.

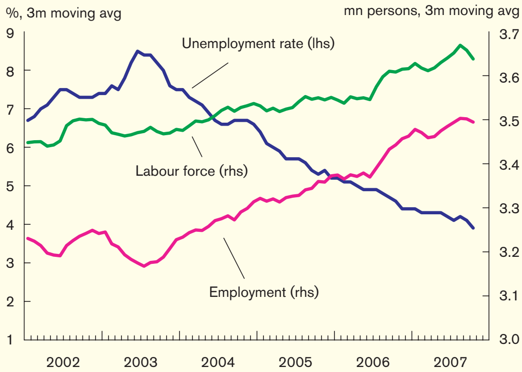
2.5 Labour and productivity

Robust economic growth has resulted in higher employment, leading to a further decline in the unemployment rate. The faster growth in output relative to total employment also boosted the growth in labour productivity.

Labour market conditions

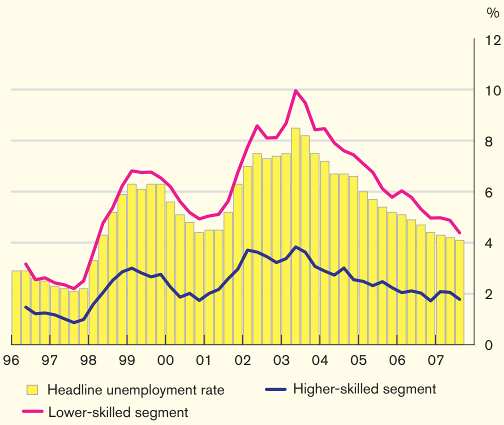
Labour market conditions improved further, with the number of people in employment reaching a record high in the three months to August. In subsequent months both total employment and the labour force declined from the summer high levels, but as total employment showed a more moderate decrease, the seasonally adjusted three-month moving average unemployment rate edged down to 3.9% in October, the lowest since mid-1998, compared with 4.3% six months earlier (Chart 2.6). The fall in the unemployment rate was more noticeable in the construction and transport sectors. While the unemployment rate in the lower-skilled segment has declined at a faster pace in recent times, its higher peak in 2003 means that unemployment in this sector has stayed relatively high in comparison with its pre-Asian financial crisis levels (Chart 2.7). Indeed, the construction and domestic trade sectors have each sustained a high share of unemployment since the trough of the economic cycle (Chart 2.8). This reflects modest job creation in these sectors, and the difficulty of these workers to seek employment elsewhere.

Chart 2.6
Labour market conditions



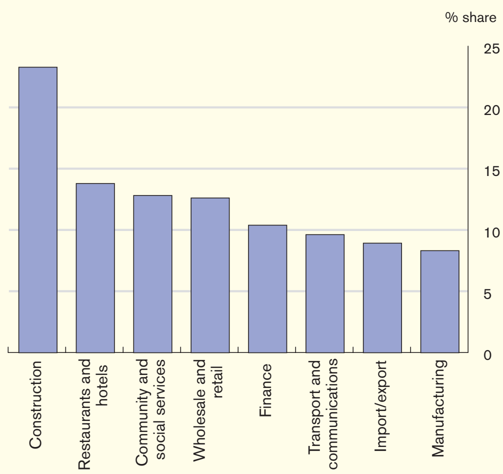
Source: C&SD.

Chart 2.7
Unemployment rates in the higher and lower-skilled segments



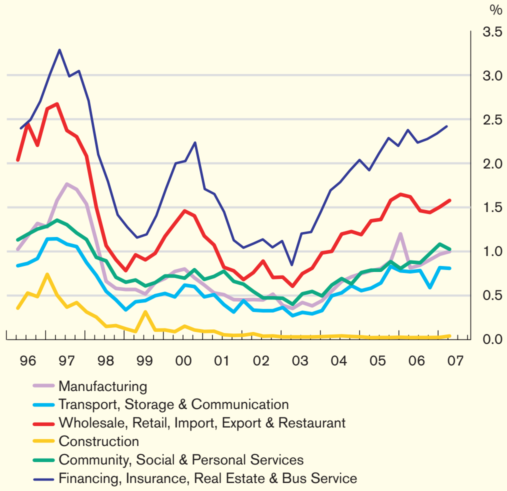
Sources: C&SD and staff estimates.

Chart 2.8
Unemployment by economic sector (2003-06)



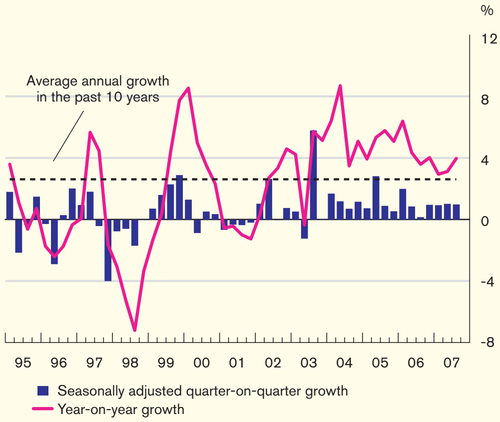
Sources: C&SD and staff estimates.

Chart 2.9
Vacancy rate by sector



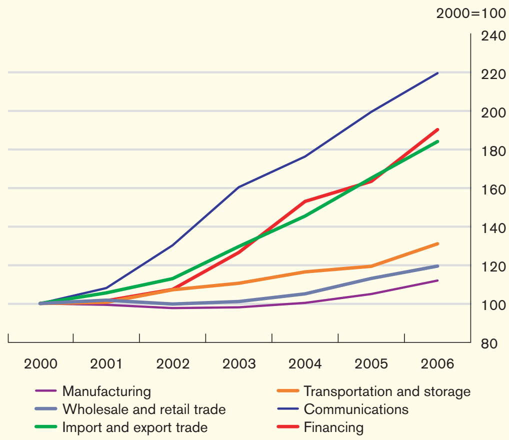
Sources: C&SD and staff estimates.

Chart 2.10
Output per worker



Sources: C&SD and staff estimates.

Chart 2.11
Labour productivity by sector



Source: C&SD.

Total employment is expected to rise gradually, underpinned by the solid expansion in consumer spending and business investment. Supported by the implementation of large-scale government infrastructure projects and the strong growth momentum of incoming visitors, the unemployment situation in the construction and restaurant and hotel sectors could see some improvement. Growing demand for financial and trade-related services from the Mainland is likely to boost labour demand in these sectors in Hong Kong, although the gradual pick-up in vacancy rates suggests employment growth may slow as the economy continues to expand (Chart 2.9).

The underemployment rate has stayed relatively steady in recent months, at 2.3% (three-month moving average) in October, up from 2.1% in April.

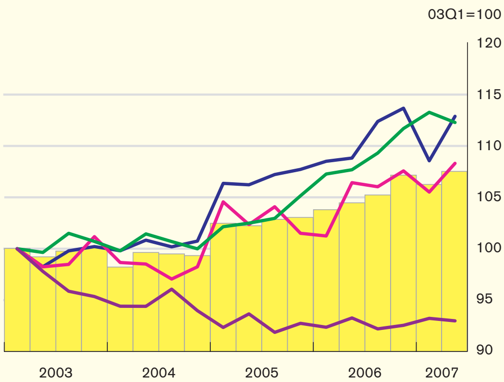
Productivity

Output per worker – an indicator of labour productivity – has increased as the economy has expanded, growing by 4.0% year on year in Q3 after rising by 3.1% in the previous quarter (Chart 2.10), reflecting continued expansion in output and more moderate growth in employment. Analysed by sector, increases in output per worker were particularly notable in communications, financing, and import and export trades (Chart 2.11). The strong growth momentum in these sectors is likely to sustain steady rises in labour productivity.

Prices and wages

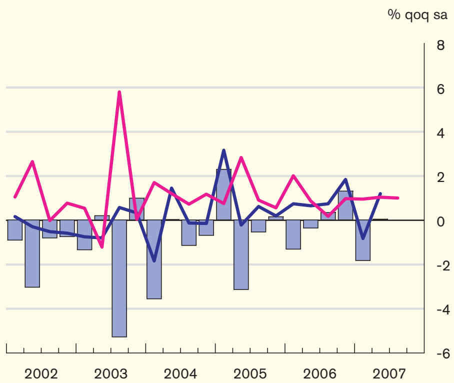
Underlying inflationary pressures continue to rise, driven by vibrant expansion in domestic demand and a sharp rise in imported food prices. The medium-term inflation outlook will hinge on the growth in property rents and cost pressures from the supply side. Primary food prices on the Mainland have recently shown initial signs of stabilising, which may ease rises in domestic food prices in the months ahead.

Chart 2.12
Nominal payroll per person by economic sector



Source: C&SD.

Chart 2.13
Unit labour cost and labour productivity



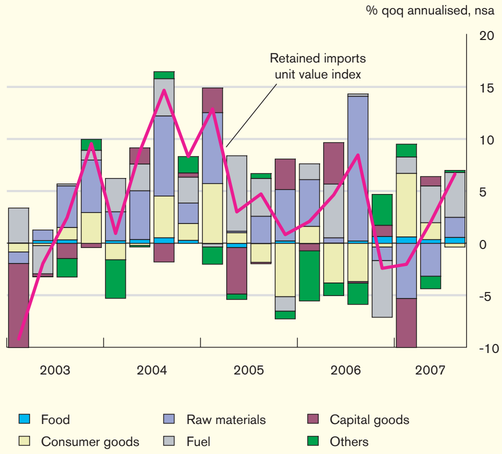
Sources: C&SD and staff estimates.

2.6 Labour costs

Vibrant labour market conditions continued to boost labour earnings in the first half of 2007. On a quarter-on-quarter comparison, nominal wage growth rose to 0.9% in Q2 from 0.7% in Q1, the fastest pace of increase since 2005 Q1. Nominal payroll per person grew even faster, rising by 1.2% in Q2 after declining by 0.8% in Q1. The fall in payroll per person in Q1 mainly reflected a one-off decline in labour earnings in the trade and tourism-related sector, which has the largest share of employment. Underpinned by robust economic expansion, labour earnings have been growing steadily since 2005, with payroll per person in the trade and tourism-related sector, and the financial and business service sector showing the largest increase (Chart 2.12). Forward-looking indicators suggest that business owners will continue to expand their workforce, particularly in financial and tourism-related areas, supporting growth in labour earnings in the second half of 2007.

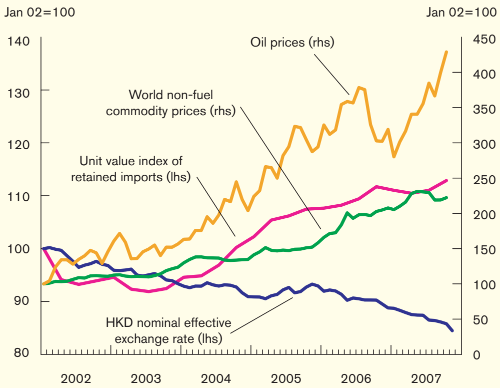
Despite a general rise in nominal payroll, growth in unit labour cost remained tepid because of a sustained increase in labour productivity. During the first half of 2007, labour productivity grew at an average quarterly rate of 1.0%, which more than offset 0.2% growth in nominal payroll per person (Chart 2.13). As a result, the nominal unit labour cost declined by an average rate of 0.9% in the first two quarters of 2007. Looking ahead, the development of unit labour costs will hinge on the relative growth rate in productivity and payroll. Given a steady pace of employment creation and an expected slowdown in output growth in 2008, labour productivity growth may ease in coming quarters, thus increasing the cost pressure from the supply side.

Chart 2.14
Contributions to import price inflation



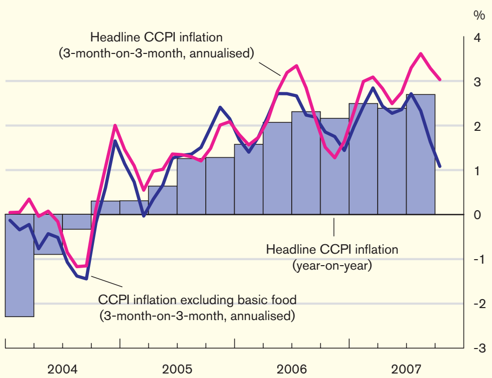
Sources: C&SD and staff estimates.

Chart 2.15
Commodity and Import prices



Sources: C&SD and IMF.

Chart 2.16
Different measures of consumer price inflation



Sources: C&SD and staff estimates.

2.7 Commodity and import prices

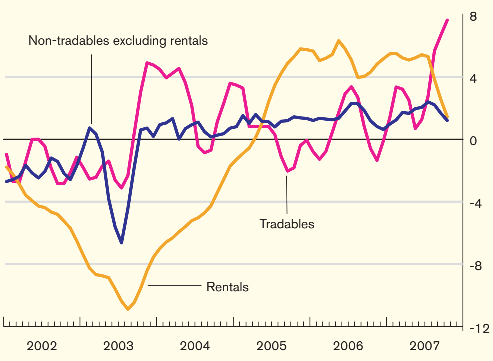
The rise in import prices has gathered pace since the start of the year due to sharp rises in crude oil prices. On a quarter-on-quarter basis, prices of retained imports rose notably by 6.7% (annualised) in Q3 after growing by 2.1% in Q2. Compared with a year ago, rises in import prices remained benign at 1.0% in Q3. Import prices have been volatile in the past largely reflecting fluctuations in global commodity prices. The recent pick-up in import prices was mainly attributable to a surge in fuel costs and higher consumer goods prices (Chart 2.14).

The continued rise in global commodity prices is expected to feed through to higher consumer prices. As basic food and other tradable goods account for about 30% of household expenditure in the composite CPI (CCPI) basket, any sharp increases in prices of these imported items, such as the recent surge in meat prices from the Mainland, would have a significant impact on consumer price inflation. In addition, the general weakness of the US dollar and gradual appreciation of the renminbi have led to a 5% depreciation in the Hong Kong dollar against its major trading partners between January and November this year (Chart 2.15). Although the direct impact of a weaker Hong Kong dollar on consumer prices has been relatively modest, a sharper depreciation of the US dollar could fuel inflation.

2.8 Consumer prices

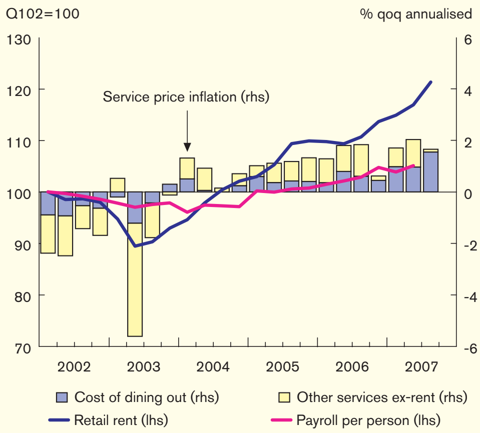
Underlying inflationary pressures continue to rise with higher basic food prices and a strong expansion in domestic demand. After netting out the effect of the government rates concession, CCPI inflation picked up from 2.7% (quarter on quarter, annualised) in Q2 to 3.3% in Q3, before easing to 3.0% in October (Chart 2.16). The acceleration in consumer price inflation was mainly driven by stronger rises in food costs, and clothing and footwear prices, while rental price inflation has eased from the peak seen earlier this year. Excluding the basic food component, CCPI inflation moderated to 1.7% in Q3 from 2.7% in Q2. Compared with a year earlier, consumer price inflation increased from 2.4% in Q2 to 2.7% in Q3, and rose further to 3.2% in October.

Chart 2.17
Consumer price inflation by broad component



Sources: C&SD and staff estimates.

Chart 2.18
Service price inflation excluding rent



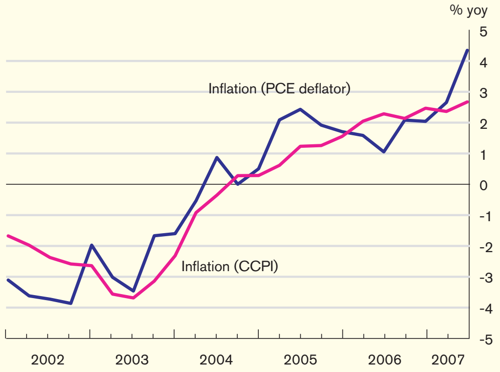
Sources: C&SD and staff estimates.

Higher basic food prices drove up the inflation rate of tradable goods to 7.0% (quarter on quarter, annualised) in Q3 from 0.3% in Q2. The recent pick-up in food prices has raised concerns over its effect on the cost of living for the lower income group, as basic food accounts for 13.5% of the consumption basket of the CPI(A), compared with the 6.7% share for the CPI(C) basket.[11] During the first 10 months of this year, basic food prices rose by 6.2% year on year due to higher imported meat prices from the Mainland, more than double the 2.5% increase in 2006. However, given the volatile nature of fresh food prices and the government's efforts in stabilising primary food prices on the Mainland, the recent rise in goods price inflation could be transitory and might ease in coming months (Chart 2.17).

The growth in housing rents dropped to 2.5% (quarter on quarter, annualised) in Q3 from 5.4% in Q2, in part reflecting the 11.6% reduction in public housing rents by the government, while private housing rents rose steadily. Cost pressures from higher rents might become more visible in early 2008, as lower mortgage rates and buoyant property market transactions are expected to boost property prices for the rest of this year. This will translate into higher house rents in the CCPI. Higher property rents will also increase the cost pressure of service providers as rental constitutes a significant portion of their operating expenses. On a quarter-on-quarter comparison, service prices increased by 1.7% (annualised) in Q3 after growing by 2.2% in Q2, reflecting the higher cost of dining out (Chart 2.18). Rising payroll and material costs, together with higher rentals, are expected to continue to push up service prices.

[11] CPI(A) measures prices of goods and services consumed by households with average monthly expenditure of $4,000-$15,499. CPI(B) covers households with monthly expenditure of $15,500-$27,499 and CPI(C) covers $27,500-$59,999.

Chart 2.19
Inflation measured by the PCE deflator and CPI



Sources: C&SD and staff estimates.

Various price indicators point to a rising trend of inflation. In particular, the personal consumption expenditure (PCE) deflator shows that inflation climbed to 4.4% year on year in Q3, higher than the CPI measures of 2.7% (Chart 2.19). Consumer price inflation is expected to pick up steadily for the remainder of this year, driven by stronger domestic demand and higher import prices. Although higher inflation has increased the cost of living, stronger growth in labour earnings allows real income to continue to rise.

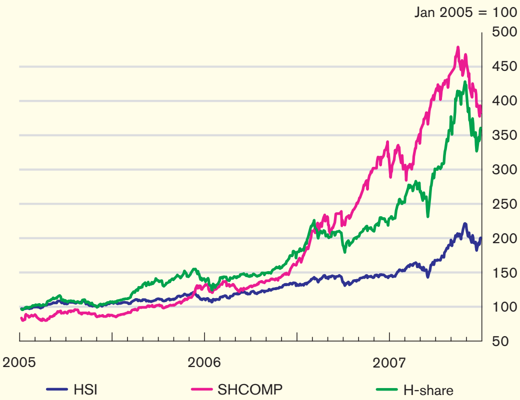
Asset markets

The local equity market continued to rally, with the Hang Seng Index reaching new highs. However, market volatility has increased significantly, and the risk appetite has declined in recent months. In the residential property market, lower mortgage rates and stronger growth in labour income helped boost housing activity, while asset demand is expected to rise on falling real interest rates. Demand for office space and retail premises remained sound, underpinned by strong business activity and a buoyant consumer market.

2.9 Equity market

The review period saw an unprecedented rally in local equities. The rally was propelled by news and rumours on the expansion of the QDII scheme, the establishment of mechanisms to arbitrage between the A and H shares, and the implementation of a "through train" scheme to allow Mainland investors to invest directly in the Hong Kong stock market. The global credit turmoil affected local sentiment only briefly and the subsequent rate cuts by the Fed provided further impetus to the rebound. The market advanced by 55.2% on the Hang Seng Index (HSI) between the lowest point in August and the all-time high at the end of October (Chart 2.20). As investors became increasingly concerned with the sustainability of the high stock valuations, risk appetite fell and strong profit taking emerged, taking advantage of the second wave of write-downs for the financials in the US and rumours about the stalling of the "through train" (Box 3). Despite the correction, the local stock market retained an impressive 38.8% increase for the period as a whole, outperforming practically all other major markets around the world.

Chart 2.20
Equity prices in Hong Kong and Shanghai



Source: Bloomberg.

Box 3
Measuring risk appetite in the Hong Kong stock market

Market practitioners often cite market sentiment or risk appetite as a key factor driving movements in asset prices. Therefore, a measure of investors' attitudes towards risk is an important indicator for monitoring the swings in asset prices. This box presents the derivation of a risk appetite index for the Hong Kong stock market and its recent movements.

A risk appetite index for the Hong Kong stock market

In recent years, a growing number of financial institutions and organisations have been developing measures to quantify the risk appetite, ranging from the IMF's risk appetite index used for market surveillance to indices developed by private financial institutions for understanding the sentiment of investors in financial markets.[12] The risk appetite index (RAI) discussed here treats the risk appetite as a combination of attitudes and perceptions.[13] It captures investors' expectation on the total expected return of the Hang Seng Index (HSI) over different scenarios. Beginning with the basic pricing equation of the asset pricing theory, the RAI is constructed by comparing the expectation from both the HSI option prices and historical HSI prices, respectively. This requires estimations of two density functions:

(i) the forward-looking risk-neutral density function (RND) based on the option prices of the HSI; and

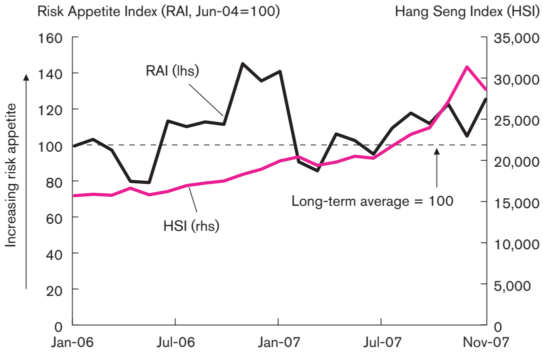
(ii) the statistical probability density function (PDF) from the historical prices of the HSI.

---

12 For instance, JP Morgan has developed three risk indices that identify various components of global risk including liquidity risk, credit risk and volatility risk. Associated with these sub-indices is an index of global risk aversion which combines the three components. This aggregate index has been used by the IMF as an approximation for risk aversion in global financial markets.

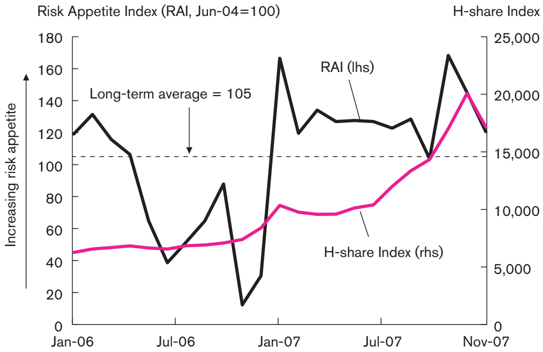
13 See Gai, P. and N. Vause (2006): "Measuring Investors' Risk Appetite", *International Journal of Central Banking*, 2, 167-188.

Chart B3.1
Risk appetite for Hang Seng Index



Sources: Staff estimates and Bloomberg.

Chart B3.2
Risk appetite for H-share Index



Sources: Staff estimates and Bloomberg.

The measure of risk appetite (or the unit price of risk) at time t is given by: [14]

$$\lambda_t = \frac{1}{R^f_{t+1}} \operatorname{var}\left(\frac{f^*_{t+1}(HSI)}{f_{t+1}(HSI)}\right) \qquad (1)$$

where λ_t is the unit price of risk, which indicates the investors' appetite towards risk of the HSI at time t, R^f_{t+1} is the one-period ahead risk-free rate of return at time t, f^*_{t+1} (HSI) is the implied RND of the HSI at time t +1 based on the HSI options at time t, f_{t+1} (HSI) is the statistical PDF of the HSI at time t +1 based on cash prices at time t, and var( ) is the variance operator. The measure of risk appetite is then re-based and expressed as an index to form the RAI.[15] Due to the increasing importance of H-shares, a risk appetite index for H-shares, based on the Hang Seng China Enterprise Index (H-share Index), is also constructed for monitoring the sentiment of the stock market.[16]

Risk appetite measures

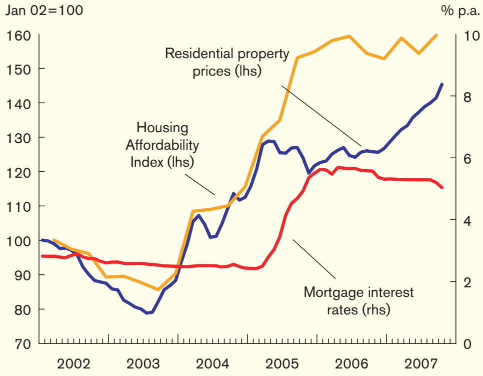
Chart B3.1 depicts the movement of the RAI for the HSI since 2006, while Chart B3.2 is the RAI for the H-share Index. A high value of RAI is interpreted as an indication of the high risk appetite of investors. The RAIs appear to conform to the swings in the HSI and the H-share Index respectively on several occasions. For example, the bull run in the stock market starting from the second half of 2006 coincided with the optimism of investors, which was reflected by the highest level of the RAI for the HSI attained in October 2006. Since September 2007, the RAIs for the two indices have evolved differently. While the RAI for the HSI declined in October only to rebound in November, the RAI for the H-share Index declined during both months. The difference may reflect the mood of investors becoming increasingly cautious about the sustainability of the high valuation of H-shares.

[14] For details of the derivation, see Yu and Tam (2007), "Measuring Market Sentiment in Hong Kong's Stock Market", *HKMA Working Paper*, http://www.info.gov.hk/hkma/eng/research/working/pdf/HKMAWP07_05_full.pdf.

[15] The index is set at 100 in June 2004.

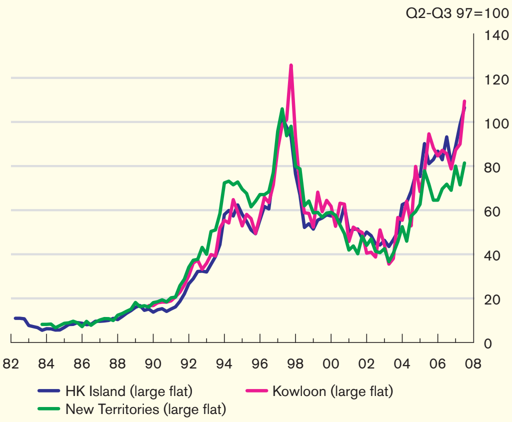
[16] The construction of this index is similar to the method for the HSI. See Yu and Tam (2007), "Measuring Market Sentiment in Hong Kong's Stock Market – Recent Development of the Hang Seng China Enterprise Index", *HKMA Research Note*, http://www.info.gov.hk/hkma/eng/research/notes/pdf/RN-04-2007.pdf for details.

Chart 2.21
Property price, interest rate and housing affordability



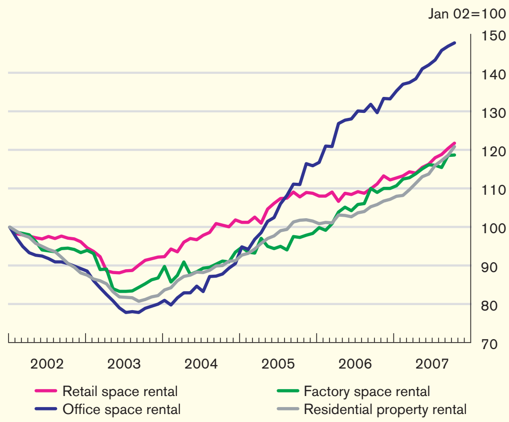
Sources: Rating & Valuation Department and C&SD.

Chart 2.22
Average transacted prices of luxury flats



Source: Rating & Valuation Department.

Chart 2.23
Rental indices by property type



Sources: Rating & Valuation Department, C&SD and staff estimates.

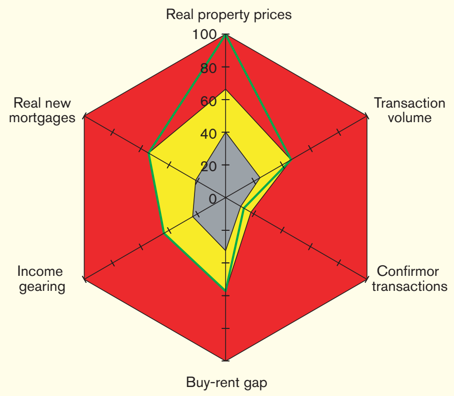
2.10 Property market

Easing monetary conditions and growing household income continue to boost property market activity. Residential property prices grew by 3.4% quarter on quarter in Q3 after rising by 3.8% in Q2. The volume of transactions contracted by 2.9% in Q3 following a strong expansion of 29.9% in the previous quarter. Monthly indicators show that house prices and transactions increased steadily in October and November, as lower mortgage rates have improved housing affordability (Chart 2.21). However, the recent rise in house prices has raised concerns over the risk of asset price inflation in the face of falling real interest rates. In particular, the average transacted price of luxury flats (with size 160 m^2 or above) on Hong Kong Island has breached the peak level in 1997, while luxury flat prices in other areas have risen close to their record highs (Chart 2.22).

Growing needs for business expansion have kept commercial rents rising faster than house rents (Chart 2.23). On a quarter-on-quarter comparison, growth in office rents rose to 3.5% in Q3 from 2.9% in Q2. As the vacancy rate of Grade A office space in the core area has declined to a record low, corporate owners have to seek new office space in other areas. As a result, premium office rentals outside the core area have picked up faster during the first three quarters of this year. Powered by a buoyant consumer market, rental of retail premises increased by 3.3% in Q3 after rising by 1.6% in Q2. Benefiting from the growing number of Mainland tourists and rising household spending, the rental of retail premises in shopping areas is expected to increase further in 2008.

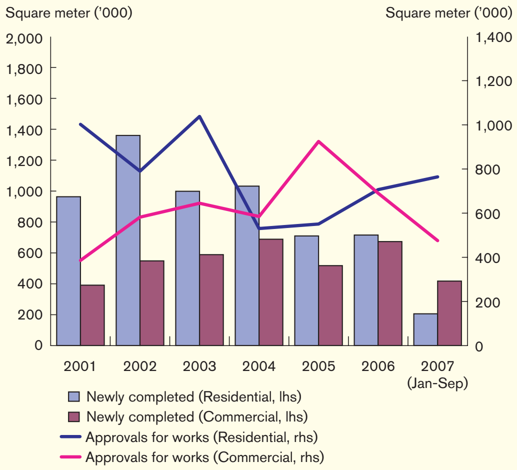
The recent 50 basis-point cuts in the best lending rate and the rising inflation rate will reduce the cost of home financing in real terms, thus providing further stimulus to property market activities in coming months. Overall, there are no apparent signs of overheating in the housing market, although growing demand for residential property has attracted some speculative activity. The number of confirmor transactions, which is an indicator of the extent of speculative activity in the housing market, has picked up recently, but the proportion to total number of transactions remained low at 1.3% in

Chart 2.24
Graphical analysis of the housing market



Sources: Rating & Valuation Department, Land Registry, C&SD, Centaline Property Agency Limited, and staff estimates.

Chart 2.25
Supply of residential and commercial properties



Sources: C&SD and Buildings Department.

Q3, much below the level seen in 1997 (Chart 2.24).[17] While prices of luxury flats have reached record highs, house prices in the mass market are still 33% below the peak level in 1997 in real terms. Higher property prices are expected to increase the debt-servicing burden of home buyers, but lower mortgage rates and stronger income growth have kept the income gearing ratio (ratio of mortgage payment to household income) at a healthy level of 28%, much lower than the 64% in mid-1997. A vibrant labour market and the favourable interest rate outlook will continue to stimulate demand from home buyers, while asset demand will also increase on the back of lower real interest rates.

Growing demand in the property market has attracted more developers to increase their land reserves, which should increase the supply of residential and commercial buildings in the years ahead. While newly completed residential properties (measured in terms of the floor area built) contracted by 59% year on year in the first nine months of 2007, approvals for commencement of building residential units increased by 26%, suggesting that housing stocks will pick up steadily (Chart 2.25). In the commercial property segment, newly completed office spaces and commercial areas expanded by 10% from January to September following an increase of 30% in 2006. Reflecting stronger demand for office space, approvals for commencement of building commercial units increased by 36% in the first nine months of 2007. As it usually takes 2-3 years to complete the construction of commercial buildings, the vacancy rate is expected to stay low in the core area due to limited supply.

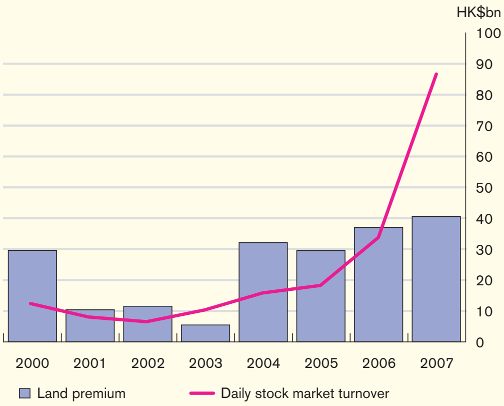
[17] See Chan, N., W. Peng and K. Fan (2005), "A graphical framework for monitoring the property market in Hong Kong", *HKMA Quarterly Bulletin*, March 2005.

Public finances

The fiscal outturn for 2007/08 is likely to see a larger surplus than the Budget estimates due to increased revenue from land premium and stamp duties as a result of the favourable conditions in the property market and buoyant stock market activity. With its strengthened fiscal position, the Government announced plans to cut tax in 2008/09 and to accelerate the start of a number of infrastructure projects, which will boost growth and employment.

2.11 Public finances

Chart 2.26
Stock market turnover and land premium[1,2]



Notes:
1. Land premium is measured on a fiscal year basis, and the figure for 2007 includes the revenue received in the first half of 2007/08.
2. The 2007 figure of stock market average daily turnover covers the period from January to November.

Sources: CEIC and staff estimates.

The fiscal position of the Government in the current financial year is expected to be stronger than the projection made in the Budget. The Financial Secretary once said that the fiscal surplus may reach HK$50 billion in 2007/08, much higher than the Budget estimate of HK$25.4 billion.[18] This mainly comes from higher-than-expected revenue from land premium and stamp duties. With the strong rally in equity prices, this year's average daily stock market turnover was more than double last year's level, boosting stamp duties collected from equity transactions. Proceeds from land auctions are also higher than previous expectation, reaching HK$40 billion in the first half of 2007/08, compared with the full-year estimate of HK$39 billion in the Budget (Chart 2.26).

Under the new income-sharing arrangement between the Government and the Exchange Fund, an investment income of about HK$26 billion will be added to the fiscal reserves in 2007/08.[19]

18 In a radio programme broadcasted on 13 October, the Financial Secretary said the fiscal surplus may reach HK$50 billion in the current financial year.

19 Under the new income-sharing arrangement, the annual investment return on the fiscal reserves will be calculated based on the average rate of return of the Exchange Fund's investment portfolio over the past six years, with the guarantee of a minimum return not lower than the average yield of three-year Exchange Fund Notes in the previous year.

On the back of a strengthened fiscal position, the Chief Executive announced in his Policy Address that he would lower the standard rates of salaries tax and profits tax to 15% and 16.5% respectively in 2008/09, and to grant another property rates concession in the first quarter of 2008. More details about possible tax relief measures will be announced in the forthcoming Budget Speech by the Financial Secretary. The Government also promised to accelerate the commencement of infrastructure projects. These policy initiatives are expected to stimulate growth and employment. Given the subdued residential investment and the relatively high unemployment rate in the construction sector, increased infrastructure spending is expected to have limited crowding-out effect on private investment.

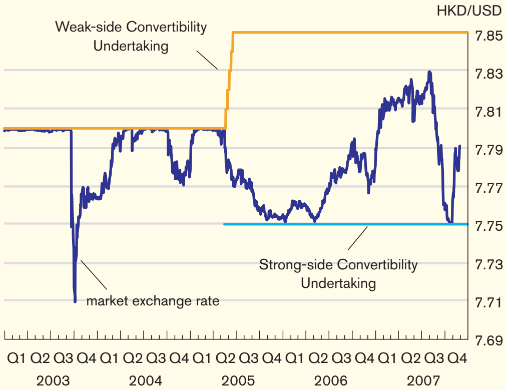
3. Monetary and financial sector

Exchange rate, interest rates and monetary developments

The Hong Kong dollar spot exchange rate strengthened towards the strong-side Convertibility Undertaking (CU) in late October. Taking into account market conditions, the HKMA operated within the Convertibility Zone to sell Hong Kong dollars on 23 October. Subsequently, the strong-side CU was triggered on 26 and 31 October. The HKMA sold a total of HK$9.4 billion of Hong Kong dollars between 23 and 31 October, increasing the Aggregate Balance to HK$10.6 billion. As a result, interbank interest rates declined and their negative spreads against US dollar interest rates widened. Local monetary conditions eased somewhat, with monetary aggregates and domestic loans growing at a brisk pace.

3.1 Exchange rate and interest rates

Chart 3.1
Hong Kong dollar exchange rate

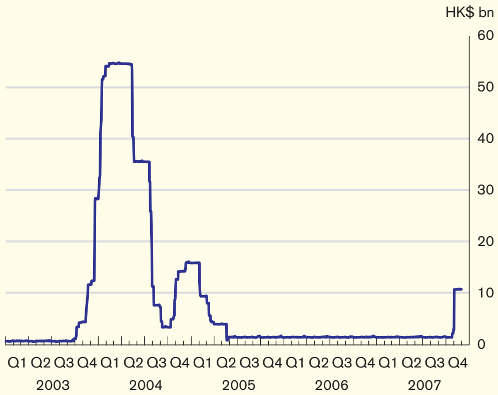


Source: HKMA.

The Hong Kong dollar spot exchange rate generally depreciated in the first seven months of 2007, reaching a peak of 7.8295 on 2 and 3 August (Chart 3.1). This partly reflected interest rate arbitrage activities taking advantage of the negative Hong Kong dollar-US dollar interest rate spreads.

From August to October, the Hong Kong dollar exchange rate quickly strengthened towards the strong-side Convertibility Undertaking (CU) of 7.75. The appreciation of the exchange rate was due to several factors. In August, the US sub-prime mortgage problems and the resultant increase in global risk aversion induced the unwinding of Hong Kong dollar-funded carry trade positions. Later, equity-related demand for Hong Kong dollars increased substantially under the influence of a series of well-subscribed initial public offerings (IPOs) between September and November. A buoyant stock market, which was partly boosted by the announcement of the “through train” scheme allowing Mainland residents to invest in the local stock market as well as the extension of the Qualified Domestic Institutional Investor scheme, also helped sustain higher equity-related demand for the Hong Kong dollar.

Chart 3.2
Aggregate Balance
(before Discount Window Activity)



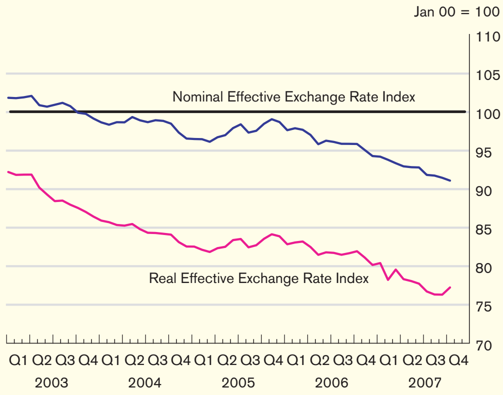
Source: HKMA.

Following the strengthening of the Hong Kong dollar to near the strong-side CU, the HKMA conducted a monetary operation within the Convertibility Zone on 23 October, the second time since the introduction of the three refinements. On that day, the Hong Kong dollar spot exchange rate once touched 7.75 although no banks approached the HKMA to activate the strong-side CU. Meanwhile, short-term HIBORs were firm and an anticipated large IPO was expected to tighten the money market considerably. Taking into account the prevailing market conditions, the HKMA operated within the Convertibility Zone, selling Hong Kong dollars against US dollars. Consequently, the Aggregate Balance increased by HK$775 million on 25 October (Chart 3.2). This proactive operation was consistent with the Currency Board principles as the increase in the Aggregate Balance, which is a component of the Monetary Base, was fully matched by the equivalent rise in the US dollar foreign reserves.

Thereafter, licensed banks triggered the strong-side CU of 7.75 once on 26 October and five times on 31 October, prompting the HKMA to passively sell Hong Kong dollars against US dollars at HK$7.75/US$. The strong demand for Hong Kong dollars was supported by persistent equity-related inflows associated with a large IPO and a buoyant stock market. Unfounded rumours regarding possible changes to the peg also briefly boosted speculative demand for Hong Kong dollars. With the triggering of the strong-side CU, the Aggregate Balance increased by HK$775 million on 30 October and by HK$7.828 billion on 2 November.

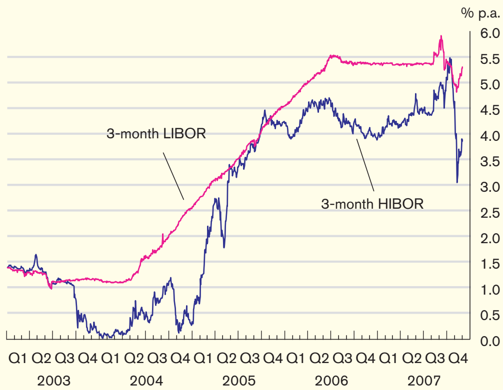
From November, the Hong Kong dollar exchange rate against the US dollar moderated to around the central rate of 7.78, attributable to carry trades amid a low interbank interest rate environment. In the absence of further triggering of the CU, the Aggregate Balance closed at around HK$10.6 billion at the end of November, after staying at HK$1.3 billion for a considerable period (Chart 3.2).

Chart 3.3
Nominal and real effective exchange rates



Note: Real Effective Exchange Rate Index is seasonally adjusted.
Source: HKMA, staff estimates.

Chart 3.4
Interest rates of the Hong Kong dollar and US dollar



Source: HKMA.

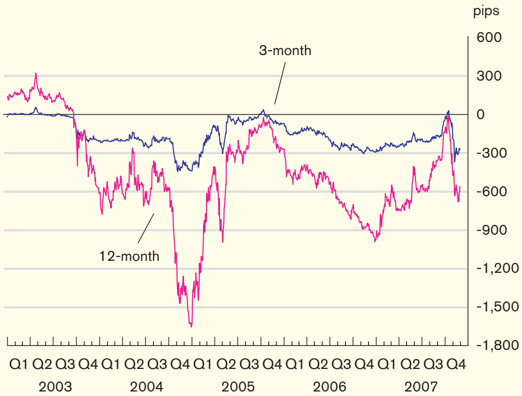
While the Hong Kong dollar nominal exchange rate against the US dollar appreciated by 1.0% from peak to trough in recent months, the trade weighted nominal and real effective exchange rate indices of the Hong Kong dollar depreciated by 3.3% and 3.9% respectively between January and October, owing to the depreciation of the US dollar against other major currencies. The real effective exchange rate index declined at a slightly faster pace than the nominal one partly because of higher inflation rates in Mainland China relative to Hong Kong (Chart 3.3).

Hong Kong dollar interbank interest rates generally increased between January and mid-September, first as a result of interest rate arbitrage activities, and then the increased liquidity demand arising from concerns about the contagion effect of the US sub-prime mortgage problem (Chart 3.4). There were temporary decreases in short-term HIBORs when the US Fed cut both the Fed Funds Target Rate and the discount rate by 50 basis points to 4.75% and 5.25% respectively on 18 September. The three-month HIBOR declined to 4.50% on 19 September, in line with a lower three-month LIBOR.

Short-term HIBORs rose again shortly after the cut in the US dollar policy interest rates. The three-month HIBOR reached a high of 5.48% on 12 October, underpinned by the increased funding demand associated with vigorous IPO activities of Mainland companies. (Box 4 analyses the significance of Mainland shocks in determining short-term HIBORs after controlling for the influences of US variables.) For a short period, the HIBOR was higher than the corresponding LIBOR, as the latter was decreasing along with the easier US monetary policy. This resulted in a temporarily positive HIBOR-LIBOR difference in mid-October, reversing the trend of narrowing negative interest rate spreads.

From mid-October, Hong Kong dollar interbank interest rates eased. The easing gained momentum when the supply of liquid funds in the interbank market increased because of the expansion in the Aggregate Balance after the activation of the strong-side CU. The three-month HIBOR-LIBOR differential also turned negative again and started widening. On 31 October, the US Fed reduced the Target Rate by another 25 basis points to 4.50%, further

Chart 3.5
Hong Kong dollar forward exchange rate



Source: HKMA.

reinforcing the decreases in HIBORs and LIBORs. Since mid-November, short-term HIBORs have rebounded, reflecting higher liquidity demand associated with IPO activities.

Despite momentarily turning from discounts to small premiums in mid-October, the Hong Kong dollar forward points were generally negative, narrowing from January to mid-October but widening thereafter (Chart 3.5). This was in line with the movements of the HIBOR-LIBOR spreads. The three-month and 12-month forward discounts closed at -250 and -545 pips respectively on 30 November.

Box 4
How do macroeconomic developments in Mainland China affect Hong Kong's short-term interest rates?

Under the Linked Exchange Rate system (LERS), Hong Kong dollar interest rates should closely track US interest rates. But increasing financial integration between Hong Kong and Mainland China has raised the possibility that Mainland factors might exert greater influence. This box examines the significance of Mainland factors in determining Hong Kong's interest rates after controlling for the influences of US factors.[20]

Under the specific institutional features of the LERS, which encompasses a Convertibility Zone bounded by the Convertibility Undertakings, HIBORs and LIBORs are expected to have a complex relationship. While HIBOR may not diverge significantly from LIBOR, the differential does not have a tendency to revert to zero or a constant mean. In other words, HIBOR and LIBOR may not have a fixed long-run equilibrium relationship. Empirical tests indicate the null hypothesis that there is no co-integration between HIBOR and LIBOR, and that the interest rate spread is not a stationary process, cannot be rejected after explicit Convertibility Undertakings were introduced in the LERS. This allows for the possibility of persistent influences by Mainland factors on HIBOR.

The response of HIBOR to a particular shock relating to the Mainland is theoretically ambiguous, depending on the relative impact on the demand for and supply of Hong Kong dollars that reflect the prevailing macroeconomic and market conditions, as well as investor sentiment. For example, a positive output shock could be indicative of improved earnings of Mainland companies. This may induce increased investments in their stocks on the Hong Kong market and the resultant higher demand for Hong Kong dollars relative to supply could raise the short-term HIBOR. On the other hand, a positive output shock on the Mainland could signal a build-up of overheating pressure and affect market sentiment negatively. This could lead to

[20] For more details, see "How do macroeconomic developments in Mainland China affect Hong Kong's short-term interest rates?" by Dong He, Frank Leung and Philip Ng, HKMA Working Paper 17/2007.

reduced investments in Mainland-related stocks on the Hong Kong market and a lower demand for Hong Kong dollars relative to supply, prompting a decrease in the short-term HIBOR.

To understand dynamic responses of the three-month HIBOR to Mainland shocks, a seven-variable vector auto-regression (VAR) model is constructed consisting of the US non-farm payroll, the three-month LIBOR, the US nominal effective exchange rate index, Mainland industrial production, Mainland policy interest rate, Mainland M2 and the three-month HIBOR.

Response functions generated from the estimated VAR model suggest that an unexpected rise in the Mainland policy interest rate or higher-than-expected growth in Mainland output or money supply in general produces a positive and hump-shaped effect on the three-month HIBOR (Chart B4.1). In fact, the effect of these Mainland shocks has become more visible in recent years, as indicated by the results using a sample period between 2001 and 2006, during which the importance of

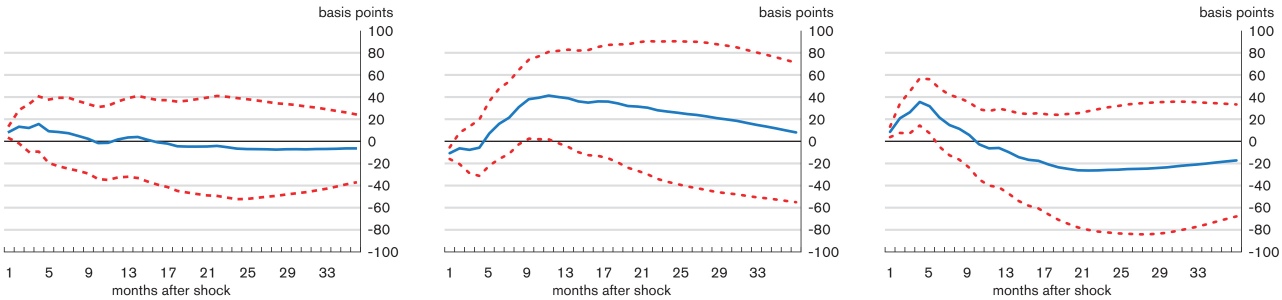
Chart B4.1
Responses of the three-month HIBOR to Mainland shocks

Panel A: sample period between January 2001 and December 2006

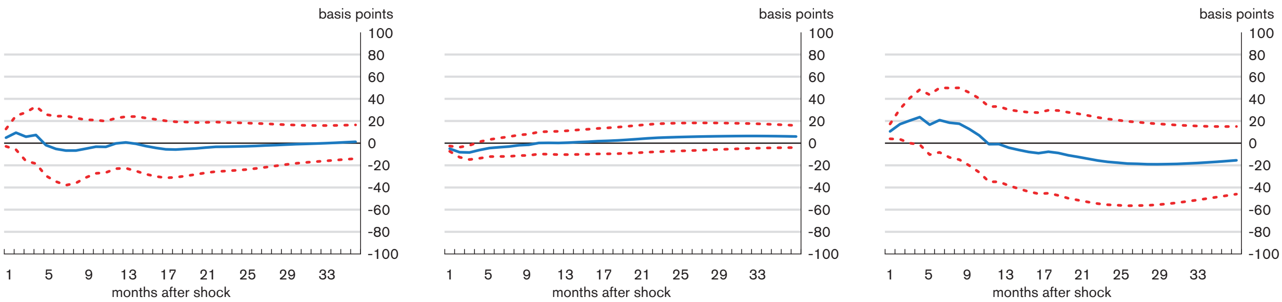
Shock: growth rate of industrial production (sa) increases by 1 percentage point

Shock: policy interest rate increases by 18 basis points

Shock: growth rate of monetary aggregate M2 (sa) increases by 0.4 percentage points



Panel B: sample period between September 1998 and December 2006



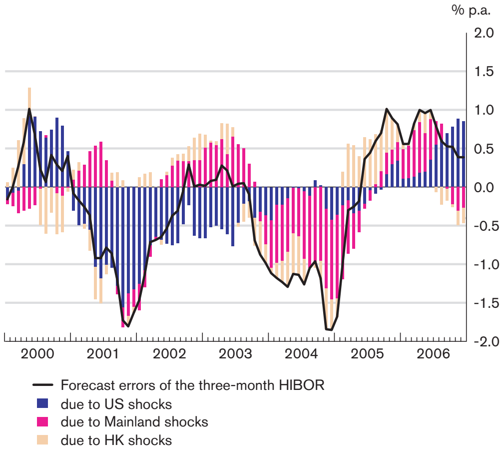
Note: The response functions (solid lines) and the standard error bands (dashed lines) are in units of basis point. Each shock value corresponds to one standard deviation of the specific VAR variable.

Table B4.A
Forecast error variance decomposition of the three-month HIBOR

Forecast Horizon (Months)	Forecast Error Variance Decomposition (Percentage Points)		
	US	Mainland	HK (HIBOR)
	Panel A. Sample period: 1998:09-2006:12		
3	58.4	24.5	17.1
18	82.7	12.6	4.7
36	72.8	22.9	4.3
	Panel B. Sample period: 2001:01-2006:12		
3	34.8	33.9	31.3
18	39.4	49.0	11.6
36	44.9	39.0	16.1

Source: He, Leung and Ng (2007).

Chart B4.2
Historical decomposition of forecast errors of the three-month HIBOR



Source: He, Leung and Ng (2007).

Mainland-related (predominantly H-share) stocks in Hong Kong increased significantly (compare Panel A and Panel B of Chart B4.1).

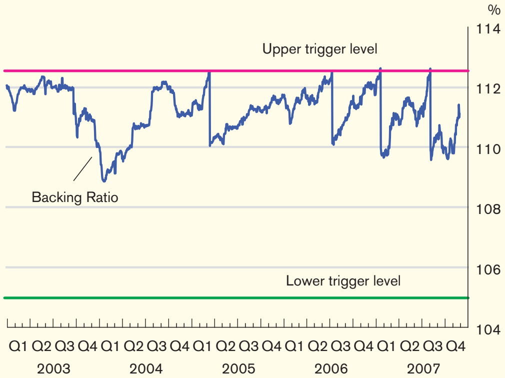
This raises the question: has the influence of Mainland shocks become more important in recent years as financial integration between Hong Kong and the Mainland gathered pace? Two statistical exercises are done to answer this question.

First, the forecast error variance of the three-month HIBOR at a particular horizon is broken down into the components accounted for by different shocks originated from the VAR variables. Despite the increasing importance of Mainland stocks, forecast error variance decomposition shows that US shocks still dominate, especially in the medium and long run, in explaining unexpected HIBOR developments (Table B4.A). However, the influence of Mainland shocks has been rising, as evidenced by the growing contribution of these shocks to the unexpected variation in HIBOR in more recent times (compare Panel A and Panel B of Table B4.A).

Secondly, the in-sample actual value of HIBOR is broken down into a part that is forecast on the basis of the estimated dynamics of the VAR system and a part that depends on shocks that have occurred during 2000-2006. This historical decomposition shows that from autumn 2003 to spring 2005 the forecast errors of the three-month HIBOR were mainly due to Mainland factors (Chart B4.2). This is consistent with the impression that the easing of short-term HIBOR in this period was the result of large speculative fund flows into the Hong Kong dollar market, driven by market expectation that the Hong Kong dollar might appreciate along with the renminbi. In 2006, unexpected HIBOR movements were again mainly due to Mainland factors, reflecting buoyant IPO activities of Mainland firms.

With the introduction of the three refinements to the LERS in May 2005, the HIBOR-LIBOR spread should be bounded inside a band that reflects the width of the Convertibility Zone of the LERS. The findings of this study imply that Mainland-related shocks could exert a significant influence on the actual size of the spread within the band.

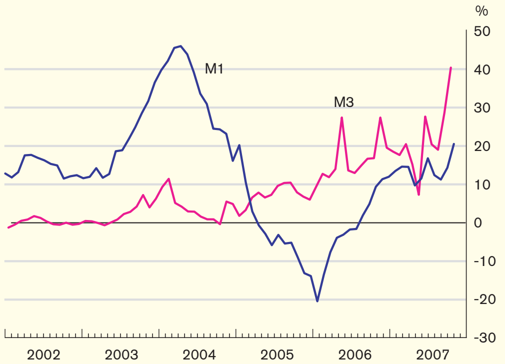
Chart 3.6
Backing Ratio



Note: The Backing Ratio is the ratio of Backing Assets to the Monetary Base. Under the arrangements for transferring assets between the backing portfolio and the investment portfolio of the Exchange Fund, when the backing ratio reaches 112.5% (the upper trigger level), sufficient assets will be transferred from the backing portfolio to the investment portfolio to reduce the ratio to 110%. Should the backing ratio drop to 105% (the lower trigger level), assets will be transferred from the investment portfolio to the backing portfolio to restore the ratio to 107.5%.

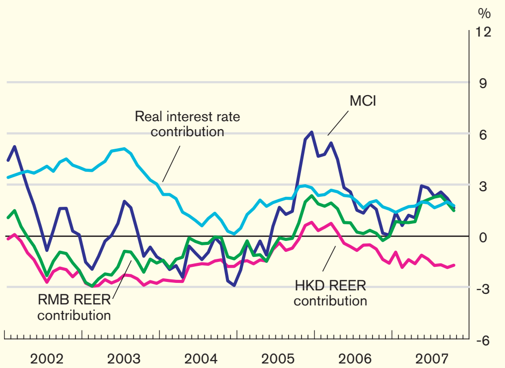
Source: HKMA.

Chart 3.7
Year-on-year growth in monetary aggregates



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

Chart 3.8
Monetary conditions index



Note: MCI is a weighted sum of the real interest rate and the 4-quarter changes in the Hong Kong dollar and renminbi real effective exchange rates.
Source: HKMA, staff estimates.

3.2 Monetary Base and the Backing Ratio

The Monetary Base expanded steadily in the second half of 2007, attributable to the rise in the market value of the Exchange Fund papers. In late October, the Monetary Base increased further because of the sharp expansion in the Aggregate Balance following the HKMA's market operations. Reflecting interest income and valuation gains, the Backing Ratio rose to 112.6% on 6 August, surpassing the Upper Trigger Level of 112.5% (Chart 3.6). Under the arrangements approved by the Financial Secretary in January 2000, assets were transferred out of the backing portfolio to the investment portfolio of the Exchange Fund to reduce the Backing Ratio to around 110% on 7 August. After that, the Backing Ratio fluctuated around this level, as the effect of higher interest income on the Backing Ratio was offset by the expansion of the Monetary Base as well as valuation losses as a result of the strengthening of the Hong Kong dollar against the US dollar. In November, the Backing Ratio increased again and closed at 111.1% at the end of the month.

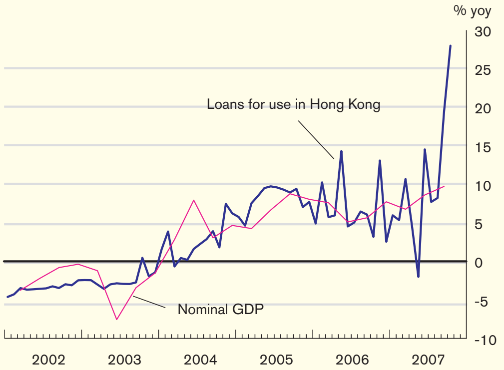
3.3 Money, credit and monetary conditions

Monetary aggregates continued to grow at a brisk pace (Chart 3.7). The year-on-year growth rates of Hong Kong dollar M1 averaged 13.6% between January and October, supported by steady economic growth, increased stock market turnover and vibrant IPO activities. The rise in Hong Kong dollar M3 was also strong on the back of solid economic expansion, with year-on-year growth rates averaging 21.1% over the same period. There were some sharp increases in the growth of monetary aggregates in the past two years when heavily subscribed IPOs were present around the end of a calendar month. Demand deposits increased notably as people used cheques for IPO subscription. Time deposits also rose markedly in the week to the refund day because the subscription money was temporarily placed as interest-bearing time deposits in local banks.

Local monetary conditions eased in the latter part of 2007, as indicated by the moderation of the monetary conditions index (MCI) (Chart 3.8). This was mainly due to a depreciation of the Hong Kong dollar real effective exchange rate. The MCI is expected to loosen somewhat in the near future because of a depreciating Hong Kong dollar real exchange rate contributed by sustained weakness in the US dollar. The decline in Hong Kong dollar interest rates, coupled with rising domestic inflation, could also decrease the MCI in the near term through a lower real interest rate.

Domestic loan growth has been increasing since early 2007, underpinned by the pick-up in nominal GDP growth as well as buoyant stock market activities. But the growth rate has been volatile because of intermittent spikes in credit demand induced by IPOs (Chart 3.9). The growth of loans for use in Hong Kong was generally broad-based and accompanied by improving asset quality (see Section 3.8 for more details). There was no sub-prime mortgage lending by banks in Hong Kong.

Chart 3.9
Loans for use in Hong Kong and nominal GDP



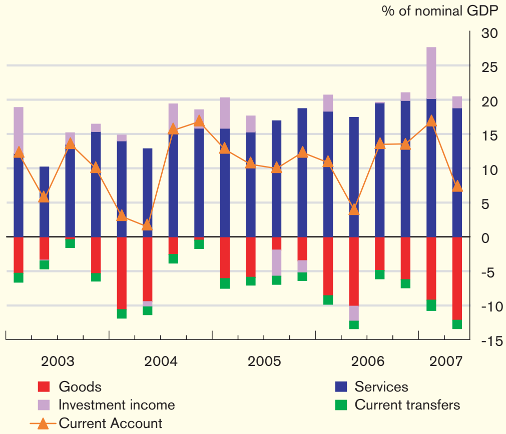
Sources: HKMA and Census & Statistics Department.

3.4 Capital flows

The second-quarter Balance of Payments (BoP) statistics showed an increase in reserve assets for the eighth consecutive quarter. The latest statistics from the HKMA revealed that the foreign currency reserve assets continued to rise from July to November.

The current account remained in surplus in the first half of 2007, as the persistent surpluses in service trade exceeded the widened deficits in merchandise trade (Chart 3.10 and Table 3.A). The service trade surpluses were mainly due to transportation and trade-related services, while net exports of financial services also recorded larger surpluses because of buoyant stock market activities.

Chart 3.10
Contributions to current account surplus



Source: Census & Statistics Department.

The non-reserve financial account continued to record net outflows in 2007 Q1 and Q2, largely as a result of the net other investment outflows (Table 3.A). The net outflows of currency and deposits held by banks, which are major components of the "other investment" account, were the main contributors.

Table 3.A
Balance of payments account by standard components

	2005	2006	2006		2007	
In percent of GDP			Q3	Q4	Q1	Q2
Current Account	11.4	10.6	13.5	13.5	16.8	7.0
Capital and Financial Account	-13.2	-13.7	-15.9	-16.4	-14.6	-10.6
Capital transfers	-0.4	-0.2	-0.5	-0.1	-0.3	1.0
Financial non-reserve assets (net change)	-12.1	-10.4	-12.0	-13.3	-10.9	-9.0
Direct investment	3.6	-0.3	-4.2	3.5	0.4	6.3
Portfolio investment	-17.7	-17.5	4.6	-57.4	1.6	-5.3
Financial derivatives	2.2	2.6	2.2	3.4	7.1	4.2
Other investment	-0.2	4.8	-14.6	37.2	-20.0	-14.2
Reserve assets (net change)	0.8	3.2	3.5	3.0	3.3	2.6
Net errors and omissions	1.8	3.1	2.5	2.9	-2.2	3.6

Source: Census & Statistics Department.

Large equity portfolio investment outflows were due to Hong Kong residents buying H-shares of Mainland companies, which are treated as foreign equity in the BoP statistics. On the other hand, the net direct investment inflows into Hong Kong during the first half of 2007 reflected favourable domestic economic conditions and improved business confidence.

Banking sector performance

Retail banks' profits have strengthened further with a broadly-based improvement in incomes outstripping operating expenses and new provisions. Capitalisation and liquidity remained strong, and asset quality has continued to improve. Interbank liquidity tightened in the early part of the assessment period, largely due to the disruption in global credit markets and IPO activities.[21] *Although liquidity conditions appear to have eased and stabilised since late October following the HKMA's market operations, they need to be closely monitored because of rising volatilities in global financial markets partly resulting from the unsettled sub-prime crisis in the United States, and the possible implications for the general availability of credit. While the performance of the banking sector has benefited significantly from the buoyant stock market, with strong share-related loan growth and a sharp increase in fees and commission income, banks have also become increasingly exposed to the volatile stock market, given the increasing contributions of share-related lending and incomes to banks' loan portfolios and earnings. Banks should thus be vigilant to the possible risk of a sharp correction in stock prices.*

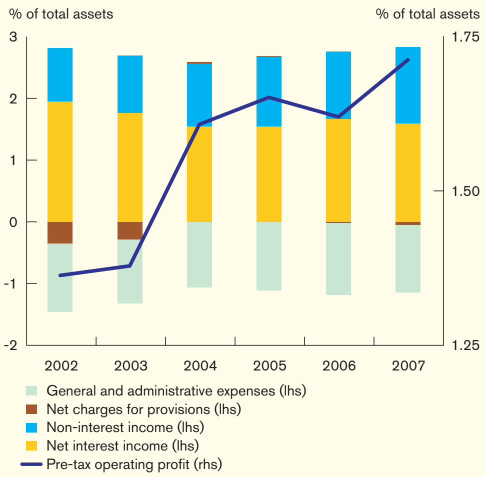
3.5 Profitability and capitalisation

Profitability

Retail bank profitability, measured by pre-tax operating profit as a percentage of total assets, continued to improve in the six months to September 2007 (Chart 3.11). Profitability was supported by strong growth in both net interest income and non-interest income. These more than offset higher general and administrative expenses arising from a significant increase in staff and rental expenses, and net charges for provisions.

The increase in net interest income was due to both an expansion of interest-bearing assets and an improvement in net interest margins. The former was due to a significant growth in loans and advances to customers and interbank lending, which outweighed a slight decline in negotiable debt instruments held from March 2007 to September 2007.

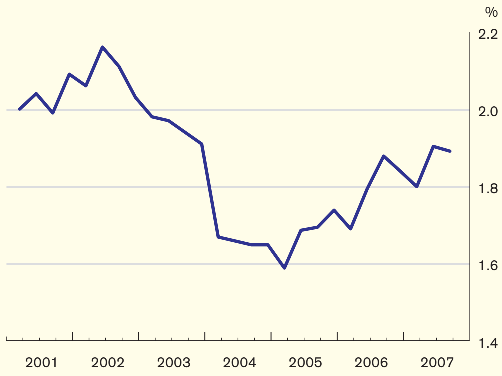
Chart 3.11
Profitability of retail banks



Note: Figures for 2007 are annualised figures of the first three quarters of 2007.
Source: HKMA.

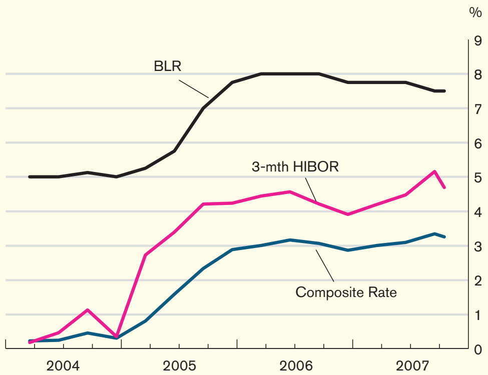
[21] Unless otherwise stated, the assessment period in this chapter refers to the six-month period from the end of March 2007 to the end of September 2007.

Chart 3.12
Net interest margin of retail banks



Note: Quarterly annualised figures.
Source: HKMA.

Chart 3.13
Composite interest rate



Note: End of period figures.
Source: HKMA.

Net interest margins improved since the last assessment (Chart 3.12), mainly attributable to higher interest margins from HIBOR-based lending as a result of higher HIBORs.[22] The rise in HIBORs was driven by increased funding demand associated with vigorous initial public offering (IPO) activities in the assessment period.[23] However, interest margins earned from Best Lending Rate (BLR)-priced lending narrowed, partly due to the 25 basis-point cut in the BLR in mid-September 2007 against significant rises in the cost of funds of retail banks. During the assessment period, the three-month HIBOR increased by 43 basis points (from the end of April 2007 to the end of October 2007), while the BLR decreased by 25 basis points.[24, 25] The composite interest rate, which reflects the average cost of funds of retail banks, was up by 29 basis points (Chart 3.13).

Non-interest income registered significant increases on the back of strong growth in fees and commission income relating to stock market activities. As a result, the share of non-interest income to total operating income rose to 45% in the six months to September 2007, from 41% in the previous assessment period. This appears to be consistent with recent trends that banks may have deliberately diversified their income into fee-based businesses, particularly stock brokerage businesses. Given such developments, banks' revenue may become more susceptible to a sharp contraction in stock market activities. How this would affect the stability of banks' income should be closely monitored.

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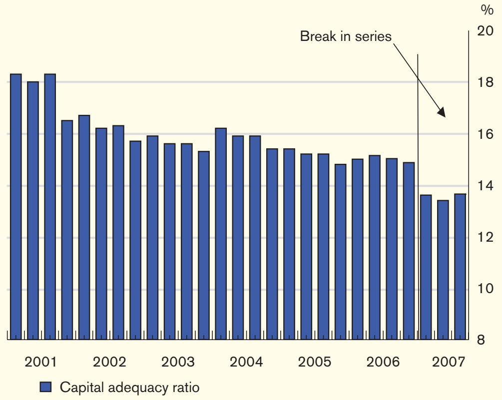
22 During the period, HIBORs increased more rapidly than the cost of funds. In addition, retail banks as a whole is a net lender in the interbank market.

23 HIBORs, in particular those with short-term maturity, were affected by IPO activities in the stock market, as demand for short-term funds in the market increased for stock subscriptions.

24 Best Lending Rate (BLR) refers to the rate quoted by The Hongkong and Shanghai Banking Corporation Limited.

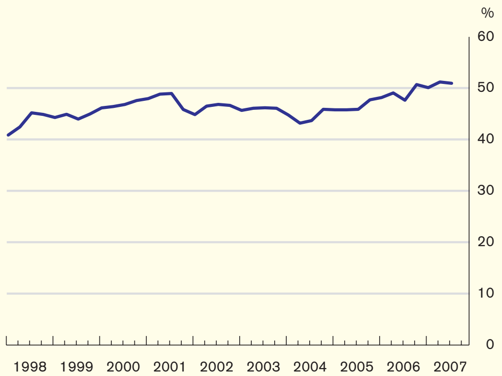
25 Banks downward adjusted their BLRs and savings deposit rates by 25 basis points on 20 September 2007.

Chart 3.14
Capitalisation of locally-incorporated AIs



Source: HKMA.

Chart 3.15
Liquidity ratio of retail banks



Source: HKMA.

Capitalisation

The aggregate consolidated capital adequacy ratio of locally incorporated authorized institutions (AIs) increased slightly to 13.6% at the end of September 2007 from 13.4% at the end of June (Chart 3.14).[26] This level remains well above the minimum international standard of 8%.

3.6 Liquidity and funding

As intermediaries transforming deposits into less liquid loans, banks inevitably are subject to liquidity risk. It is important to monitor such risk and ensure that banks have sufficient liquidity to fulfil both expected and unexpected financial commitments as they arise.

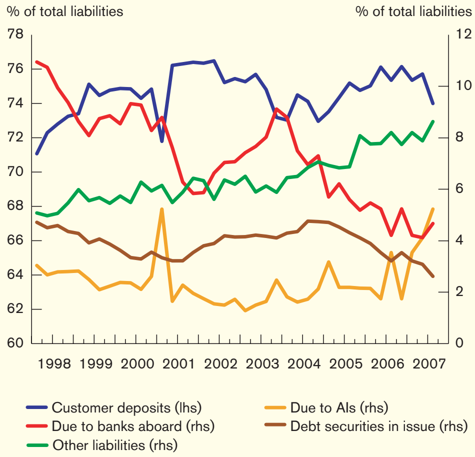
In 2007 Q3, the average liquidity ratio of retail banks rose further to 51.0%, substantially higher than the regulatory minimum of 25% (Chart 3.15), suggesting that liquidity risk of retail banks was generally well-contained.

Liquidity conditions in the interbank market form a major determinant of banks' vulnerability to liquidity risk, as they govern how easily banks can raise funds with short notice through interbank borrowing. Interbank liquidity tightened generally from August onwards, largely due to the disruption in global credit markets as a result of the sub-prime mortgage problems in international markets, and a string of IPOs, which temporarily tied up a substantial amount of short-term funds. Although liquidity conditions appeared to have eased and stabilised since late October following the market operations by the HKMA[27], they need to be closely monitored, because of rising volatilities in global financial markets due partly to the unsettled sub-prime crisis in the US and their possible implications for the general availability of credit.

[26] 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 until December 2006.

[27] On 23, 26, and 31 October 2007, the HKMA undertook market operations and bought US dollars. As a result of these operations, the size of the Aggregate Balance increased from HK$1.3 billion on 23 October to HK$10.6 billion on 2 November.

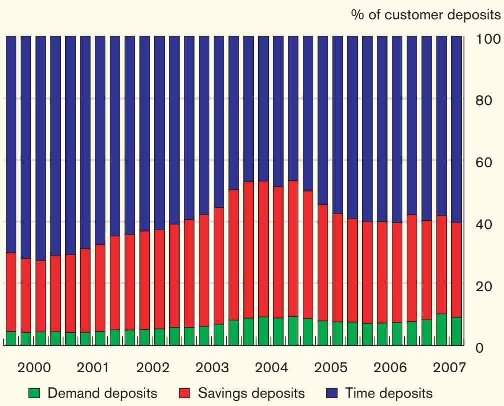
Chart 3.16
Liabilities structure of retail banks



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

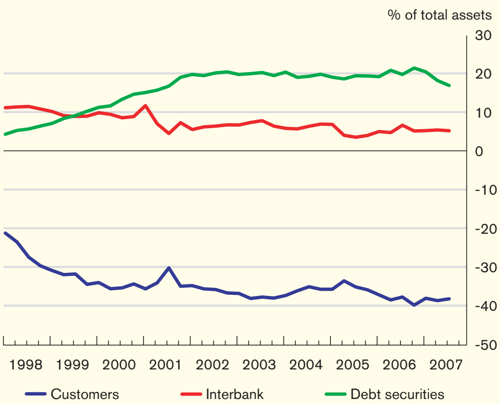
Source: HKMA.

Chart 3.17
Structure of customer deposits of retail banks



Source: HKMA.

Chart 3.18
Retail banks' funding gaps, by type of funding



Notes: 1 Measured as assets less liabilities in the balance sheet categories shown, as a percentage of total assets.
2 'Customers' comprises all non-AI borrowers and depositors.
3 Debt securities comprise negotiable certificates of deposits and all other negotiable debt instruments.

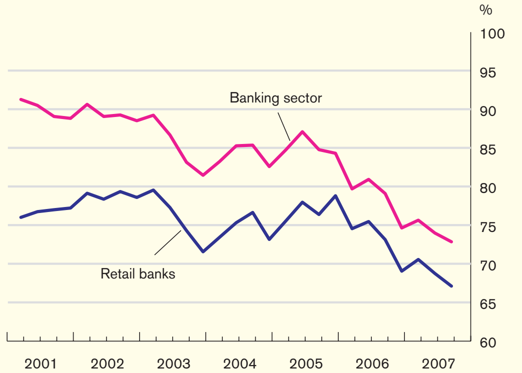
Source: HKMA.

The structure of banks' liabilities is a longer-term factor influencing the degree of liquidity risk. Customer deposits, which are typically less expensive and less volatile than most other funding sources such as interbank borrowings, remained principal sources of retail banks' funding and their share to total liabilities was steady at 74% in September 2007 (Chart 3.16).

The liquidity risk of retail banks is affected by the composition of customer deposits. Among the different types of deposits, time deposits are usually more stable than savings deposits, which are in turn more stable than demand deposits. Since the *June Report*, the structure of deposits has been stable. While the share of demand deposits rose further to 9.2% from 8.3%, partly due to the strong activity in the stock market, the share of savings deposits dropped slightly to 30.7% in September 2007, from 32.1% in March 2007, and that of time deposits edged up marginally to 60.1% from 59.6% (Chart 3.17). However, should further US interest rate cuts take place, as expected by some market participants, substitution may occur with deposits shifting from the less liquid time deposits to demand and savings deposits. This could have an impact on the maturity mismatch of banks' assets and liabilities.

The liquidity level of banks also depends on the extent to which customer deposits are used to finance illiquid loans. As a whole, retail banks in recent years have maintained a negative 'customer funding gap', with the amount of customer loans being smaller than the amount of customer deposits. The customer funding gap in September 2007 was -38.0%, which was further widened from -37.9% in March 2007 (Chart 3.18), and made retail banks in the aggregate a net provider of interbank loans, which typically have short maturities, and net holder of debt securities, which are relatively liquid.

Chart 3.19
Hong Kong dollar loan-to-deposit ratios



Source: HKMA.

At the end of September 2007, the all currencies loan-to-deposit ratio for the banking sector as a whole and for retail banks fell to 53.4% and 48.6%, from 53.7% and 49.7% respectively in March 2007. This was mainly due to a faster growth in deposits, which outpaced the growth in loans. At the same time, the Hong Kong dollar loan-to-deposit ratio also fell to 72.9% for the banking sector, and to 67.1% for retail banks, from 75.7% and 70.6% respectively in March 2007 (Chart 3.19). Such a structure suggests that under normal circumstances liquidity risk may not be a major concern.

The extent of liquidity risk stemming from counterparty exposures among AIs is of great importance because a shock that originates at one AI may quickly spread to the rest of the banking sector. For retail banks as a whole, the amount due to other AIs in Hong Kong accounted for only 5.2% of total liabilities by September 2007, while the amount due from other AIs in Hong Kong contributed to 10.6% of their total assets. The former rose from 3.5% in March 2007, while the latter increased from 9.0%, partly due to IPOs. On the whole, given interbank exposures among AIs in Hong Kong only shared a small portion of retail banks' balance sheets, the contagion risk arising from interbank exposures in the domestic market is not a significant concern.

However, banks that are more reliant on funds from the interbank market should be vigilant to possible liquidity shocks from sudden outflows of equity-related funds due to a reversal of market sentiment or a credit crunch in global credit markets.

Chart 3.20
Retail banks' gap of HKD deposits and loans

Note: Defined as HKD deposits minus HKD loans.
Source: HKMA.

3.7 Interest rate risk

As highlighted in the previous two *Reports*, banks could be prone to interest rate risk if outflows of equity-related funds occur, arising from a reversal of market sentiment. Such risks continued to increase since the last *Report*. Reflecting this, the gap between Hong Kong dollar deposits and loans of retail banks widened for five consecutive quarters since June 2006. At the end of September 2007, the gap amounted to HK$939 billion, or 26.6% of retail banks' Hong Kong dollar assets (Chart 3.20), compared with HK$717 billion (23.8% of retail banks' Hong Kong dollar assets) in March 2007.

This was mainly due to a fast growth in Hong Kong dollar deposits, particularly time deposits. Given that some of these deposits may be attracted by increased stock market activities, especially IPOs, they could be less stable. Large withdrawals of these due to a reversal of market sentiment may lead to a significant contraction in liquidity, particularly in the interbank market.

With the pricing of a sizable part of interest-bearing assets of banks on a floating rate basis, intermediation spreads should remain relatively stable in the face of volatile interest rates. However, it should be noted that for some banks, a large portion of their assets is priced with the BLR, in particular the mortgage portfolio, but their funding is partly determined by HIBORs and time deposits linked to HIBORs. The different responses of BLR and HIBORs to changes in US interest rates could put pressure on banks' interest margins.

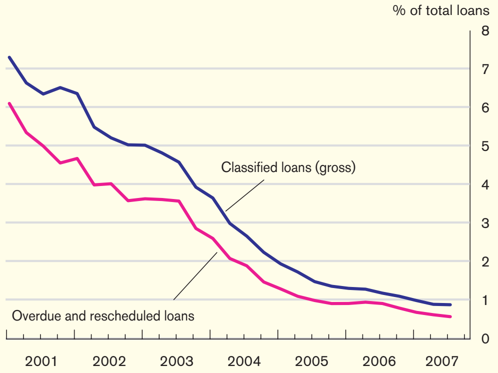
Such risk appeared to have increased in the mortgage loan market, where most of the loans are priced with the BLR. The latest surveys on mortgage lending reveal that a major portion of new loans approved was priced at more than 2.5% below the BLR.[28] With a 25 basis-point cut in the BLR in September, the effective mortgage rate was further lowered to less than 4.5% to 4.75%.[29] If US interest rates are further cut in the near future but HIBORs edge up again due to IPOs, the risk buffer for banks relying heavily on interbank placements for funding appears to be small.[30]

[28] Market information showed that the new loans were usually priced at BLR minus 2.75% to 3.0%.

[29] With the two additional 25 basis-point cuts in the BLR in early November, the effective mortgage rate had decreased further to less than 4% to 4.25% in November.

[30] Note that given that HIBORs were generally above 4.75% from late September to mid-October, banks that priced their loans with the BLR and relied heavily on interbank placements for funding may have suffered from a negative interest margin for some of their mortgage portfolios during the period.

Chart 3.21
Asset quality of retail banks



Source: HKMA.

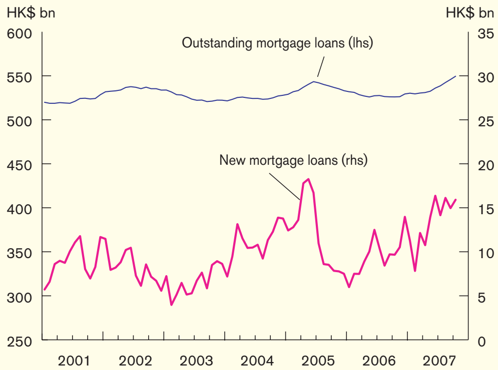
Table 3.B
Loans for use in Hong Kong by AIs

	Quarter-on-quarter % changes				Share of total (%)
	Dec-06	Mar-07	Jun-07	Sep-07	Sep-07
Loans for use in Hong Kong[1]	-1.4	7.6	6.4	5.8	
Of which:					
Trade financing	-4.7	-1.0	12.2	4.2	6.8
Mortgages[2]	0.3	-0.1	1.2	1.4	23.7
Manufacturing	-2.7	3.5	7.3	4.8	4.6
Transport and transport equipment	-1.9	3.0	1.2	6.0	5.3
Electricity and gas	-4.5	-18.4	4.6	-5.1	1.0
Information technology	-19.4	30.8	-18.1	10.4	0.9
Building, construction, property development and investment	4.0	1.0	6.1	5.8	21.6
Wholesale and retail trade	2.1	1.9	3.9	1.8	4.4
Financial concerns[3]	2.2	5.9	10.3	6.0	8.9
Stockbrokers	-83.7	994.1	35.6	11.9	5.4
Credit card advances	11.9	-6.8	2.2	7.0	2.6

Notes: 1 Including trade financing loans.
2 Mortgage loans include loans for the Home Ownership Scheme, the Private Sector Participation Scheme and the Tenants Purchase Scheme.
3 Loans for financial concerns include loans to investment and insurance companies, futures brokers and finance companies.

Source: HKMA.

Chart 3.22
Outstanding and new mortgage loans of surveyed AIs



Source: Monthly Survey of Residential Mortgage Lending.

3.8 Credit risk

The asset quality of retail banks improved further during the six months to September 2007 underpinned by the continued growth in the domestic economy. The proportion of classified loans, and that of overdue and rescheduled loans in total loans continued to fall, with the former improving further to 0.89% from 1.00%, and the latter decreasing to 0.58% from 0.69% (Chart 3.21).

Domestic lending continued to grow, expanding further by 5.8% in the third quarter, after increasing by 6.4% in the second quarter, with loans to most economic sectors registering significant growth (Table 3.B). With property market sentiment improving and property prices picking up gradually in recent months, property-related loans increased robustly since the previous *Report*. Credit for building, construction, property development and investment increased further by 6.1% and 5.8% in the second and third quarters of 2007 respectively, after a moderate increase of 1.0% in the first quarter. The outstanding stock of residential mortgage loans resumed its growth in the second quarter, edging up by 1.2%, which was followed by a further 1.4% increase in the third quarter, as new loans more than offset repayments of existing loans (Chart 3.22). However, the share of property-related loans in total domestic lending declined further to 45.2% in September, from 47.7% in the *June Report*, as loans to some other sectors expanded even faster, especially lending related to stock market activities.

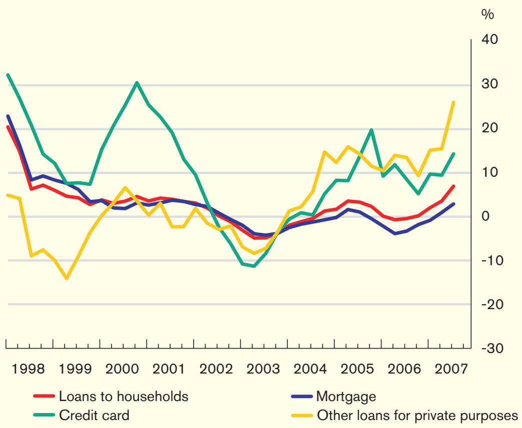
Lending to stockbrokers and financial concerns continued to grow rapidly, supported by buoyant stock market activities in the assessment period. The former expanded by 35.6% and 11.9% in the second and third quarters respectively, while the latter grew by 10.3% and 6.0% respectively. While the strong growth in such lending benefits bank earnings, the asset quality of these loans is highly associated with stock market movements. Banks may suffer in the event of a significant market correction, as the value of collateral to these loans which comprises mainly stocks would decrease significantly. Given the increasing contributions of share-related lending and incomes to banks' loan portfolios and earnings, banks should be vigilant to the possible risk of a sharp correction in the stock market.

Among other sectors, credit card lending, lending to transport and transport equipment, manufacturing, trade financing and wholesale and retail trade sectors registered significant growth in the second and third quarters of 2007, while loans to the information technology sector reversed the decline of 18.1% in the second quarter, and expanded by 10.4% in the third quarter. By contrast, loans to the electricity and gas sector decreased by 5.1% in the third quarter, after expanding by 4.6% in the second quarter.

Household exposures

Loans to households[31] accounted for 31.3% of loans for use in Hong Kong[32] in September 2007. The share has dropped steadily since September 2002. Mortgage lending accounts for a major proportion of loans to households, while the remainder comprises mainly unsecured lending via credit cards and other personal loans for private purposes. By the end of September, 75.6% of loans to households were used to finance residential properties.

Chart 3.23
Annual growth of lending to households by AIs



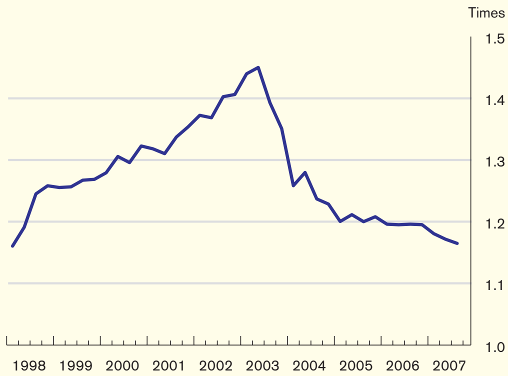
Source: HKMA.

Loans to households grew further by a year on year 6.7% in September, after an increase of 1.8% in March (Chart 3.23), largely driven by a strong growth in unsecured lending. Credit card lending and other loans for private purposes registered strong yearly growth of 14.0% and 25.7% respectively in September, while mortgage loans grew by a more moderate 2.7%. As a result, the share of unsecured consumer lending measured by the sum of credit card lending and other personal lending for private purposes rose to 24.4% in September 2007, from 22.7% in March. This indicates that banks in general increased their exposures to lending with higher credit risk. How this trend may affect asset quality of the banking sector needs to be monitored.

31 Loans to households constitute lending to professional and private individuals, excluding those for business purposes.

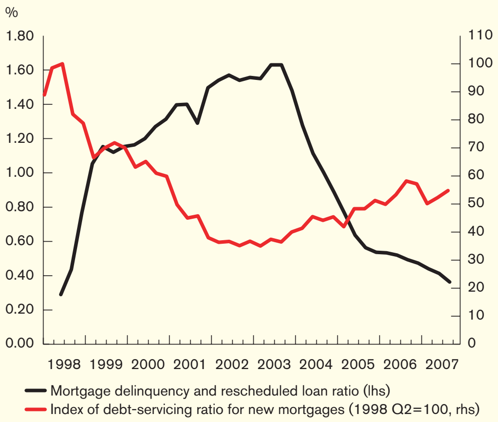
32 Loans for use in Hong Kong include trade financing loans.

Chart 3.24
Effective housing capital gearing ratio



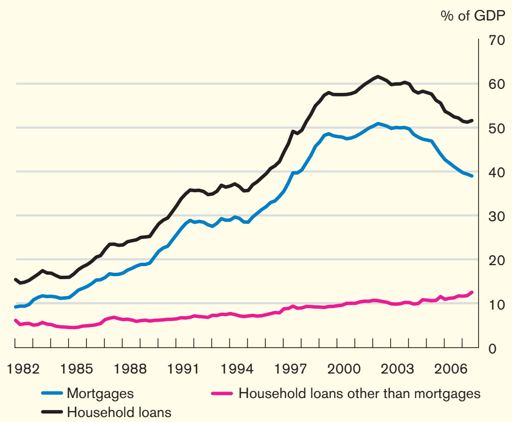
Source: Staff estimates.

Chart 3.25
Household debt-servicing burden of new mortgages



Source: Staff estimates.

Chart 3.26
Household debt leverage



Source: Staff estimates.

The various factors affecting the asset quality of banks' exposures to the household sector have improved or remained healthy since the *June Report*. The rebound in property prices in recent years has strengthened the balance sheet of households. This has generally improved the quality of banks' mortgage portfolios. The effective housing capital gearing, defined as the ratio of market value of total housing stocks to their net asset value (the market value less the outstanding mortgage lending from banks), decreased substantially from 2003 to 2006. As residential property prices have picked up gradually since December 2006, the gearing ratio improved further to 1.16 in September 2007 (Chart 3.24).

On the other hand, the index of debt-servicing ratio for new mortgage loans[33], which serves as an indicator of the debt burden of mortgagors, increased slightly to 55 in 2007 Q3 from 50 in 2007 Q1, having risen gradually since 2003. The increase reflects higher average values of new mortgage loans because of recent rises in property prices. Nevertheless, at its current level, the debt-servicing burden of households arising from mortgages remains well below its long term average and is significantly lower than that preceding the Asian financial crisis (Chart 3.25), suggesting that the debt-servicing burden of households has remained healthy.

Another widely adopted indicator of the vulnerability of household sector debt, the ratio of household debt to GDP, has declined since the second quarter of 2002, having reached its recent peak at around 61%[34] (Chart 3.26). By the end of 2005, the ratio had fallen to 55%, which was lower than the average of many mature economies (58% in 2005[35]), and it improved further to 51% by September 2007.

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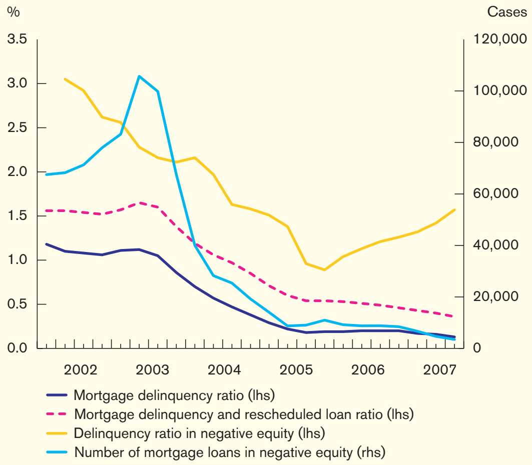
33 A higher value of the index of debt-servicing ratio indicates that there is either a drop in household incomes, or an increase in interest rates, or an increase in the average mortgage loan amounts drawn by households. Historical movements of the index suggest that a sharp rise in the index may lead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

34 It mainly reflected the increase in residential mortgage lending before the Asian financial crisis and the slowdown in economic activity after the crisis.

35 These include Italy, France, Japan, Germany, Spain, Australia, Ireland, New Zealand, and the US. For details, see International Monetary Fund (2006), "Household credit growth in emerging market countries", *Global Financial Stability Report*.

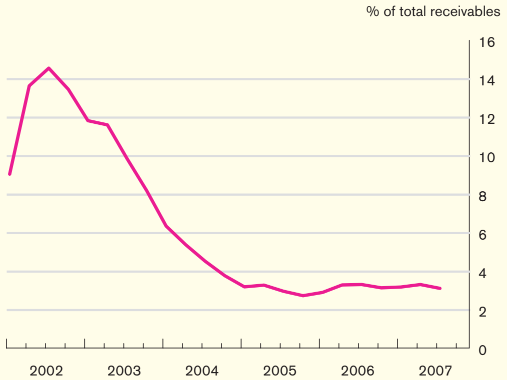
Chart 3.27
Negative equity and mortgage delinquency ratio of surveyed AIs



Notes:
1. The earliest available date for the delinquency ratio of mortgage loans in negative equity is 2002 Q2.
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 end-June 2003.

Source: HKMA.

Chart 3.28
Charge-off ratio for credit card receivables of surveyed AIs



Note: Quarterly annualised figures.
Source: HKMA.

The asset quality of banks' overall mortgage portfolios continued to improve further, underpinned by the enhanced debt-servicing capacity of households due to rising household incomes amid a more buoyant labour market (see Sections 2.5 and 2.6), and steady increases in residential property prices since December 2006. Reflecting this, the delinquency ratio reached a record low of 0.12% in October 2007, down from 0.17% in March. The rescheduled loan ratio also fell to 0.21% from 0.26%. Although the delinquency ratio of negative equity mortgage loans rose to 1.57% in September, from 1.32% in March, the number of negative equity cases continued to fall by 47.9% to 3,482, representing a 97% decline from the peak level of 106,000 cases in June 2003 (Chart 3.27).

Recent improvements in the asset quality of banks' mortgage portfolios suggest that the contagious impact of the US sub-prime mortgage problem on Hong Kong's mortgage market has so far been small. However, it should be noted that banks in Hong Kong could still be affected by the problem through other channels, they could adversely affect the banking sector particularly through their effects on Hong Kong's economic growth and asset markets. To assess the possible impact, a stress test was carried out based on our macroeconomic framework for stress testing the loan portfolio of retail banks in Hong Kong. Box 5 evaluates how the US sub-prime problem may affect the credit risk of the banking sector if it became a full-blown crisis in the US or even spill over to the global economy. The results suggest the impact would likely be moderate and the banking sector would be able to withstand the hypothetical shocks.

The asset quality of the credit card portfolio appeared to have stabilised. The annualised charge-off ratio decreased to 3.10% in 2007 Q3, after increasing to 3.30% in Q2 from 3.17% in Q1 (Chart 3.28), while the charge-off amount recorded its first drop since 2005 Q3, against a further increase in receivables. However, it should be noted that the numbers of bankruptcy orders made and petitions presented in the first 10 months of 2007 rose to 9,754 and 9,347 respectively, representing increases of 11% and 5% compared with the same period last year

Box 5
Stress testing loan portfolios of retail banks in Hong Kong - the US sub-prime mortgage problems

The major channel through which the banking sector may be affected by the US sub-prime mortgage problem is the contagion effect on Hong Kong's economic growth and asset markets. This shock could come from a contraction in the US economy,[36] if the sub-prime problem were to spill over and lead to a recession in the US, which may even bring about a slowdown or recession for the global economy. Such a US-led recession would lead to a deterioration in Hong Kong's macroeconomic conditions, which in turn would adversely affect the banking sector.

The extent to which the vulnerability of the banking sector in Hong Kong would be affected depends ultimately on how the sub-prime mortgage problems hit the US and the global economies. This is difficult to quantify precisely. Three hypothetical scenarios, which characterise different levels of economic impact, are used for the stress testing. Three stressed scenarios and their likely impact on the Hong Kong economy are summarised in Table B5.A. They are represented by the percentage points of reduction in Hong Kong's real GDP growth in 2008 from a baseline scenario, which assumes normal economic situations.

Table B5.A
Macroeconomic scenarios for stress testing

Scenario	Assumptions of real GDP growth of Hong Kong in 2008 (percentage point down from the baseline scenario)
(1) A two-consecutive-quarter recession in the US[(a)]	0.4
(2) A US-led global economic slowdown[(b)]	2.0
(3) A large decline in domestic asset prices[(c)]	3.0

Notes: a) Scenario 1: Growth in the US economy in 2008 is assumed to be lower by 1.8 percentage points than the baseline scenario.
b) Scenario (2) assumes that Scenario (1) happens and it affects the economic growth of the major trading partners of the US.
c) Scenario (3) assumes that scenarios (1) and (2) happen, and asset markets in Hong Kong experience a large and prolonged correction. Specifically, the Hang Seng Index (HSI) and property prices are assumed to drop by 50% and 10% from the baseline scenario respectively.

With these assumptions of real GDP growth in Hong Kong for 2008 under the stressed scenarios, the vulnerability of the Hong Kong banking sector is assessed by the macro-economic stress-testing framework.[37] Specifically, we simulate future paths of default rates of the aggregate loan portfolio of retail banks in Hong Kong for each stressed scenario. The time horizon of a path is

[36] Another channel through which the banking sector in Hong Kong may be affected by the sub-prime mortgage problems is banks' direct exposures to US sub-prime-backed structure securities. Banks may suffer mark-to-market losses due to deterioration of the asset quality of the underlying sub-prime mortgages. Information submitted by locally incorporated banks to the HKMA indicates that their aggregate exposures to the US sub-prime mortgage market do not have systemic implications for the Hong Kong banking sector.

[37] For details, see Wong et al. (2006), "A framework for macro stress testing the credit risk of banks in Hong Kong", HKMA *Quarterly Bulletin*, December 2006.

Table B5.B
The Mean and VaR statistics of the Simulated Credit Loss Distribution

Credit loss (%)	Baseline	Scenario 1: US recession	Scenario 2: US-led Global slowdown	Scenario 3: A large decline in domestic asset prices
Mean	0.18	0.19	0.23	0.27
VaR at 90% CL	0.32	0.34	0.40	0.46
VaR at 95% CL	0.37	0.40	0.47	0.54
VaR at 99% CL	0.51	0.54	0.65	0.74
VaR at 99.9% CL	0.71	0.75	0.89	1.01
VaR at 99.99% CL	0.88	0.93	1.10	1.24

Note: CL denotes the confidence level.

set to be a six-quarter period from 2007 Q3 to 2008 Q4. For each scenario, we simulate 10,000 future paths and use the simulated 10,000 default rates in 2008 Q4 to assess the credit loss and the vulnerability of the banking sector. Focusing on the tails of the credit loss distribution, Table B5.B shows that the credit losses are estimated to range from 0.88% to 1.24% at the 99.99% confidence level of value-at-risk (VaR).

The results are summarised below:

(a) Under the baseline scenario (i.e. normal market situation), the credit loss of banks' loans is estimated to be 0.18% on average in 2008 Q4.

(b) Under Scenario 1, Hong Kong's real GDP growth in 2008 is assumed to be lower by 0.4 percentage points than the baseline scenario. The credit loss of banks is estimated to be 0.19%, which is slightly higher than the baseline estimate (0.18%).

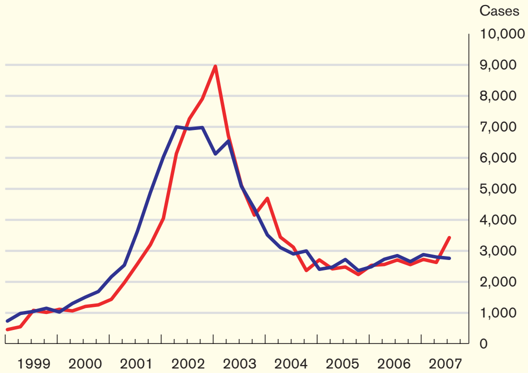
(c) Under Scenarios 2 and 3, Hong Kong's real GDP in 2008 is assumed to be lower by 2.0 percentage points and 3.0 percentage points respectively than the baseline scenario. The credit losses of banks are estimated to be 0.23% and 0.27%, respectively.

(d) Focusing on the tails of the credit loss distributions, the credit losses of these stressed scenarios are estimated to range from 0.88% to 1.24% at the 99.99% confidence level of VaR.

The results indicate that the impact of the US sub-prime problem on the credit risk of the banking sector is likely to be moderate. This compares with the credit losses of 6% one year after the Asian financial crisis.[38] The banking sector in Hong Kong is expected to be well positioned to withstand the hypothetical shocks.

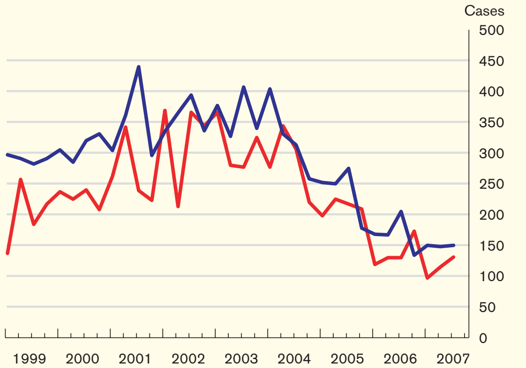
[38] For details, see Wong et al. (2006).

Chart 3.29
Number of bankruptcies



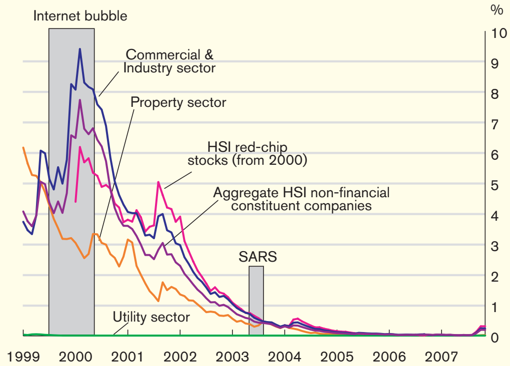
Source: Official Receiver's Office.

Chart 3.30
Winding-up orders and petitions



Source: Official Receiver's Office.

Chart 3.31
Aggregate default probabilities of HSI non-financial constituent companies



Source: Staff estimates.

(Chart 3.29). Given that the charge-off ratio and personal bankruptcies have historically exhibited a strong positive co-movement, it is not yet clear whether the recent trend of improvement can be sustained.

Corporate exposures

In September 2007, loans to corporations accounted for 68.3% of loans for use in Hong Kong.[39] Compared with September 2006, the amount of such loans grew by 26.4%.

The various indicators for the credit risk of the corporate sector remained healthy during the assessment period.

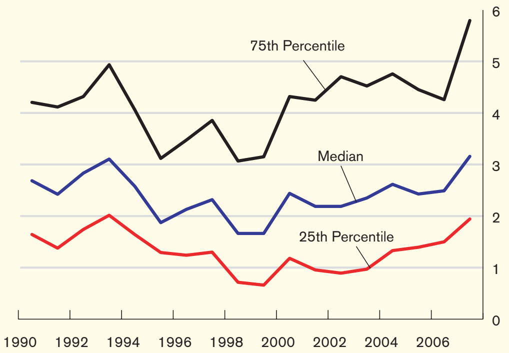
The number of compulsory winding-up orders of companies and petitions in the first 10 months of 2007 decreased by 12% and 17% year on year to 383 and 492 respectively. This was in line with the downward trend exhibited since 2003 (Chart 3.30).

Default probability estimates for the corporate sector obtained from a structural model[40] increased slightly, reflecting higher stock market volatility, with the aggregate estimate of the Hang Seng Index (HSI) non-financial constituent companies edging up to 0.196% in November 2007, from 0.029% in the previous *Report*. However, compared with the peak level of 7.74% in 2000, the current level of default risk is still moderate. The estimates for all individual HSI constituent sectors and the red-chip constituent stocks also exhibited similar movements, except for the utility sector, which was unchanged during the period. (Chart 3.31).

39 Loans to corporations comprise loans for use in Hong Kong (including trade financing loans) except lending to professional and private individuals.

40 Details of the methodology can be found in Yu and Fung (2005), "A Structural Approach to Assessing the Credit Risk of Hong Kong's Corporate Sector", *HKMA Research Memorandum*, http://www.info.gov.hk/hkma/eng/research/RM24-2005.pdf.

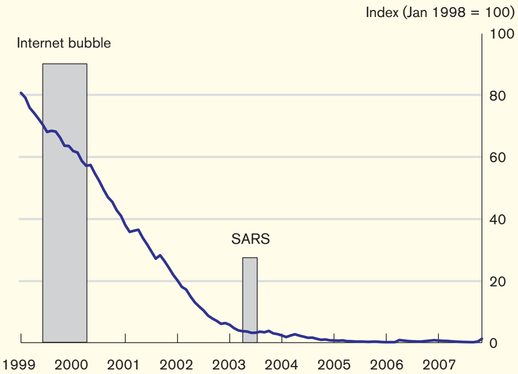
Chart 3.32
Bankruptcy risk indicators of listed non-financial companies: Altman's Z-score



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

Source: Staff estimates.

Chart 3.33
Multiple default risk index of the banking system in Hong Kong (Jan 1998 = 100)



Source: Staff estimates.

The Altman's Z-score[41], which is a typical credit risk measure to assess the financial health of the corporate sector based on an array of financial ratios reported in companies' financial statements, suggested the financial health of the non-financial corporate sector in Hong Kong continued to improve (Chart 3.32).[42] The improvement was broadly-based, including not only corporations with higher credit quality (75% percentile and median), but also corporations with relatively lower credit quality (25% percentile).

The multiple default risk index of the banking system in Hong Kong (January 1998 =100), which serves as an early-warning indicator for systemic risk of the banking system, increased to 1.2 in November 2007, from 0.4 in the *June Report*. This compares with around 100 during the Asian financial crisis, suggesting that the current systemic risk in the banking system is low (Chart 3.33).

China exposures

Retail banks' aggregate exposures to non-bank Chinese entities declined to HK$377.5 billion (5.3% of total assets) at the end of September 2007, from HK$454.6 billion (7.4% of total assets) at the end of March. For the banking sector as a whole, the total amount of non-bank Chinese exposures also declined to HK$561.0 billion (5.0% of total assets) from $600.7 billion (6.3% of total assets). The reduction followed the incorporation of Mainland subsidiaries by some retail banks, resulting in some of the banks' Mainland-related exposures being transferred out. The banking sectors' aggregate exposures to companies and individuals for purchasing properties in China was down to HK$9.9 billion at the end of September 2007, from HK$20.6 billion at the end of March.

41 See Altman E. (2000), "Predicting Financial Distress of Companies: Revisiting the Z-scores and ZETA models", working paper, New York University. 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.

42 Non-financial corporations refer to companies listed on the Hong Kong Main Board and the Growth Enterprise Market, excluding H-shares companies, investment companies, and those engaged in banking, insurances and finance. Data are from Thomson Financial. The 2007 figures are preliminary and cover only a limited number of companies that had reported their 2007 interim results by the time of writing. They are subject to revision and should be used with caution.

As exposures to non-bank Chinese entities share a tangible portion of banks' assets, the banks will need to watch how the recent and forthcoming monetary tightening on the Mainland, as expected by the market, may affect the asset quality of their non-bank Chinese exposures.

Macro stress testing of credit risk

To assess the vulnerability of banks in Hong Kong to macroeconomic shocks, stress testing is performed on banks' credit exposures with the macro stress testing framework.[43,44] A variety of shocks, similar to those occurring during the Asian financial crisis, are individually introduced into the framework for the tests. These shocks include reductions in Hong Kong's real GDP, falls in the Mainland real GDP, rises in real interest rates, and reductions in real property prices.[45]

The stress testing is done by taking the macroeconomic conditions in 2007 Q3 as the current environment, and produces a simulated future path with eight time points covering a two-year period from 2007 Q4 to 2009 Q3. Salient statistics are presented in Table 3.C to provide highlights of the distribution of credit losses for the baseline scenario and for the four stressed scenarios with different macroeconomic variables as the stress origin.[46] In the baseline scenario, the percentage of credit loss that is expected to prevail in 2009 Q3 (or the mean of the credit loss distribution) is 0.22% of the outstanding loan amount. Introducing the artificial shocks substantially increases the expected percentage of credit loss. For example, it becomes 1.08% in the stressed scenario where Hong Kong's real GDP growth rate is shocked from 2007 Q4 to 2009 Q3.

Table 3.C
The mean and VaR statistics of simulated credit loss distributions

		Stressed scenarios			
Credit loss (%)	Baseline scenario	GDP shock[a]	Property price shock[b]	Interest rate shock[c]	Mainland China GDP shock[d]
Mean	0.22	1.08	0.83	0.55	0.37
VaR at 90% CL[e]	0.46	1.92	1.49	1.10	0.76
VaR at 95% CL	0.61	2.33	1.85	1.43	1.00
VaR at 99% CL	1.05	3.37	2.76	2.30	1.67
VaR at 99.9% CL	1.87	5.05	4.28	3.81	2.93
VaR at 99.99% CL	2.88	7.13	6.49	6.17	5.24

Notes: a) Reductions in Hong Kong's real GDP (2005 Chain) by 2.3%, 2.8%, 1.6%, and 1.5% respectively in each of the four consecutive quarters starting from 2007 Q4 to 2008 Q3
b) Reductions in Hong Kong's real Property Price by 4.4%, 14.5%, 10.8%, and 16.9% respectively in each of the four consecutive quarters starting from 2007 Q4 to 2008 Q3
c) A rise in real interest rates by 300bps in the first quarter, followed by no change in the second and third quarters and another rise of 300bps in the fourth quarters
d) A fall in Mainland China's real GDP by 3.0% in only the first quarter (i.e. 2007 Q4)
e) CL denotes the confidence level.

Source: Staff estimates.

43 Macro stress testing refers to a range of techniques used to assess the vulnerability of a financial system to "exceptional but plausible" macroeconomic shocks. See Blaschke et al., 2001, "Stress Testing of Financial Systems: An Overview of Issues, Methodologies, and FSAP Experiences", International Monetary Fund; and Sorge, 2004, "Stress-testing Financial System: An Overview of Current Methodologies", *BIS Working Papers*, no. 165.

44 Details of model specification can be found in Wong et al. (2006), "A Framework for Stress Testing Banks' Credit Risk," *HKMA Research Memorandum*, 15, October 2006. An updated framework is used for the current estimations. In particular, a new set of coefficients in the model was estimated based on the newly released chain volume measures of GDP statistics by the Census and Statistics Department.

45 For details of the shocks, see notes of Table 3.C.

46 Baseline scenario is the no-shock scenario.

Focusing on the tails of the credit loss distributions, table 3.C shows that even for the value-at-risk (VaR) at the confidence level of 90%, banks would continue to make a profit in most of the stressed scenarios, suggesting that the current credit risk of the banking sector is moderate. However, under the extreme case for the VaR at the confidence level of 99.9%, banks' maximum credit loss with shocks from different origins would range from 2.93 % (Mainland China GDP shock) to 5.05% (Hong Kong GDP shock) of the portfolios. The estimated maximum losses are similar to those experienced by the market one year after the Asian financial shock.[47] Nevertheless, the occurrence of such extreme scenarios resulting in the estimated maximum loss and beyond would have a very small probability.

3.9 Foreign currency position

The overall foreign currency position, including both spot and forward, for all AIs stood at HK$67.6 billion at the end of September 2007. In general, the position has been declining from its record high of HK$98.5 billion at the end of May 2003.

Key performance indicators of the banking sector are provided in Table 3.D.

[47] In the event, the credit loss of banks is estimated to have risen from 1.4% before the Asian financial crisis to 6.0% one year after the shock. These rough estimates are based on an assumed LGD of 70%, and the actual default rates of overall loans at 2.01% in 1997 Q3 and 8.58% in 1998 Q4.

Table 3.D
Key performance indicators of the banking sector[1] (%)

	Sep-06	Jun-07	Sep-07
Interest rate[2]			
1-month HIBOR	4.05	4.40	4.62
3-month HIBOR	4.29	4.38	4.64
BLR[3] and 1-month HIBOR spread	3.95	3.35	3.10
BLR[3] and 3-month HIBOR spread	3.71	3.37	3.08
Composite interest rate	3.06	3.09	3.34
		Retail banks	
Balance sheet developments[4]			
Total deposits	4.9	7.3	6.7
Hong Kong Dollar	7.3	8.9 r	7.6
Foreign currency	1.5	4.6	5.1
Total loans	3.2	6.1	5.4
Loans to customers inside Hong Kong[5]	3.2	6.1	5.2
Loans to customers outside Hong Kong[6]	3.8	6.3	8.7
Negotiable instruments			
Negotiable certificates of deposit issued	-2.4	-12.8	-11.4
Negotiable debt instruments held	3.0	-4.2	0.2
Asset quality[7]			
As percentage of total loans			
Pass loans	96.44	97.37	97.47
Special mention loans	2.37	1.73	1.64
Classified loans (gross)[8]	1.19	0.90	0.89
Classified loans (net)[9]	0.88	0.68	0.67
Overdue > 3 months and rescheduled loans	0.92	0.63 r	0.58
Profitability[10]			
Bad debt charge as percentage of average total assets	0.03	0.04	0.04
Net interest margin	1.79	1.85	1.86
Cost-income ratio	41.9	39.8 r	39.9
Liquidity ratio[11]	47.7	51.2	51.0
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.20	0.16	0.13
Credit card receivables			
Delinquency ratio	0.40	0.40	0.36
Charge-off ratio — quarterly annualised (adjusted)	3.30	3.30	3.10
— year-to-date annualised	3.02	3.17	3.10
		All locally incorporated AIs	
Capital adequacy ratio (consolidated)[12]	15.0	13.4	13.6

Notes:

1 Figures related to Hong Kong office(s) only except where otherwise stated.
2 With reference to the HKD Interest Settlement Rates released by the Hong Kong Association of Banks.
3 With reference to the rate quoted by the Hong Kong and Shanghai Banking Corporation Limited.
4 Quarterly change.
5 Loans for use in Hong Kong plus trade-financing loans.
6 Includes “others” (i.e. unallocated).
7 Figures relate to retail banks’ Hong Kong office(s) and overseas branches.
8 Classified loans are those loans graded as “substandard”, “doubtful” or “loss”.
9 Net of specific provisions/individual impairment allowances.
10 Year-to-date annualised.
11 Quarterly average.
12 On 1 January 2007, a revised capital adequacy framework (‘Basel II’) was introduced for locally incorporated authorized institutions.

r Revised figure.

4. Outlook, risks and uncertainties

The global economy is facing a high degree of uncertainty. Despite financial market turmoil, most recent forecasts imply only a modest slowing of the global economy in 2008. This benign prospect appears to depend heavily on the resilience of demand outside the US, which is likely to see an extended period of below-trend growth as a result of the housing market correction. In Hong Kong, economic growth will likely remain robust and inflation will be moderately higher in 2008. Upside risks include persistent weakness of the US dollar and lower interest rates, and downside risks include a sharper than expected slowdown of the global economy. In view of rising volatilities in global financial markets, banks in Hong Kong should be vigilant to risks associated with a possible tightening in credit market and a volatile equity market.

4.1 Global outlook

The global economic environment is facing increasing uncertainty following the financial turmoil of August and September. It is still unclear how the effects of the global credit problems will play out. In its October *World Economic Outlook*, the IMF forecast global growth to slow to 5.2% from 5.4% in 2007 (Table 4.A). Global growth is expected to moderate further in 2008, although remaining buoyant. The IMF projected 4.8% for the year, 0.4 percentage points lower than the previous estimate. The biggest downward revisions to growth are in the US and countries where financial and trade spillovers from the US are likely to be largest. On the other hand, growth in emerging Asia is expected to remain strong. The Consensus Forecasts also project real GDP in 2008 to moderate from the 2007 levels.

Table 4.A
Global growth and inflation 2006-08

(% yoy)	2006	2007F	2008F
IMF			
Global growth[1]	**5.4**	**5.2**	**4.8**
	(5.1)	**(4.9)**	**(5.2)**
US	2.9	1.9	1.9
Euro area	2.8	2.5	2.1
Japan	2.2	2.0	1.7
Emerging Asia	9.3	9.2	8.3
Global inflation	**3.6**	**3.9**	**3.6**
G-7 economies	2.6	2.1	1.9
Emerging Asia	3.7	4.9	4.2
Consensus Forecasts[2]			
Global growth[3]	**4.0**	**3.6**	**3.4**
US	2.9	2.1	2.3
Euro zone	2.9	2.6	2.0
Japan	2.2	2.0	1.8
North East Asia	9.0	9.0	8.5
South East Asia	5.9	6.1	6.0
Global inflation[3]	**2.9**	**2.9**	**2.8**
US	3.2	2.8	2.6
Euro zone	2.2	2.0	2.1
Japan	0.2	0.0	0.4
North East Asia	1.6	3.6	3.4
South East Asia	7.3	4.0	4.2

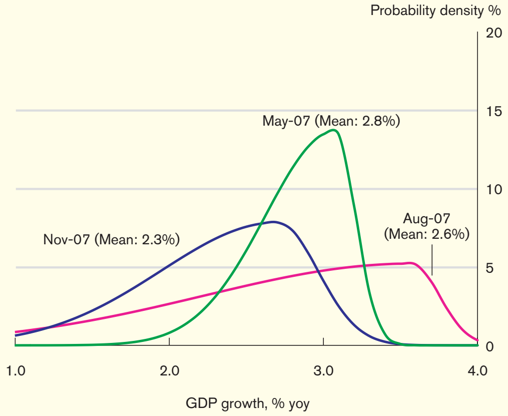
Note 1: Global growth is weighted by GDP at PPP exchange rates. For other aggregates and countries, the IMF weighted by GDP at PPP exchange rates, while the World Bank uses market exchange rates. Figures in brackets are previous forecasts.

2: Euro zone covers the same countries as euro area. North East Asia covers Mainland China, Hong Kong, South Korea and Taiwan, while South East Asia includes the ASEAN economies.

3: Global growth and inflation are weighted by 2006 GDP at average 2006 exchange rates.

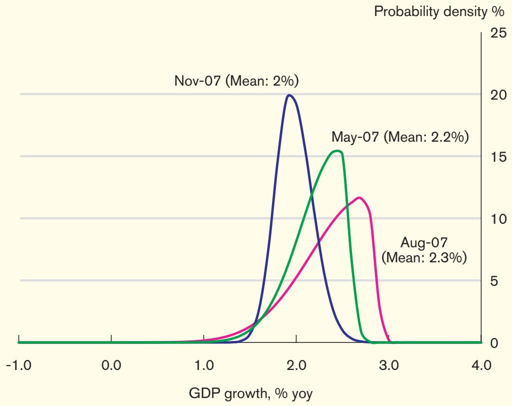
Sources: IMF World Economic Outlook, October 2007 and Consensus Forecasts, November 2007.

Chart 4.1
US: probability distribution of growth forecasts for 2008



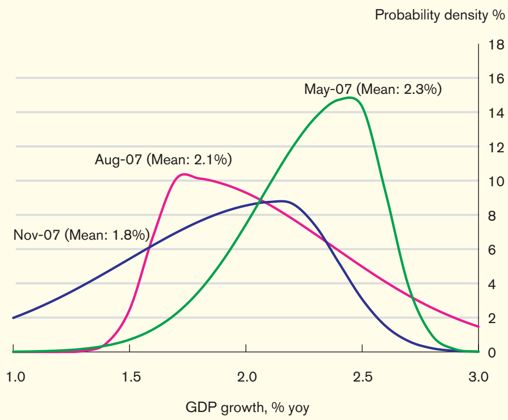
Source: Staff calculations based on Consensus Forecasts.

Chart 4.2
Euro area: probability distribution of growth forecasts for 2008



Source: Staff calculations based on Consensus Forecasts.

Chart 4.3
Japan: probability distribution of growth forecasts for 2008



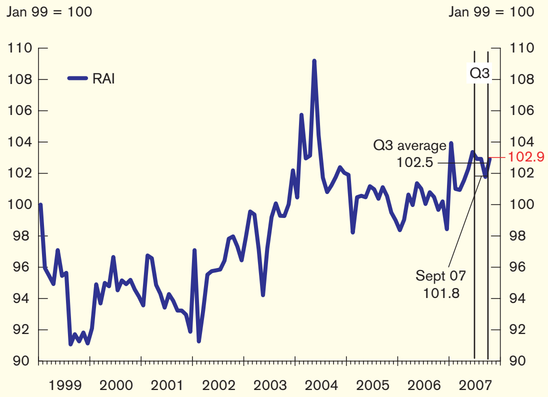
Source: Staff calculations based on Consensus Forecasts.

In the US, growth has been revised downwards substantially. The IMF projects real GDP growth to slow to 1.9% this year and to maintain the same pace in 2008. The mean of Consensus Forecasts for US growth in 2008 has been declining since May to 2.3% (Chart 4.1). Difficulties in the mortgage market are expected to extend the decline in residential investment, while higher energy prices, sluggish job growth, and weaker house prices are likely to dampen consumption spending.

The mean of Consensus Forecasts for euro area growth in 2008 declined to 2.0% from 2.3% in August, and the distribution has become less dispersed (Chart 4.2). This reflects the lagged effect of euro appreciation, trade spillovers from the US, and more difficult financing conditions. With banks in the euro area exposed to a surprising degree to the US sub-prime sector, the uncertainty of the impact of the credit problems on growth has increased.

In Japan, the mean forecast for growth in 2008 was revised downwards to 1.8% from 2.1% in August (Chart 4.3). This reflects the disappointing second quarter GDP outturn, slower global growth, and a somewhat stronger yen.

Chart 4.4
Mainland China, Real Activity Index



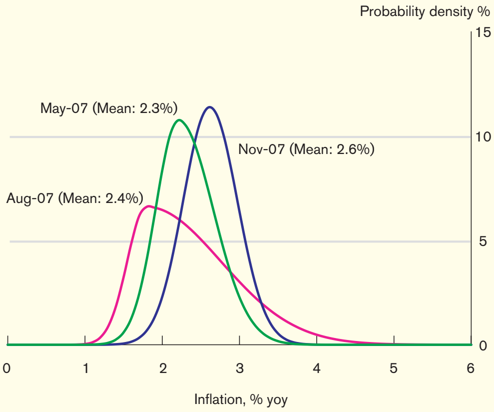
Source: Staff estimates.

Economic momentum in Mainland China remains strong in the near term on the back of robust domestic demand led by rising household incomes and strong corporate earnings. Our Mainland China real activity index (RAI) rose to 102.9 in October, from 101.8 in September, indicating a pick-up in Q4 GDP growth (Chart 4.4).[48] The rise in the RAI was mainly due to a surge in fixed asset investment in October. However, as the government took more drastic measures to curb loan growth in the remainder of the year, the impact on corporate investment activities could be sizable, although short-lived. For 2007 as a whole, the mean of Consensus Forecasts in November suggests the Mainland economy will grow by 11.3%, while CPI inflation remains high at 4.4%, exceeding the comfort zone of the PBoC. For 2008, the Consensus Forecasts suggest the economy will continue to grow strongly at 10.5%, while inflation will moderate somewhat to 3.8%.

Emerging Asian economies, which have been weathering the recent financial turbulence, are expected to provide the basis for strong global growth in 2008. Taking China and other emerging Asian economies as a group, the IMF expects growth in 2007 to moderate marginally to 9.2%, from 9.3% in 2006. For 2008, this growth is projected to slow, but remain strong at 8.3%. For the first time, China and India are making the largest country-level contributions to world growth (in purchasing-power-parity terms). The NIEs are expected to be most affected by the weaker US outlook, while among the ASEAN economies, some rebound in Thailand, resulting from a recovery in confidence, is expected to offset modest slowdowns in Malaysia and the Philippines.

[48] The index is constructed using seven monthly indicators that include growth in industrial production, electricity generation, exports, real retail sales, real fixed asset investment (FAI), passenger volume, and volume of freight transport. Details of the methodology can be found in Liu, Zhang, and Shek, (2007), "A Real Activity Index for Mainland China" Working Paper 07/2007, Hong Kong Monetary Authority.

Chart 4.5
US: probability distribution of inflation forecasts for 2008

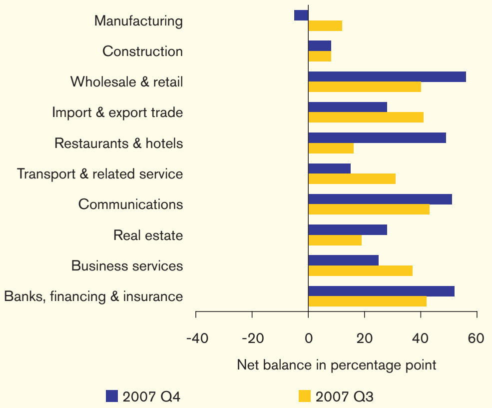


Source: Staff calculations based on Consensus Forecasts.

Global consumer price inflation is projected by the IMF to rise to 3.9% in 2007 from 3.6% in 2006, reflecting mainly higher energy and food prices. For the US, the mean of Consensus Forecasts for CPI inflation in 2008 has been revising upwards to 2.6% since May (Chart 4.5). Nevertheless, inflation is expected to remain contained in advanced economies, although higher food prices will cause inflationary pressures to rise in emerging Asia. The IMF forecasts global consumer price inflation to ease back to 3.6% in 2008, while the Consensus Forecasts also project inflation to ease from the 2007 level.

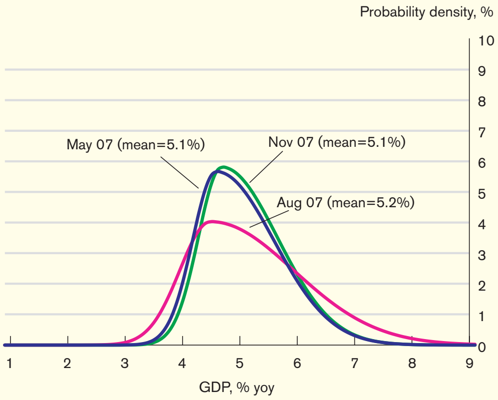
The outlook for global financial conditions is obscured by the uncertainties surrounding the actual magnitude of the US sub-prime problem and its feeding through to the real economy. The speed of the adjustment in property prices and the housing sector will add to the complication in evaluating the overall final impact. Major central banks are likely to be inclined towards an easing in policies to insure against the risks of recession. In the US, the Fed appears to be open to further easing, with the October FOMC meeting minutes focusing on downside risks to growth rather than upside risks to inflation. And so is the BoE, as indicated in its recent Inflation Report. With eight rate increases and the recent financial turmoil as the backdrop, the strong euro may lead the ECB to adopt a similar stance. While the dollar remains subject to downside risks in the near term, the longer-term outlook is clouded by how well the European economies perform. This will provide the ultimate guide for the ECB in its policy path. In Asia, financial markets are likely to experience a continued inflow of capital, benefiting from a weaker dollar, lower global interest rates and strong growth momentum. However, parallel to this development will be mounting risks to both consumer and asset price inflation.

Chart 4.6
Results of Business Tendency Survey: Views on expected changes in volume of output in 2007 Q3 and Q4



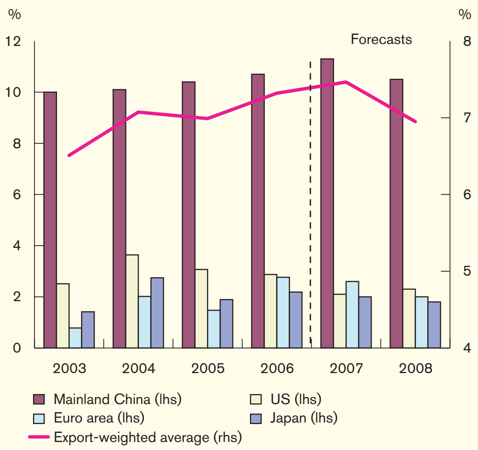
Note: Net balance refers to the difference between the percentage of respondents expecting a rise over those expecting a decline.
Source: C&SD.

Chart 4.7
Hong Kong: probability distribution of growth forecasts for 2008



Source: Staff estimates based on market consensus.

Chart 4.8
Growth in Hong Kong's main trading partners



Sources: Consensus Forecasts and staff estimates.

4.2 Domestic outlook

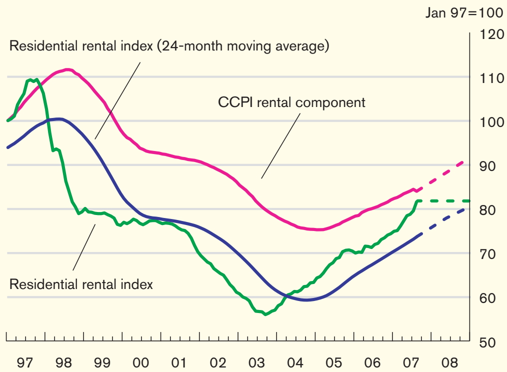
The prospects for the Hong Kong economy remain favourable in the near future, although business sentiment is less confident. The Quarterly Business Tendency Survey indicates that all surveyed sectors, except manufacturing, expect the volume of business and output to increase in 2007 Q4 (Chart 4.6). For all the covered sectors as a whole, the difference between the percentage of respondents expecting business conditions to turn better and those expecting it to worsen decreased slightly from 31 percentage points in Q3 to 28 percentage points in Q4. This suggests that companies are still optimistic about their near-term business situation, albeit in a more cautious manner. The Purchasing Managers' Index dropped modestly to 53.0 in October from an average of 53.8 in Q3, indicating sustained expansion in business activities. Overall, these indicators point to robust real GDP growth in Q4. Market consensus projects 5.2% year-on-year real GDP growth in Q4, lower than the 6.2% growth registered in Q3.

Economic growth is expected to remain solid in 2008, although growth momentum will probably moderate. Market consensus forecasts a slowdown in real GDP growth from 6.0% in 2007 to 5.1% in 2008, driven by a deceleration in domestic and external demand. (Chart 4.7)

Merchandise exports are projected to maintain a relatively high growth rate of about 8.3% in 2008. In particular, while a global economic slowdown would reduce the trade-weighted average output growth of Hong Kong's key trading partners by about 0.5 percentage points in 2008 (Chart 4.8), and a sustained appreciation of the renminbi would decrease Hong Kong's re-exports from the Mainland to the rest of the world, their combined impact is expected to be partly offset by the depreciation of the US dollar, to which the Hong Kong dollar is linked under the currency board arrangements. The US dollar nominal effective exchange rate is likely to weaken in the medium term, dragged down by lingering current account deficits, interest rate cuts and lacklustre economic growth in the US. Exports of services are expected to grow even faster in 2008, in part supported by the 2008 Beijing Olympics, with an anticipated increase in tourists to the Mainland transiting Hong Kong.

Domestic demand is expected to register solid growth in 2008, although a slowdown is likely because of the base year effect. Private consumption growth will continue to be underpinned by income and wage growth amid favourable labour market conditions, and by the positive wealth effect associated with buoyant asset markets. Low real interest rates and buoyant asset markets will also boost fixed asset investments, but increased uncertainty about the outlook for the US economy may affect investment sentiments.

Chart 4.9
CCPI rental component and market rents



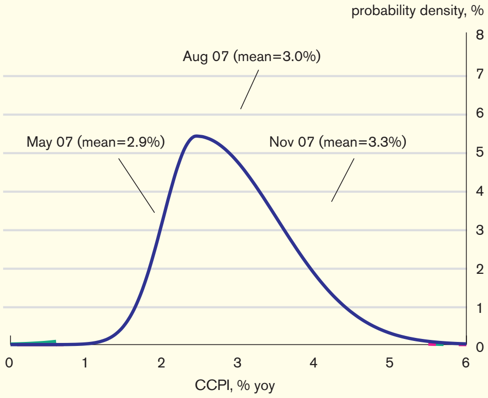
Note: CCPI rental component is excluding the effects of one-off special relief measures.

Sources: Rating & Valuation Department, C&SD and staff estimates.

Inflationary pressure is expected to pick up further in 2008, driven by strong domestic demand and fast pass-through of import prices led by the weakening US dollar. Domestically, rising property prices have put upward pressure on private housing rents, leading to rising inflation in the CCPI rental component. Given there is a close relationship between the 24-month moving average of the private residential rental index and the CCPI rental component (Chart 4.9), we project the CCPI rental component to increase by 6.1% in 2008 using an autoregressive process. This projection is considerably higher than the increase of 4.8% in 2007. Although the rapid labour productivity growth has mitigated some of the inflationary pressures in previous years, the non-rental component of CCPI inflation is also expected to accelerate, largely reflecting strong domestic demand. Based on the indicator model developed by the HKMA,[49] the non-rental component CCPI inflation is expected to increase by 2.6%-3.6% in 2008.

[49] Details of the methodology can be found in Li-gang Liu, Jian Chang and Andrew Tsang (2006), "Forecasting the Non-Rental Component of Hong Kong's CCPI Inflation - an Indicator Approach", *HKMA Research Memorandum* 03/2006.

Chart 4.10
Hong Kong: probability distribution of inflation forecasts for 2008



Source: Staff calculations based on market consensus.

Although headline inflation was lower than the underlying inflation rate in 2007, it is expected to surge once the special government tax-relief measures, particularly those relating to the rebate of property rates, are phased out. Even if the rebates were to be re-introduced, the surge in headline inflation would only be postponed, as it has been converging rapidly towards the underlying inflation rate. Taken these considerations into account, the latest market consensus predicts CCPI inflation to rise by 3.3% (in a range of 2.0% to 4.3%) in 2008 (Chart 4.10).

4.3 Uncertainties and risks

The degree of uncertainty surrounding the baseline outlook in 2008 is exceptionally high at the present juncture. The main issues are whether the US economy will enter a deep recession and drag the rest of the world economy along with it, and whether financial market turmoil will persist amid a disorderly unwinding of the financial imbalances and sharp movements in the exchange rates among major currencies.

In the aftermath of the credit market turmoil, it will probably take one to two years for the US housing market to clear its imbalances and for the household sector to repair its balance sheets. While a protracted period of below-trend growth is a more likely scenario, a recession in the US cannot be ruled out. The US slowdown has so far had little discernible effect on growth in most other economies. One possible explanation is that the current slowdown has been driven by US-specific developments rather than by broader factors that are highly correlated across the major industrial economies. While domestic demand has been strong in the East Asian economies, external demand from within the region, which is not tied to re-exports to the major advanced economies, has also been an important contributor to growth. The question is whether the support provided by this domestic demand will be strong enough to counteract a sharper decline in the growth of domestic demand in the US. The answer is likely to differ from economy to economy depending on the particular economic structure. In Hong Kong, while exports to the US market have declined, exports to Mainland China have remained robust. Domestic demand has also remained strong, reflecting favourable labour market conditions. Moreover, both the private sector and the public sector in Hong Kong have strong balance sheets. Thus, while Hong Kong would be affected by a recession in the US and a deterioration in the global financial environment, the economy would still be able to achieve positive growth.

With the return of household savings in the US while balance sheets are being repaired, and through a combination of demand rebalancing and further depreciation of the US dollar, the US trade deficit will probably be on a declining path. This benign scenario, however, has to be balanced against the risk of a more sustained shift in investor preference away from US assets, reflecting investor disenchantment with asset-backed credit products and expected further depreciation of the US dollar. Such a possible result from the recent credit market crisis could raise the risks of a disorderly unwinding of imbalances.

As global investors rebalance their portfolios reflecting the turmoil in developed financial markets, East Asia has been experiencing strong capital inflows. Historically, when the US dollar depreciated significantly over a sustained period, East Asia tended to experience sizable capital inflows, currency appreciation and rapid asset price inflation. This was the case in the second half of the 1980s. The prospect of rising inflation and lower real interest rates could help fuel domestic credit growth and stimulate the build up of leveraged positions. In the event of a reversal of such inflows due, for example, to a sharp deterioration in the global economic and financial environment, the balance sheets of the private sector could be severely damaged.

While the risks to economic growth in East Asia are primarily on the downside, the risks to inflation tilt to the upside. Globally, oil and metals prices have remained at high levels, and food prices have also moved sharply upwards. Rising food and energy costs could affect inflation expectations and feed into other prices and wages, particularly in the emerging and developing economies, reflecting the significant share of food and energy in their consumption baskets. In Hong Kong, food and energy are a small part of the basket, so imported inflation is not likely to be a major risk. Instead, a further tightening of labour market conditions and a larger-than-expected increase in housing rentals are more important risk factors to inflation.

The banking system and financial markets in Hong Kong have so far demonstrated their resilience during the credit market turmoil. At the time of writing, almost all measures of asset quality and the financial soundness of the banking system show a degree of robustness. Nevertheless, it is important for banks in Hong Kong to exercise caution and guard against the risks associated with an environment of rising asset prices, and volatile credit and equity markets.

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 (RLBs) and deposit-taking companies (DTCs).

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.

Closer Economic Partnership Arrangement (CEPA)

A free trade agreement between the Government of the Hong Kong Special Administrative Region and the Central People's Government of the People's Republic of China (the Mainland) signed on 29 June 2003. CEPA aims to strengthen trade and investment co-operation between the Mainland and Hong Kong, through progressively reducing tariff and non-tariff barriers on trade in goods and services, and facilitating trade and investment activities.

Composite Consumer Price Index

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.

Consolidated Account

A government account, which gives an overview of the financial position and cash resources of the Government of the Hong Kong Special Administrative Region. It is prepared on a cash basis and comprises the General Revenue Account and the eight government funds: Capital Works Reserve Fund, Capital Investment Fund, Civil Service Pension Reserve Fund, Disaster Relief Fund, Innovation and Technology Fund, Land Fund, Loan Fund and Lotteries Fund.

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.

Discount Window

In Hong Kong, the facility through which banks can borrow Hong Kong dollar funds overnight from the HKMA through repurchase agreements using eligible securities as collateral.

Exchange Fund Bills and Notes

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 rate (REER) is obtained by adjusting the NEER for relative movements in the seasonally-adjusted consumer price indices of those selected trading partners.

Operating Account

A government account comprises mainly the General Revenue Account, including investment income of the Land Fund but excludes those revenue items which are treated as capital revenue.

Rescheduled Loan Ratio

The ratio of total rescheduled loans to total outstanding loans.

Underemployment Rate

The number of underemployed persons, who are involuntarily working for less than 35 hours a week, as a proportion of the labour force.

Abbreviations

3m moving avg/3mma	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
BoE	Bank of England
BoJ	Bank of Japan
BoP	Balance of Payments
CBRC	China Banking Regulatory Commission
CCPI	Composite Consumer Price Index
C&SD	Census and Statistics Department
CPI	Consumer Price Index
CU	Convertibility Undertaking
ECB	European Central Bank
E/P	Earnings/Price Ratio
EU	European Union
FAI	Fixed Assets Investment
FDI	Foreign Direct Investment
Fed	Federal Reserve Board
FOMC	Federal Open Market Committee
FX	Foreign exchange
GDP	Gross Domestic Product
HIBOR	Hong Kong Interbank Offered Rate
HICP	Harmonised Index of Consumer Prices
HKMA	Hong Kong Monetary Authority
HSI	Hang Seng Index
IMF	International Monetary Fund
IPOs	Initial public offerings
IT	Information technology
lhs	Left-hand scale
ISM	Institute for Supply Management
JGB	Japanese Government Bond
JPY	Japanese yen
LIBOR	London Interbank Offered Rate

MCI	Monetary Conditions Index
mn	Million
n.a.	Not available
NEER	Nominal effective exchange rate
NIEs	Newly Industrialised Economies
NPLs	Non-performing loans
OECD	Organisation for Economic Co-operation and Development
p.a.	Per annum
PBoC	People's Bank of China
PCE	Private consumption expenditure
PD	Default probability
PMI	Purchasing Managers' Index
PPP	Purchasing Power Parity
PPI	Producer Price Index
qoq	Quarter-on-quarter
QDII	Qualified Domestic Institutional Investors
QFII	Qualified Foreign Institutional Investors
REER	Real effective exchange rate
REIT	Real Estate Investment Trust
rhs	Right-hand scale
RMB	Renminbi
RML	Residential Mortgage Lending
ROE	Return on equity
RRR	Reserve requirement ratio
Sa	Seasonally adjusted
SAFE	State Administration of Foreign Exchange
SARS	Severe Acute Respiratory Syndrome
S&P 500	Standard and Poor's 500 Index
tn	Trillion
USD	US dollar
WTI	West Texas Intermediate
yoy	Year-on-year
ytd	Year-to-date