HALF-YEARLY MONETARY AND FINANCIAL STABILITY REPORT

June 2007

This Report reviews statistical information between end-November 2006 and end-May 2007.

Summary

Hong Kong's economy continued to enjoy non-inflationary growth in the past six months benefiting from a favourable external environment and a monetary system that has proved resilient to the challenge of an appreciating renminbi. In this encouraging macroeconomic climate, indicators of risk-adjusted profitability and resilience point to a strong banking sector. Consensus forecasts also indicate sustained, albeit moderating, growth and a benign inflation outlook for our main trading partners in the remainder of 2007. Monetary and financial stability should, therefore, prevail in Hong Kong for the foreseeable future.

Hong Kong's GDP grew by 5.6% year on year during the first quarter. Private consumption growth was particularly buoyant as labour market conditions continued to improve, while the rally in the stock market contributed to increased household wealth. Exports of services also added significantly to growth, and although private fixed capital formation slowed relative to the high levels recorded in 2006, growth in the economy was broad-based and balanced.

The unemployment rate declined to a nine-year low of 4.3% in April, close to our estimate of the natural rate of unemployment. A special analysis in this report illustrates that the service sector continues to be the main source of employment growth in Hong Kong, and that within this sector export/import, real estate and business services, and finance and insurance are the strongest contributors.

Inflationary pressures have increased. After removing the one-off effect from the waiver of pubic housing rents in February and the government rate concession in April, the composite consumer price index increased by an average annualised rate of 2.5% in the three months ending in April. The pick up in consumer price inflation has been broad-based as reflected by the simultaneous increases in housing rents, service costs and goods prices. Underlying factors behind the inflationary pressures include increased unit labour costs and higher import prices due to a depreciation of the nominal effective exchange rate.

The Hong Kong dollar moved from the strong side to slightly above the centre of the 7.75 – 7.85 convertibility zone at the beginning of the year. The much-publicised strengthening of the

renminbi, first to parity with the Hong Kong dollar and then beyond, had virtually no effect on the stability of the local currency. As documented in Box 6, exchange rate movements within the 'target zone' defined by the Linked Exchange Rate system support the conclusion that market participants now consider the convertibility undertakings to be fully credible.

Chapter 3 of the report examines the state of the banking system using balance sheet data and newly developed indicators based on financial market prices. Retail banks' profitability improved during the six months to the end of March due to broad-based increases in revenues. The increase in net interest income was mainly attributable to a general expansion of interest-bearing assets, while non-interest income rose in part as a result of a strong rise in income from trading activities and banks' capitalisation and liquidity remain strong. High liquidity has contributed to further intensification of price competition, in particular in the mortgage market, increased holding of debt instruments and expansion of unsecured consumer loans. As already pointed out in the *December Report* the principal risk facing banks continues to come from the possibility that interbank interest rates will increase thereby raising the cost of funds for those banks that rely on this market for funding and have assets with returns tied to a less rapidly adjusting Best Lending Rate.

Newly developed indicators measuring the debt burden of the housing sector are also presented in Chapter 3. Although the data are fragmented, the risk associated with banks' exposures to households appears contained. Indicators such as the debt-service burden of new mortgages and debt leverage have both decreased recently. By historical standards their current levels are not a cause for alarm. While the charge-off ratio for credit card receivables has edged up in the past year and a half, it is still at a historically low level.

Loans to the corporate sector account for close to two-thirds of total loans for use in Hong Kong. The credit risk of these loans has further improved since the *December Report*. Estimated default probabilities using both information in share prices and a new indicator based on an array of financial ratios suggest that banks' corporate credit risk is well contained. The banking sector's vulnerability to overall macroeconomic shocks is assessed using the newly developed macro stress-testing framework. The results show that banks would continue to be profitable even in face of severe, albeit not extreme, macroeconomic shocks.

The macroeconomic outlook for the remainder of the year 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. Based on central projections for these variables expressed in consensus forecasts, Hong Kong's GDP growth is expected to be between 5 and 6%, and underlying inflation to be contained in the 2 – 3% range.

The principal risks to the outlook stem from a greater than expected slowdown in the US economy and a resurgence in the volatility of financial markets and capital flows, including the possibility of a sharp correction of the stock market in Mainland China. Our estimates show that a decrease in growth in our trading partners would lead to a slightly more than one-for-one reduction in our own GDP growth rate. The quantitative impact of a reduction in asset prices on Hong Kong's GDP is likely to be more subdued compared to that of a global slowdown, assuming that the banking system is not severely affected. Our stress-tests indicate that this is the case. Overall, even if the downside risks facing Hong Kong's economy and its financial markets materialise, monetary and financial stability is not likely to be threatened.

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
June 2007

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1. Global and regional setting

External environment

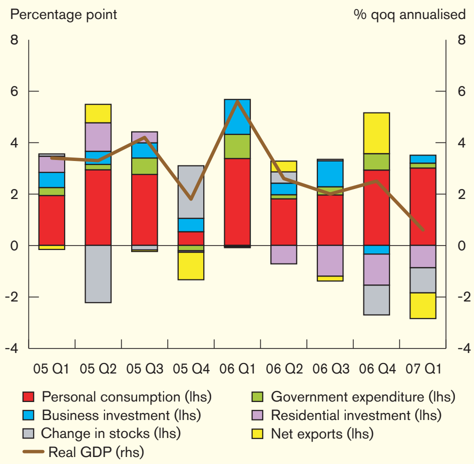
The world economy sustained its robust expansion into 2007, despite a slowdown in the US. Growth in the euro area continued to surprise on the upside, and the Japanese economy expanded further. Benefiting from the still favourable global economic environment, growth in the East Asian economies remained solid, although its pace moderated.

1.1 United States

The US economy expanded at its slowest pace in four years in Q1. Real GDP growth fell to 0.6% from 2.5% in the previous quarter, as weakness in residential investment, continued inventory correction, as well as a widening trade deficit offset strong growth in consumer spending. Housing construction recorded a double-digit decline for the fourth consecutive quarter, reducing GDP growth by 0.9 percentage point. Net exports subtracted another one percentage point, as exports reversed their rising trend while imports picked up partly on higher oil prices (Chart 1.1).[1] The share of Mainland China and Hong Kong in total merchandise imports increased to 16.4% on a 12-month rolling basis from 15.3% in the last report. So far, the housing market weakness does not appear to have spilled over to other sectors of the economy to any significant extent. Consumer spending increased by 4.4% in Q1 and contributed 3.0 percentage points to overall growth, while business investment rebounded modestly.

Monthly data have shown some signs of improvement since the start of Q2 (Table 1.A). Undercut by concerns about rising gasoline prices, falling house prices and troubles in the sub-prime mortgage market, the consumer confidence indices fell to a multi-month low in April before rising to higher-than-expected levels in May. Retail sales held up on a three-month-on-three-

Chart 1.1
US: contributions to GDP growth



Source: Bureau of Economic Analysis.

Table 1.A
US: monthly indicators of activity

	Jan	Feb	Mar	Apr	May
Manufacturing PMI	49.3	52.3	50.9	54.7	55.0
Non-manufacturing PMI	59.0	54.3	52.4	56.0	59.7
Industrial production (% 3m-on-3m)	-0.4	0.2	0.2	0.7	n.a.
Durable goods orders (% 3m-on-3m)	-1.9	-3.9	-2.5	0.4	n.a.
Core capital goods orders[1] (% 3m-on-3m)	-3.1	-4.9	-4.3	-1.5	n.a.
Retail sales (% 3m-on-3m)	0.9	1.5	1.5	1.5	n.a.
Real personal consumption expenditure (% 3m-on-3m)	1.2	1.2	1.1	0.9	n.a.
Real disposable income (% 3m-on-3m)	1.4	1.2	1.2	0.8	n.a.
Change in nonfarm payroll (thousand persons)	162	90	175	80	157
Unemployment rate (%)	4.6	4.5	4.4	4.5	4.5
Consumer confidence (index)					
Conference Board	110.2	111.2	108.2	106.3	108.0
Job prospects[2]	9.9	9.9	11.4	8.7	9.1
University of Michigan	96.9	91.3	88.4	87.1	88.3

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

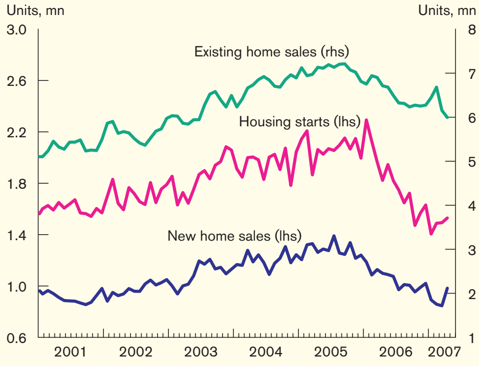
Source: Bloomberg.

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

month comparison in April despite an unexpected monthly drop. Industrial production also picked up, and both the ISM manufacturing and non-manufacturing Purchasing Manager's Indices improved further in May. Orders for non-defence capital goods excluding aircraft, a proxy for future corporate investment, have also contracted at a slower pace since March. On balance, the US economy should continue to expand at a moderate pace and consumer spending is likely to be supported by robust income growth, healthy employment creation, and the low long-term interest rates.

That said, recent indicators suggest the sluggishness in the housing sector might persist, and residential investment will likely remain a drag on growth for some time (Chart 1.2). Existing home sales fell further to their lowest level in almost four years in April. While new home sales recorded a strong rebound in April, housing starts were still 16% below their monthly average in 2006, and building permits declined by more than expected. At the same time, problems in the sub-prime mortgage market have complicated the analysis of the extent and duration of the housing correction.

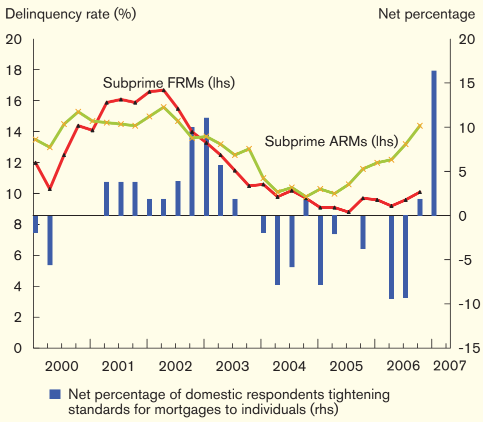
Chart 1.2
US: Housing market activity indicators



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

The sub-prime mortgage market started to worsen from mid-2005 against the back ground of a combination of successive interest rate hikes, slowing home price appreciation, and loosening underwriting standards. In 2006 Q4, delinquency rates in the sub-prime market surged sharply, particularly for adjustable-rate mortgages (ARMs), and foreclosure rates on the sub-prime ARMs also almost doubled compared with the middle of 2005 (Chart 1.3). While further increases in delinquencies and foreclosures are expected, so far, their impact on the overall housing market and the broader economy appears to be limited. According to Fed Chairman Bernanke, "given the fundamental factors in place that should support the demand for housing, we believe the effect of the troubles in the sub-prime sector on the broader housing market will likely be limited, and we do not expect significant spillovers from the sub-prime market to the rest of the economy or to the financial system".[2] Nonetheless, downside risks have increased. Should there be a significant slowdown in the US, Asian

Chart 1.3
US: Sub-prime mortgage delinquency rates and tightening lending standard

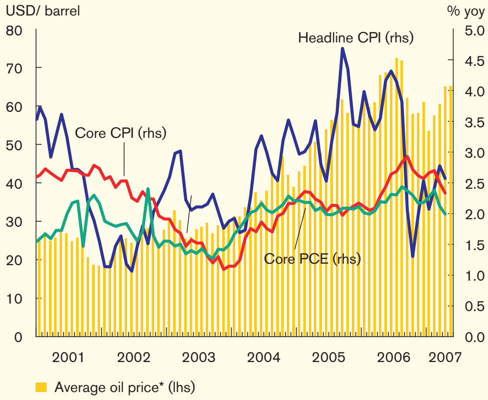


Sources: Mortgage Bankers Association National Delinquency Survey and Federal Reserve Senior Loan Officers Opinion Survey.

Note: FRMs and ARMs refer to fixed-rate mortgages and adjustable-rate mortgages respectively.

[2] Speech on "The Sub-prime Mortgage Market" at the Federal Reserve Bank of Chicago's conference on 17 May 2007.

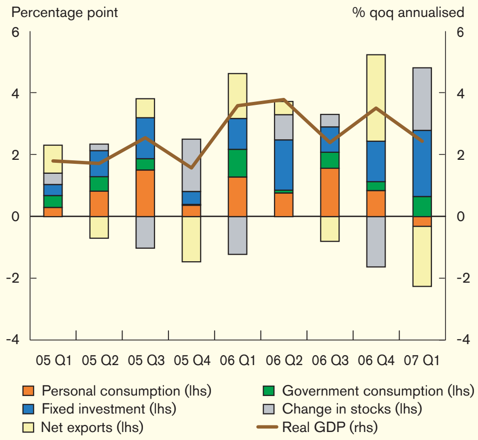
Chart 1.4
US: Headline and core inflation[1]



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

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

Chart 1.5
Euro area: contributions to GDP growth



Source: Eurostat.

economies could be adversely affected. Box 1 assesses the potential of Asia's growth to decouple from that in the US.

Inflationary risks remain as core inflation has stayed somewhat elevated since the last report. The latest data, however, suggest that near-term inflationary pressures might have eased, as the year-on-year core CPI and core PCE inflation edged down further to 2.3% and 2.0% respectively in April from 2.5% and 2.1% a month ago (Chart 1.4). Nevertheless, given that monthly figures could be noisy, the still tight labour market conditions and the high level of resource utilisation continue to present risks of inflation. Partly reflecting the movements in energy and food prices, headline CPI inflation picked up to 2.8% in March before declining to 2.6% in April.

1.2 Euro area and UK

After expanding at its fastest pace in six years in 2006, the euro area economy continued to surprise on the upside. Real GDP growth increased by a solid 2.4% in Q1, albeit lower than 3.5% in 2006 Q4. Growth was mainly driven by strong business investment and significant inventory build-up, which helped offset a large negative contribution from net export and a decline in private consumption (Chart 1.5). The German economy grew by 2.1%, and growth in France and Italy increased by 2.0% and 0.8% respectively.

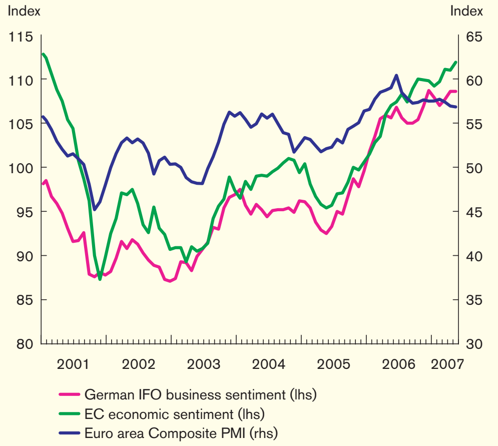
The favourable fundamentals supporting the strong growth in 2006 remain. While net exports led growth in 2006 Q4, domestic demand took over as the main driver of growth in Q1. In particular, business investment growth surged to 10.1%, the most in almost 10 year, against the backdrop of a still accommodating interest rate environment, robust corporate earnings, and buoyant investor confidence. Owing to the negative impact of the German VAT increase in January 2007, private consumption declined by 0.5%. Nevertheless, the impressive turnaround in the labour market and improvement in consumer sentiment should provide support to household spending in period ahead.

Table 1.B
Euro area: survey indicators of activity

(Index)	2006	Jan	Feb	Mar	Apr	May
Composite PMI	58.1	57.5	57.7	57.4	56.9	56.8
Manufacturing PMI	56.3	55.5	55.6	55.4	55.4	55.0
Services PMI	57.9	57.9	57.5	57.4	57.0	57.3
European Commission survey						
Economic sentiment	106.9	109.2	109.7	111.1	111.0	111.9
Industrial confidence	2.3	5.0	5.0	6.0	7.0	6.0
Orders component	0.0	6.0	7.0	8.0	9.0	8.0
Consumer confidence	-8.9	-7.0	-5.0	-4.0	-4.0	-1.0
ZEW economic sentiment	26.6	-1.8	6.8	5.1	10.7	22.3
German IFO						
(business climate)	105.5	107.9	107.0	107.7	108.6	108.6

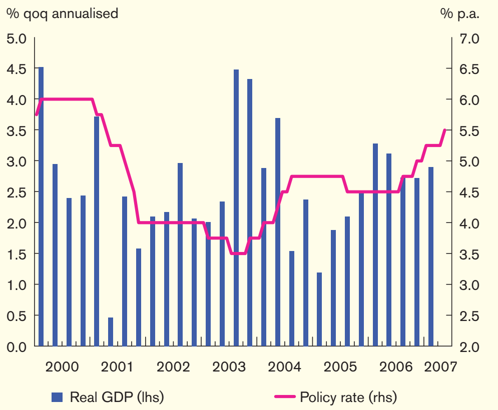
Sources: Bloomberg and Reuters.

Chart 1.6
Euro area: economic sentiment indicators and the PMI



Sources: Bloomberg, Reuters, and European Commission.

Chart 1.7
UK: Real GDP growth and interest rates



Sources: UK National Statistics and Bank of England.

Near-term economic prospects are likely to remain positive, as suggested by the elevated survey indicators (Table 1.B). The European Commission economic sentiment index increased further since the last report and stayed close to its new six-year high in May, as increased business investment helped boost confidence despite higher interest rates, a rising euro, and a slowdown in the US (Chart 1.6). Business confidence in Germany also remained at its second-highest level on record. The euro area manufacturing and service PMI were maintained at around 55 and 57 respectively since the last report, indicating continued robust and balanced growth.

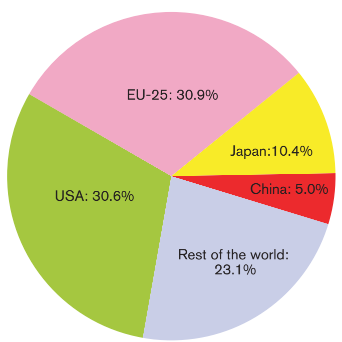
The headline HICP inflation has stayed below the European Central Bank's ceiling of 2% for its inflation target since September 2006. Nonetheless, faster-than-expected economic growth has raised concerns about a possible future rise in inflation as increasing capacity utilisation likely adds to the underlying inflationary pressure. Core HICP inflation picked up steadily to 1.9% in April from around 1.5% in the last report, while the euro area unemployment rate edged down from 7.7% to a record low of 7.1%.

In the UK, real GDP expanded at a higher-than-expected rate of 2.9% in Q1, mainly driven by strong domestic demand. Business investment growth remained solid, albeit slowing from the previous quarter, and consumer spending continued to be supported by rising house prices and robust wage growth (Chart 1.7). Inflation risks have heightened since the previous report, and the April headline CPI inflation continued to exceed the Bank of England's (BoE's) 2% target for the 12th month in a row. Partly reflecting higher prices of food and non-alcoholic beverages, as well as that of petrol, CPI inflation unexpectedly rose above 3% to 3.1% in March, prompting the first ever open-letter from the BoE Governor to the Chancellor, before falling to 2.8% in April.

Box 1
Does Asia fulfil the conditions for decoupling?

There are concerns that East Asia has been too export dependent so that growth may be vulnerable to a possible sharp housing-led slowdown in the US. Some have argued that the region therefore needs to switch from an export-led growth model to a domestic-demand-led one. However, this line of argument confuses the effects of external trade on an economy's cyclical developments and its long-term growth potential. The desirable way to reduce external vulnerabilities is to diversify export markets and strengthen domestic institutions and policies to reduce the impact of temporary shocks, not by reducing the degree of openness or the share of exports in GDP.[3] Indeed, with strengthened fiscal positions and enhanced financial sector soundness, economic fundamentals have improved greatly in East Asia since the 1997-98 financial crisis. Nevertheless, for East Asian economies to decouple structurally from the US, they must satisfy three conditions.

Chart B1.1
Mainland's share in world demand



Sources: World Bank, Global Economic Prospects 2007 and CEIC.

First, they need to have sufficiently more diversified export markets than before. Indeed, the major focus of the decoupling thesis is that Mainland China is the new centre of demand in Asia that would enable the decoupling to occur. However, the Mainland's domestic demand still lacks the scale to take the driver's seat of demand growth in the region as a whole. Although it has become the fourth largest economy at current exchange rates, the Mainland accounted for only around 5% of world demand in 2005 (Chart B1.1).

The growing processing trade of the Asian economies with the Mainland also means that the region can be affected indirectly through lower exports via the Mainland to the US. In Mainland China, shipments to the US currently account for around 26% of total exports.[4] In fact, exports from the Mainland to the US in emerging Asia's total exports have been increasing,

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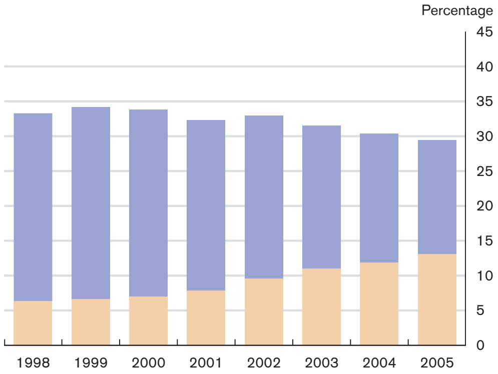
3 He, Dong, Lillian Cheung and Jian Chang (2007), 'Sense and nonsense on Asia's export dependency and the decoupling thesis', *HKMA Working Paper* 03/2007.

4 Allowing for re-exports through Hong Kong.

Chart B1.2
Share of exports to the US in emerging Asia's total exports*



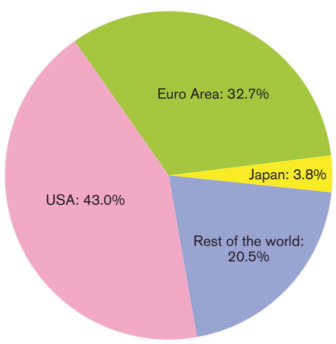
* Excluding intra-regional exports.
Sources: Direction of Trade Statistics and CEIC.

Table B1.A
Direct and indirect trade exposure to the US*

	Direct effect		Indirect effect		Total	
	2005	2001	2005	2001	2005	2001
Japan	2.3	3.0	1.5	1.6	3.8	4.6
China	2.1	2.0	1.5	1.9	3.6	3.9
NIE-4	1.4	2.0	1.5	1.5	2.9	3.5
ASEAN	1.6	2.0	1.3	1.7	3.0	3.7

* % decline in total exports due to a 10% decline in US imports.
Sources: Direction of Trade Statistics, CEIC and staff calculations.

Chart B1.3
Inward portfolio investment in Asia by country



Sources: IMF Coordinated Portfolio Investment Survey database and staff estimates.

although the share of exports from the rest of emerging Asia has declined (Chart B1.2).[5] As a result, the US share in the region's total exports has remained rather stable at close to 30%, albeit at a slightly lower level than that over the past years. Therefore, the impact of any decline in US demand for Asian-made goods will remain significant to the region.

Some simple calculation of the direct and indirect trade effects of the major Asian economies suggests that decoupling would not be easy, given the important role played by Mainland producers in shaping the supply side of the world economy, together with the equally dominant role the US consumer has played in driving the demand side (Table B1.A). While growing intra-regional trade has reduced the direct trade exposure of the Asian economies to the US over the past few years, the impact through indirect effects has remained significant.[6] Our estimates suggest that for most Asian economies excluding Mainland China, the indirect effects of lower US imports could be comparable to the direct trade effects. For the NIEs, the indirect trade exposure to the US was even larger than the direct effect in 2005.

Secondly, there must be policy autonomy, that is, the ability to establish independent settings for monetary policy. The de facto currency regimes of many Asian economies are still very closely linked to the US dollar, although their exchange rates are becoming more flexible over time, and this ties the Asian economies' monetary policy stance, and hence their business cycles, to that of the US.

At the same time, with the US being the major source of capital, the region has little scope for setting independent monetary policy, given the limited flexibility in the exchange rates (Chart B1.3). A loosening of monetary policy by the Fed, for example, will act as a push factor to the financial markets in Asia,

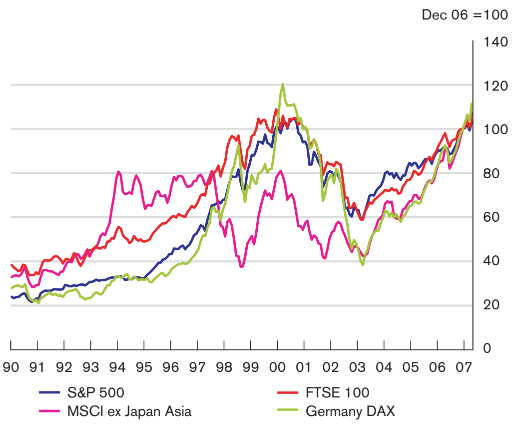
5 This is based on total exports of Asia excluding intra-regional exports.

6 The indirect trade effect is defined as the fall in overall Asian exports due to lower exports to other countries affected by lower US imports. It is estimated here by assuming that a 10% fall in US imports would lead to a proportionate decline in its trading partners' exports, which in turn, will reduce proportionately that country's demand for imports from other countries.

leading to an easing of monetary and financial conditions in these markets. This will act as a constraint on the Asian economies to tighten monetary policy, particularly if they are concerned about the effect of an appreciation of their currencies on export competitiveness. Such dependence on US monetary policy will reinforce the highly correlated business cycles between Asia and the US.

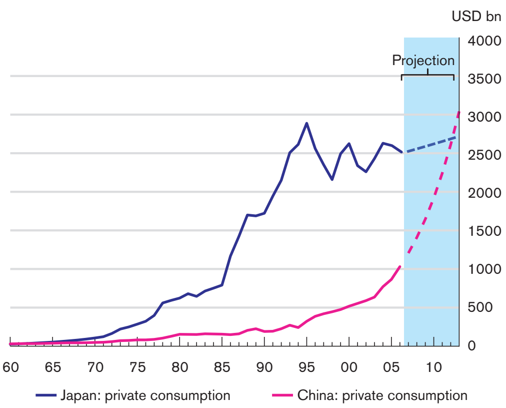
Finally, the financial markets of the East Asian economies have to be sufficiently uncorrelated with those in the US. Given emerging Asia's intensive trade and financial linkages with the global economy, regional equity markets have been strongly correlated with the global financial markets. As the US economy slows, prospects for stock markets in the region could be affected. Chart B1.4 shows the high correlation among global equity market indices and suggests that such effects might be considerable. The correlation of the US market with European markets is even higher than that with Asian markets. This might reflect the globalisation of financial markets, which are affected by common shocks, such as the tech bubble in 2001, causing major corrections in markets around the world. Global financial markets also tend to become more tightly linked through the investment strategies of institutions like hedge funds.

Chart B1.4
Asian and global stock market indices



Sources: Morgan Stanley Capital International Inc. and Bloomberg.

Chart B1.5
Private consumption in the Mainland to catch up with Japan

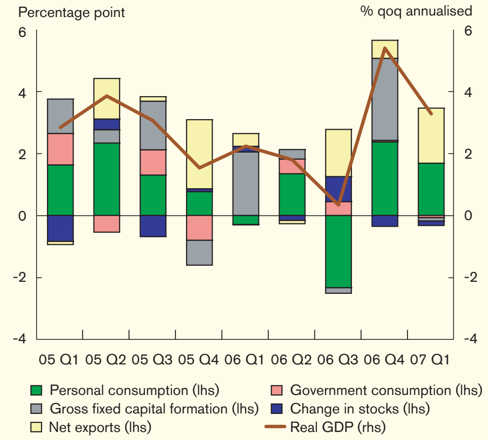


Sources: CEIC and staff estimates.

The Mainland could be the future driver of growth

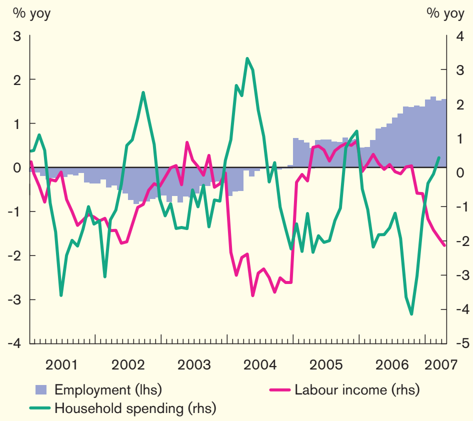
In a globalised world, while it appears that any significant slowdown in the US will unavoidably affect almost every other economy, East Asia does have the potential to decouple from the US in the long term. Japan's experience suggests that the Mainland could become Asia's future engine of growth not only through its role as the region's centre of demand and but also as a major exporter of capital. For the rest of the economies in the region, the emergence of the Mainland, with its rapidly growing domestic demand, will be capable of providing a sufficiently strong alternative source of demand over time (Chart B1.5). At the same time, with the Mainland becoming a major overseas investment power, its monetary policy is expected to exert increasing influence on the region's monetary and financial conditions. Whether this influence will lead to more cyclical stability in Asia will, of course, depend on the People's Bank of China's ability to conduct successful monetary policies.

Chart 1.8
Japan: contributions to GDP growth



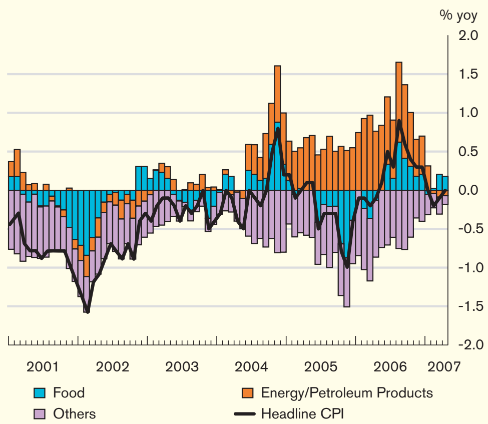
Source: Cabinet Office of Japan.

Chart 1.9
Japan: employment, labour income and household spending



Sources: Ministry of Health, Labour and Welfare.

Chart 1.10
Japan: contributions to consumer price inflation



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

1.3 Japan

In Japan, real GDP grew at a solid 3.3% in Q1, albeit slower than the strong growth of 5.4% in the previous quarter (Chart 1.8). The strong performance in Q4 led to a pick up in the annual growth rate for 2006 to 2.2%, from 1.9% in 2005. Despite moderating in March, domestic demand remained robust overall in Q1. Private consumption, which grew at 4.3% and 3.1% in the past two quarters respectively, remained the main driver of the economy's expansion. Retail trade has been encouraging, rising by 1.9% in Q1 after declining for three consecutive quarters. Consumption continued to be supported by improved labour market conditions. While wage growth remained subdued, the unemployment rate has fallen to a nine-year low of 3.8% in April (Chart 1.9).

Manufacturing activities weakened in Q1, partly reflecting a correction in inventories, and an easing from the marked increase in the previous quarter. Quarter-on-quarter, industrial production fell by 1.2% in Q1. The latest Bank of Japan's quarterly *Tankan* survey showed that while confidence among manufacturers slipped marginally in March, large corporates expect investment plans for the coming fiscal year to grow at a relatively high rate, with firm domestic and external demand likely to be maintained.

Export growth strengthened in Q1 compared with the previous quarter, supported by strong overseas demand and a favourable trade-weighted yen exchange rate. Merchandise exports rose by 2.9% in Q1 quarter on quarter after a 2.6% increase in the previous quarter. While exports to the US were affected by the economic slowdown, those to the euro area and Asia, particularly Mainland China, grew solidly.

Inflation has hovered around 0% since the beginning of the year. The headline CPI registered a 0% year-on-year change in April after turning negative in the previous two months, while core CPI inflation (excluding fresh food) was at -0.1% (Chart 1.10). The fall was largely due to a decline in the prices of oil and other commodities. According to the Bank of Japan's April Report of *Recent Economic and Financial Developments*, consumer-price inflation is 'expected to be around zero per cent in the

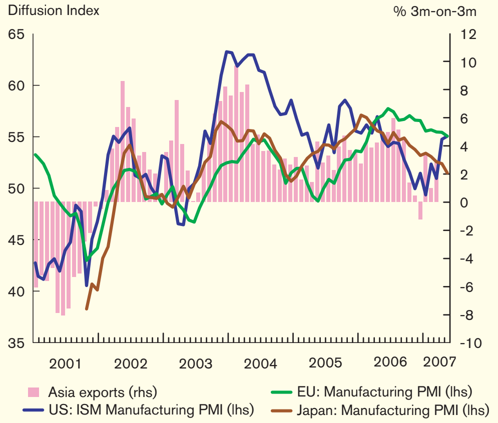
Table 1.C
East Asia: real GDP growth

(% qoq, annualised)	05Q4	06Q1	06Q2	06Q3	06Q4	07Q1
NIE:	**7.6**	**4.5**	**1.8**	**6.4**	**4.3**	**4.3**
Korea	6.9	4.0	3.2	5.0	3.8	3.6
Singapore	9.3	9.1	5.4	3.9	7.9	7.6
Taiwan[1]	8.4	4.4	-1.3	9.1	4.3	4.8
ASEAN:	**6.3**	**3.6**	**4.9**	**7.1**	**6.3**	**4.2**
Indonesia[1]	7.8	1.2	5.1	9.6	8.8	0.7
Malaysia[1]	6.7	6.4	5.4	5.8	5.2	4.9
Philippines	5.7	5.3	5.0	4.7	7.0	10.3
Thailand	4.1	4.5	4.1	5.8	2.5	4.9
East Asia:	**6.9**	**4.0**	**3.5**	**6.8**	**5.4**	**4.3**

Note 1: Staff estimates.

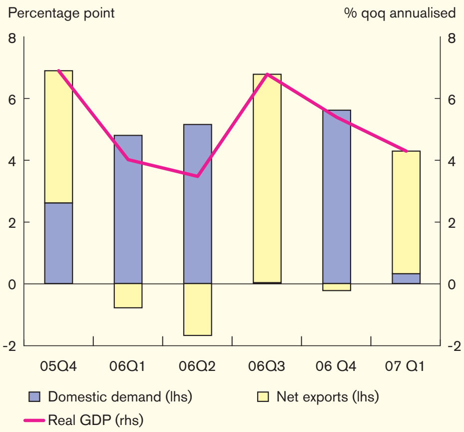
Sources: CEIC and staff estimates.

Chart 1.11
East Asia: exports and the PMI in the US, the euro area and Japan



Sources: CEIC, Bloomberg, Reuters and staff estimates.

Chart 1.12
East Asia: contributions to GDP growth



Sources: CEIC and staff estimates.

short run with the effect of the drop in crude oil prices remaining'. However, prices are 'projected to continue to follow a positive trend' from a longer term perspective given the increase in resource utilisation.

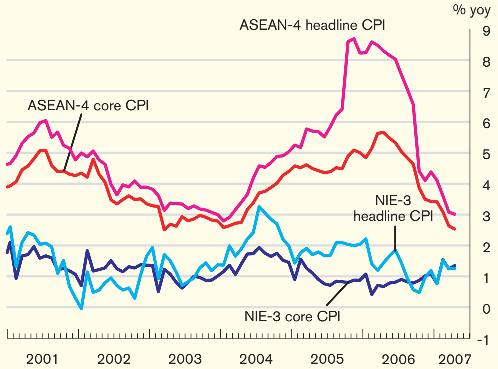
1.4 Other Asia (ex-Mainland China)

In the rest of East Asia, growth continued to moderate in Q1, with real GDP increasing by an average rate of 4.3% compared with 5.4% in 2006 Q4 (Table 1.C).[7] The performances of individual economies within the region were mixed. In Korea, Singapore and Taiwan, real GDP grew at an average rate of 4.3% in Q1, similar to the rate of growth in the previous quarter. However, growth in the other ASEAN economies fell to 4.2 % from 6.3% during the same period.

Exports rebounded in Q1 and were the most important driver of growth in the region (Chart 1.11). So far, the effects of a slowdown in the US economy on the region's export performance appear to be limited, and there are signs of a recovery in electronics demand. Industrial production fell in a number of the economies in the region in the first three months of the year, partly held back by inventories in stock. Nevertheless, with a recovery in external demand in line, the softness in production might reverse in the coming months. On the other hand, domestic demand softened following the strong expansion in the previous quarter (Chart 1.12).

[7] Aggregate real GDP growth for East Asia, is weighted by 2006 GDP valued at Purchasing Power Parity.

Chart 1.13
East Asia: headline and core CPI inflation[1]



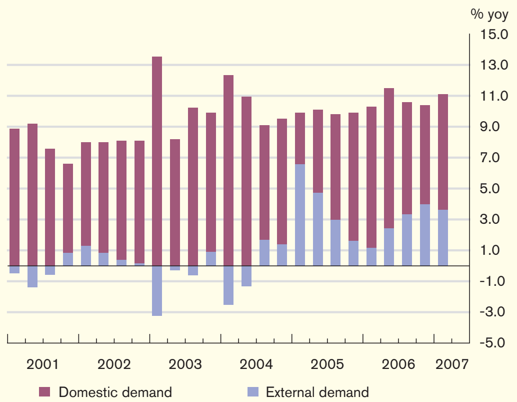
Note 1: Simple average.
Sources: CEIC and staff estimates.

Inflation remained subdued in the region. While headline CPI inflation in Korea, Singapore and Taiwan increased to an average of 1.2% year on year in April, from 0.8% in January, it fell in the other ASEAN economies to an average of 3.0% from 4.1% during the same period (Chart 1.13). The fall in inflation was, to a large extent, due to a sharp fall in food prices. Inflation is likely to remain in check amid lower energy prices and stronger currencies.

Mainland China

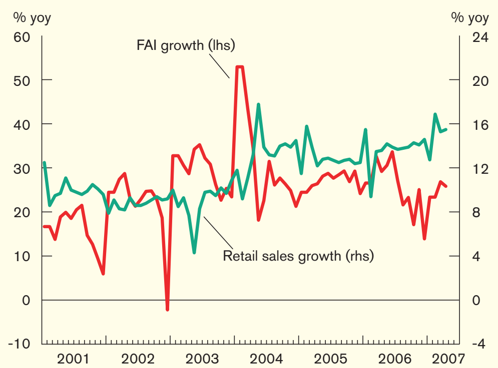
Economic growth on the Mainland accelerated in the first quarter of 2007 driven by rebounding investment and a growing trade surplus. Investor optimism and ample liquidity helped fuel the stock market boom. The authorities have tightened monetary policy, but still face the daunting challenges of stabilising the deteriorating external imbalances and rapidly rising asset prices.

Chart 1.14
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 1.15
Mainland China: real growth of FAI and retail sales



Source: CEIC.

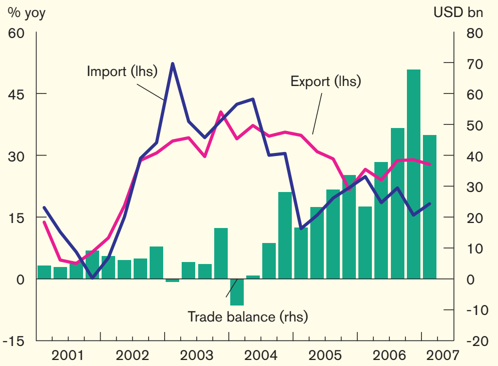
1.5 Output and inflation

Output growth

Real GDP growth increased to 11.1% year on year in 2007 Q1, 0.7 of a percentage point higher than that in the previous quarter. The seasonally adjusted quarter-on-quarter growth has also trended up from 2.2% in 2006 Q4 to 3.6% in 2007 Q1. A rebound in domestic demand led by consumption and investment appears to have contributed to the renewed acceleration in GDP growth, while external demand continued to remain strong (Chart 1.14).

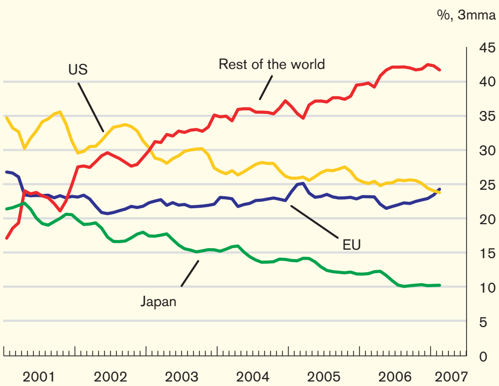
The growth in fixed assets investment (FAI) picked up again in Q1 to close to 24% year on year, 5.5 percentage points higher than that in the previous quarter (Chart 1.15). Easy monetary conditions and robust growth in enterprise profits have contributed to the rebound in investment spending. Industrial profits grew by 34% in 2006 Q4 and by more than 40% in January-February 2007 year on year. Retail sales (a proxy for consumption) expanded on the back of solid growth in wages and income, registering 14.9% growth in 2007 Q1 and 15.5% in April year on year, compared with 13.8% and 14.3% in the last two quarters of 2006 (Chart 1.15).

Chart 1.16
Mainland China: external trade



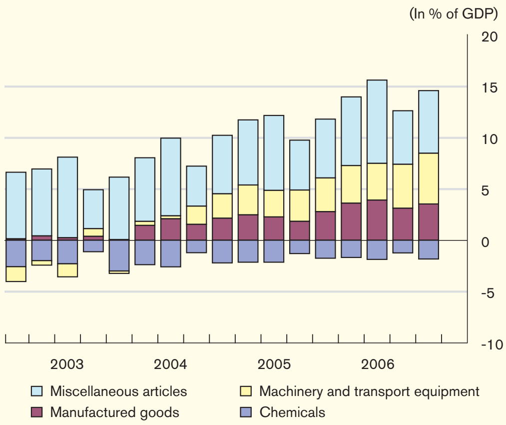
Sources: CEIC and staff estimates.

Chart 1.17
Mainland China: relative importance of export markets



Sources: CEIC and staff estimates.

Chart 1.18
Mainland China: manufacturing trade balance



Sources: CEIC and staff estimates.

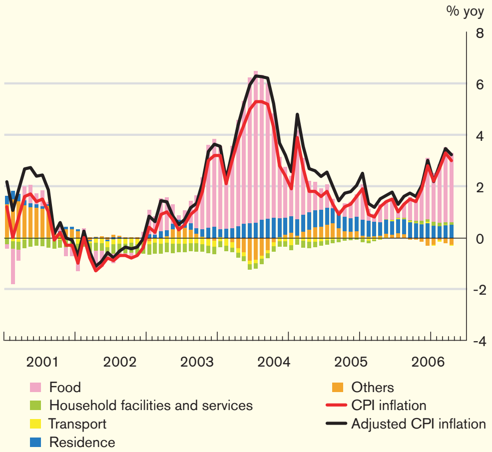
External trade

Exports registered robust growth of 27.8% year on year in Q1, slightly lower than that in 2006 Q4 (Chart 1.16). The continued strong performance of exports was propelled by solid external demand and the upgrading structure of trade. Growth in imports gained more than 2.5 percentage points from that of 2006 Q4 year on year, posting 18.2% in 2007 Q1. The quarterly trade surplus continued to be high, reaching US$46.4 billion in 2007 Q1, following a surplus of US$67.6 billion in 2006 Q4.

The relative importance of the main export markets has been changing over time (Chart 1.17). While the export share to the European Union remained relatively steady, the export shares to the US and Japan have been declining considerably. The US market was once the largest export destination for China, but was overtaken by the EU market in early 2007. The share of the Japanese market fell sharply from 20% in 2001 to around 10% in 2007 Q1.[8] However, the share of exports to other markets has surged. The evolving trade pattern implies that the Mainland is rapidly diversifying its export market. As a result, the Mainland may be better cushioned from economic slowdowns in the US and Japan than it was five years ago. In addition, preliminary evidence suggests that exports from the Mainland have been moving rapidly to higher value-added sectors, as manufactured goods, and machinery and transport equipment have been making a greater contribution to the surplus since 2004 (Chart 1.18).

[8] Note that the decline of market shares may also be partly explained by exchange rate valuation.

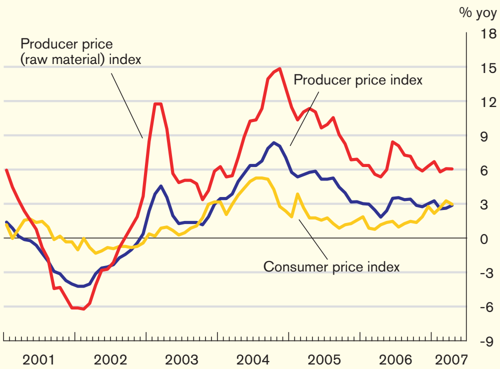
Chart 1.19
Mainland China: contributions to CPI inflation



Note: The adjusted CPI inflation assigns a larger weight to the housing component than the official one.

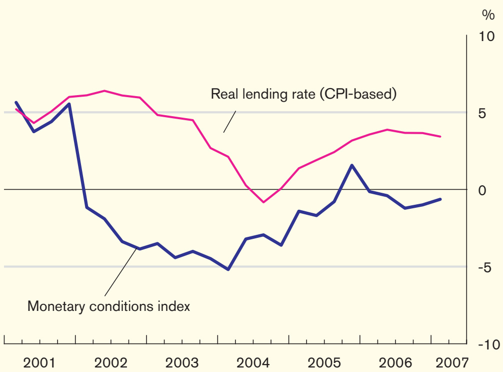
Sources: CEIC and staff estimates.

Chart 1.20
Mainland China: price indicators



Source: CEIC.

Chart 1.21
Mainland China: monetary conditions



Note: The monetary conditions index (MCI) is defined as a weighted sum of real interest rate, real effective exchange rate and real credit growth. A rise in the index indicates a tightening of monetary conditions.

Sources: CEIC and staff estimates.

Inflation

Driven mainly by food prices, the year-on-year headline CPI inflation touched an eight-quarter high of 2.7% in 2007 Q1, 0.8 of a percentage point higher than that in the previous quarter (Chart 1.19). The pace of CPI inflation eased somewhat in April, down to 3.0% from 3.3% in March year on year. The raw materials price index inflation has slowed in the past two quarters, with the PPI inflation moving in a similar pattern (Chart 1.20). Declining crude oil prices have played an important role in slowing the PPI inflation in the first quarter of 2007.

Although inflation risks are tilting upwards with strong domestic demand, rising food prices and continued reforms in energy prices, the risk of a major upsurge in inflation is small, as production capacity has been increasing along with strong investment demand.

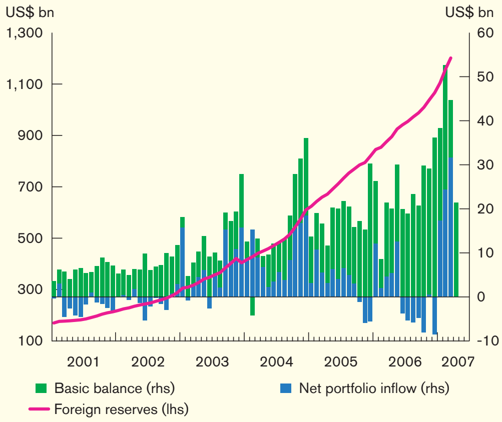
1.6 Monetary and financial conditions

Monetary conditions

Growth in M2 remained at an elevated level in 2007 Q1, registering 17.3% year on year, slightly higher than in the previous quarter, and eased marginally in April. Notwithstanding a series of monetary tightening measures in the past few months, loans by financial institution rose by 16.3% year on year in 2007 Q1, 1.2 percentage points higher than that in 2006 Q4, partly reflecting commercial banks' incentives to expand lending early in the year. The latest data suggest that loan growth rose further in April. The increase in both M2 and loans growth has probably deepened concerns about the liquidity overhang in the banking system and may invite further tightening in the coming months.

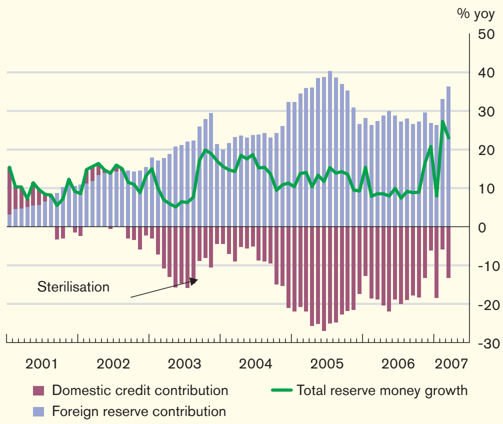
In spite of the relatively steady growth in credit, overall monetary conditions have tightened slightly in the past two quarters, as indicated by the rising monetary conditions index (MCI) shown in Chart 1.21. The rise in the MCI was mostly due to the strengthening of the real effective exchange rate (REER) of the renminbi, which appreciated by about 4% in the past two quarters.

Chart 1.22
Mainland China: external capital inflows



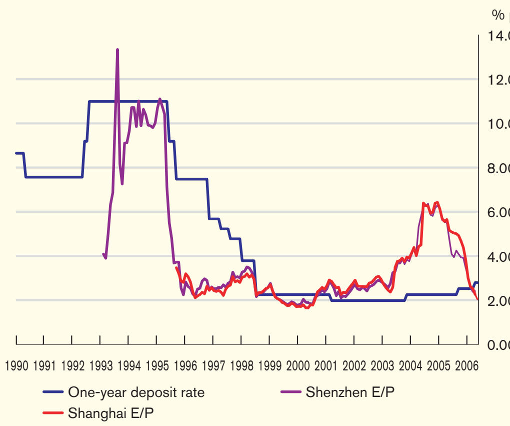
Source: CEIC.

Chart 1.23
Mainland China: contribution to reserve money growth



Source: CEIC.

Chart 1.24
Mainland China: earnings yield and deposit rate



Sources: CEIC and staff estimates.

Foreign exchange reserves reached US$1,066 billion at the end of 2006, an average increase of US$26 billion per month in 2006 Q4. The accumulation of reserves appeared to have quickened in 2007 Q1, with an average monthly increase of US$45 billion. While the basic balance (trade surplus plus foreign direct investment) continued to be the largest contributor to the rapid growth in reserves in the last two quarters of 2006, net portfolio inflows also played a significant role in 2007 Q1, accounting for 54% of the increase in total foreign currency reserves in 2007 Q1 (Chart 1.22). The reasons behind the large increase in portfolio inflows are not clear. While they partly reflect the repatriation of IPO proceeds by Mainland companies listed outside China, it is difficult to tell whether the surge will be sustained.

As shown in Chart 1.23, there has been a marked rise in the growth of reserve money since 2006 Q4. However, this does not necessarily indicate the PBoC has relaxed its tightening bias on money growth. Instead, the PBoC appeared to have been more inclined to use the reserve requirement ratio (RRR) to drain liquidity resulting from large net capital inflows.

Asset prices

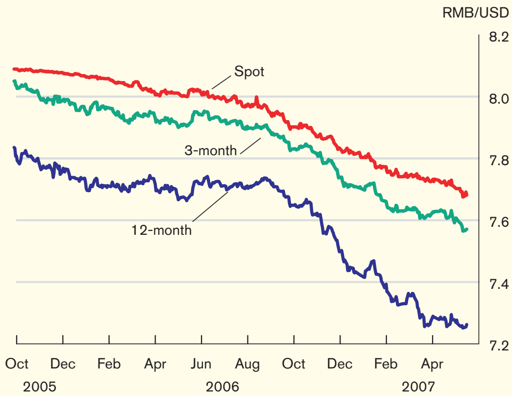
A major development in the Mainland economy in this review period has been the relentless rise in stock market prices. The Shanghai Stock Exchange Composite Index has increased by about 60% since the beginning of 2007 and by more than 300% from the trough in the middle of 2005. The reforms implemented in recent years have reduced investors' concern about corporate governance of listed firms and overhang of non-tradable shares, and improved the attractiveness of shares as investment instruments. The negative real deposit rate appeared to have fuelled this round of the stock market boom as investors quickened the pace of asset re-allocation from monetary assets to equities. New brokerage accounts topped 15 million in the first four months of 2007, about three times the number of new accounts opened in the whole of 2006. As stock prices increase apace, the earnings yield (E/P, the reciprocal of the price/earnings ratio) has dropped markedly to below the one-year deposit rate (Chart 1.24). This suggests that stocks are now expensive and there is no compensatory return offered for earnings uncertainty and other economic and financial risks.

Chart 1.25
Mainland China: historical stock market episodes across countries

Note: The start and end dates of the above booms are as follows:
Kospi: Jan 86-Jan 89; Shanghai A share: Jul 05-May 07;
TWSE: Jan 87- Feb 90.

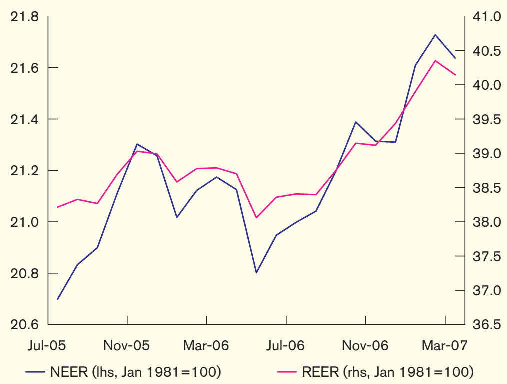
Sources: Bloomberg and staff estimates.

Chart 1.26
Mainland China: renminbi exchange rate (non-deliverable forward and spot)



Sources: Reuters and Bloomberg.

Chart 1.27
Mainland China: NEER and REER



Sources: Reuters and staff estimates.

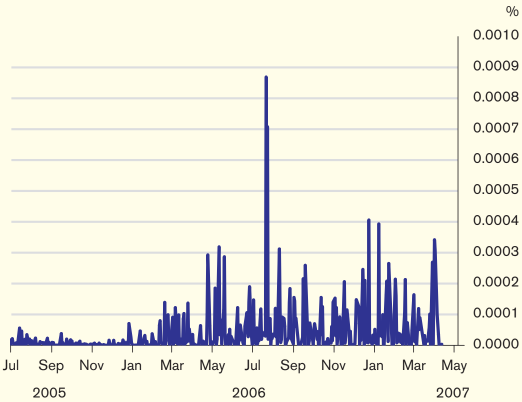
Nevertheless, in the absence of policy action, it is too early to tell whether the market is near the top of the cycle. Experience elsewhere suggests that optimism about economic growth, currency appreciation pressure and associated easy monetary conditions can drive asset prices sharply away from fundamentals for a sustained period; and a trend reversal is usually not triggered by a self-correction of the market (Chart 1.25).

The renminbi exchange rate

The exchange rate of the renminbi has continued to appreciate against the US dollar. The spot rate of RMB/USD has appreciated by about 7.5% since the exchange rate system reform of July 2005 (Chart 1.26), while the REER and nominal effective exchange rate (NEER) have appreciated by some 5.7% and 4.8% respectively in the same period (Chart 1.27). However, the renminbi's third-country NEER, which reflects China's external competitiveness in a third market, has remained stable.[9]

[9] The methodology constructing the third-country effective exchange rate is presented in Box 2 of the December 2006 Report.

Chart 1.28
Mainland China: daily volatility of the renminbi exchange rate against the US dollar



Sources: Bloomberg and staff estimates.

The appreciation of the renminbi has not been a steady process, accelerating at some stages and decelerating at others (see Box 2 for more detailed illustrations). The volatility of the renminbi spot rate against the US dollar, as measured by the square of the returns on (or the growth rate in) the daily RMB/USD spot rate, has increased noticeably since March 2006 (Chart 1.28), and has evolved roughly in line with the renminbi's appreciation. In other words, volatility increased as the pace of appreciation quickened. And this is likely to persist as the PBoC has decided to expand the renminbi's daily trading band against the US dollar from 0.3% to 0.5% effective from 21 May 2007.

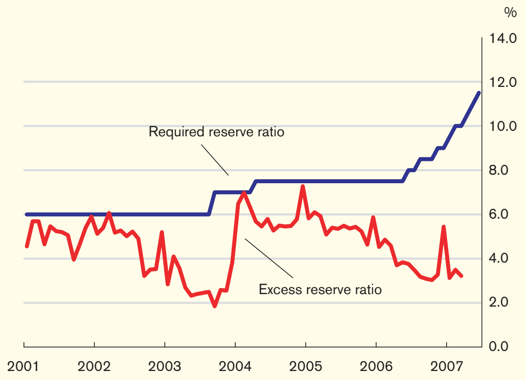
Looking ahead, the renminbi exchange rate is likely to continue its gradual appreciation. The non-deliverable forward rates in mid-May show that markets expect the renminbi to appreciate to about RMB7.5 to US$1 in three months and RMB7.2 to US$1 in 12 (Chart 1.26).

1.7 Policy challenges

The Mainland authorities have taken a multi-pronged approach to meeting the macroeconomic and financial stability challenges they are facing. The strategy can be interpreted as focusing on reducing the domestic savings rate by a combination of demand-management policies and structural reforms. The authorities have quickened the pace of monetary tightening, allowed a gradual appreciation of the exchange rate, liberalised controls on capital outflows, accelerated capital market development, introduced tax reforms, announced plans to require state-owned enterprises to pay dividends, and embarked on a multi-year effort to strengthen the social safety net. While the overall approach seems sensible, it is a daunting challenge to achieve the right balance between making use of price-based policy measures such as exchange rate flexibility and relying on institutional reforms, and a race against time in stabilising the deteriorating external imbalances and rapidly rising asset prices.

On 18 May, the Peoples' Bank of China simultaneously raised the reserve requirement ratio (RRR), and increased the official lending and deposit rates, and widened the

Chart 1.29
Mainland China: reserve ratios of the Mainland banks



Sources: CEIC and staff estimates.

daily trading band of the renminbi exchange rate against the US dollar. The RRR has been raised five times to 11.5% since the beginning of 2007. As a result, excess reserves in the banking system have been reduced (Chart 1.29), leaving commercial banks less funds available for lending. In addition, the lending rate has been raised by 45 basis points and the deposit rate by 54. They serve to curb loan growth, and dampen the outflows of bank deposits to the stock market. Nevertheless, the PBoC's room for policy maneuvering may be constrained by the limited tolerance for currency appreciation.

The authorities have continued to reform the foreign trade and investment regimes. The State Council has imposed new export taxes from 5% to 15% on 142 categories of energy and resource intensive products to discourage exports of such goods. At the same time, tariffs on 209 import products were lowered temporarily to encourage imports. To encourage portfolio capital outflow, the China Banking Regulatory Commission (CBRC) has expanded the Qualified Domestic Institutional Investor schemes by allowing such schemes to invest up to 50% of their portfolios in foreign equity. The government has also announced plans to set up a State Foreign Exchange Investment Corporation, which will be an important vehicle to channel domestic savings to foreign investment and help diversify the portfolio choice of official foreign reserves. While these are strategically important policy initiatives, their impact on the scale of capital outflows, and therefore the pace of accumulation of foreign reserves, is likely to be limited in the near term.

After the closing of the second US-China Strategic Economic Dialogue on 23 May, the Mainland government announced its plan to further liberalise trade in financial services by resuming the licensing of securities companies, including joint ventures with foreign investors, in the second half of 2007 and by expanding the business scope of foreign insurance companies operating on the Mainland. The Qualified Foreign Institutional Investor quota will also be raised from US$10 billion to US$30 billion. This move will help broaden the investor base by allowing more foreign institutional investors to participate in the A-share market.

The authorities have to strike a delicate balance in attempting to stabilise the stock market. Cross-country experience indicates that the use of discretionary policies to stabilise asset prices is fraught with difficulty: they are problematic to fine tune, with the risk of the policy action triggering a crash. However, the risk of no action is probably even bigger, as further run-up would entail a sharper decline later with greater socio-economic and financial impacts.

The stock market on the Mainland is still small relative to the size of the economy, even though the market capitalisation measured by freely floating shares has risen from 13% of GDP in 2001 to 22% in April 2007. The effect of a sharp correction on private consumption and investment is, therefore, not likely to be large. Of more concern is probably a re-distributive effect and implications for social stability in the event of a sharp market correction. Another concern is related to the healthy development of capital markets. The success of the non-tradable share reform represents a milestone in stock market development on the Mainland, and has greatly improved investors' faith in the market. However, a market crash could undermine the confidence of investors and lead them to exaggerate the risks associated with the stock market in future years.

The authorities raised the stamp duty on stock transactions from 0.1% to 0.3% effective on 30 May. Supervisory measures are also being taken to prevent illicit behaviour such as manipulation of prices. While there is no shortage of measures that can be taken, the difficulty lies in administering a dose of medicine that achieve the desired outcome without killing the patient.

Box 2
The renminbi-US dollar exchange rate two years on

This article investigates whether the path of the renminbi-US dollar exchange rate has been stable since the reform on 21 July 2005. The objective of this analysis is twofold: first, using a statistical procedure newly developed by Andrews and Kim (2006),[10] we recursively test for break points in order to identify whether there have been changes in the rate of appreciation of the daily RMB/USD spot exchange rate. Secondly, based on the statistical findings of the break points identified, we conduct forecasts for the end of 2007.

Our statistical findings suggest there have been four break points since the reform of the RMB exchange rate: three accelerations in April 2006, August 2006 and May 2007, and one slowdown in January 2007. On this basis, we forecast the RMB will fall in the range of 7.42 – 7.11 by the end of the year. Our forecasts illustrate that pinpointing the dates of regime shifts is crucial to the outcome of the forecasts.

Methodology: The Andrews and Kim (2006) procedure allows one to test for a break point when it is occurring over very few observations. The method relies on generating an empirical distribution to assess the significance of the test statistic calculated over the hypothesised period of the break. The key advantages of using these techniques are: (1) the test can be done formally without resorting to simply studying graphs; (2) the detection of a breakpoint can be done with only a small number of post-break observations, which implies that changes in the exchange rate path can be identified relatively quickly and before they are obvious to the eye;[11] and (3) it does not require the data series to be stationary, as long as the residual terms are stationary. The test

[10] The test used is developed by Andrews, D. W. K. and Kim, J. Y., and is entitled "Tests for Cointegration Breakdown Over a Short Time Period," *Journal of Business and Economics Statistics*, 24(4), 379-394, 2006.

[11] A 'small number of observations' typically means 2 trading weeks (10 days) or 1 trading month in the current case. The technique can in principle be used to detect correction in the appreciation path using as little as 1 trading day.

procedure is also robust to problems of serial correlation and heteroskedasticity and it does not make distributional assumptions on the errors. The significance of the test statistic is gauged by an empirical distribution drawn from the sample prior to the break.

Test for Break Points: We model the exchange rate as a simple random walk and find that the RMB/USD spot rate has accelerated three times since 21 July 2005.[12] The first was at the beginning of March 2006 and the second in mid-August 2006. Contrary to market commentaries at the time, the test results indicate that there were no further increases in the rate of appreciation after mid-August 2006, despite the increased volatility since mid-2006. Nevertheless, there were signs that the appreciation path experienced a slowdown in early 2007.[13] Since the beginning of May 2007, however, the exchange rate appreciation seems to have re-accelerated, coinciding with the China-US Strategic Economic Dialogue the same month. The trading bands of the RMB/USD spot rate also widened from 0.3% to 0.5% on 18 May 2007. It is unlikely, however, that the wider bands were responsible for the recent re-acceleration of the exchange rate. Chart B2.1 and Chart B2.2 illustrate the identified break points.

Forecast Results: Based on the identified break points, we conduct forecasts of the RMB/USD spot rate for the end of 2007 using weekly data.[14] The forecasting exercises are carried out using four different samples: (A) from January 2007 until 25 May 2007 (the period during which the pace of the RMB/USD appreciation slowed and then re-accelerated); (B) from August 2006 until 25 May 2007; and (C) from July 2005 until 25 May 2007 (which does not consider any potential break points). The forecasting results are presented in Table B2.A together with an average of six market forecasts.

Chart B2.1
Weekly RMB/USD spot rate

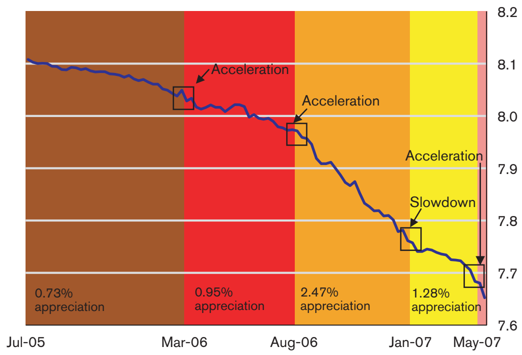


Chart B2.2
Monthly changes in the RMB/USD spot rate

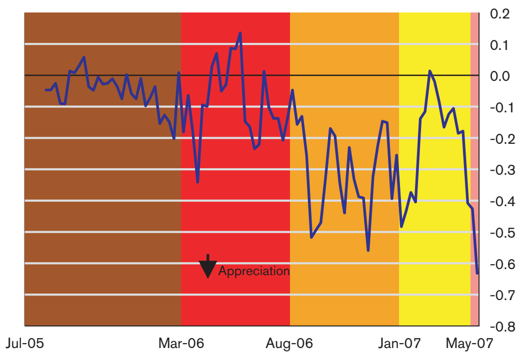


Table B2.A
Year-end RMB/USD spot rate forecast

Jan 07 – May 07 (A)	Aug 06 - May 07 (B)	Jul 05 - May 07 (C)	Averaged Market Forecasts
7.11	7.42	7.25	7.34

Note: This is an average of the forecast by the following financial institutions: UBS, Standard & Chartered, CICC, Goldman Sachs, Bank of East Asia, JP Morgan and Merrill Lynch.

12 The formal specification of the model is: $\log(y_t) = \phi_0 + \phi_1 \log(y_{t-1}) + \varepsilon_t$ where $\log(y_t)$ is the logarithm of the RMB/USD exchange rate. The hypothesis tested is that both ϕ_0 and ϕ_1 are stable over the full sample period.

13 The data spans from 25 July 2005 until 25 May 2007. Daily data are used to detect the change points in the appreciation path of the RMB/USD exchange rate, the forecast and graphs use weekly exchange rate values.

14 The model used to forecast is $y_t = \phi_0 + \sum_{l=1}^{4} \phi_l y_{t-l} + \varepsilon_t$, which features 4 lags of the exchange rate capturing the dynamics.

Chart B2.3
Fan chart for forecast (A)

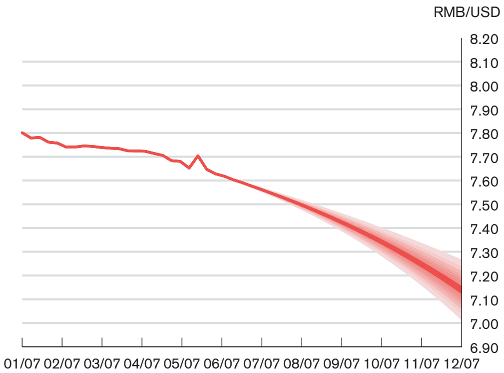


Chart B2.4
Fan chart for forecast (C)

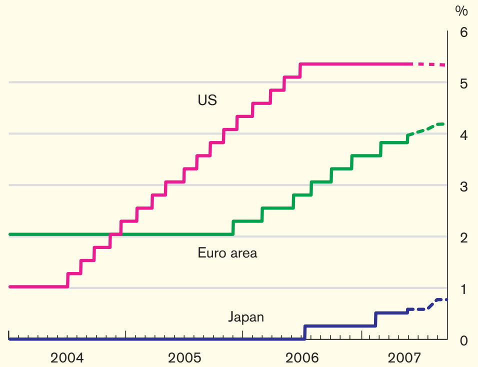
Forecast (A), based on the data sample from January to May 2007, projects that the RMB/USD exchange rate by the end of December 2007 will be at about 7.11. Forecasts (B) and (C) predict a slower appreciation than forecast (A) with exchange rate values of 7.42 and 7.25, respectively. Forecast (A) appears to be significantly different from the average market forecasts, while forecasts (B) and (C) are quite close to the market average of 7.34. In view of uncertainties, it is also useful to provide a range of projections alongside the baseline forecast in Table B2.A using fan charts, which are presented in Charts B2.3 – 2.4.

In conclusion, the structural break analysis suggests that there have been four different regimes so far in the RMB/USD spot exchange rate since the July 2005 reform, with two accelerations, one slowdown and a recent re-acceleration in the rate of appreciation. The information on structural breaks has important implications for the forecast exercises – disregarding them would lead to significantly different results. It should be pointed out that the detection of the recent re-acceleration in the pace of RMB appreciation does not mean that this trend will continue for the rest of year, as it could be driven by temporary tactical motives. As new observations become available, the re-acceleration may be just as temporary as the previous regimes.

Monetary and financial conditions

The US Federal Reserve has kept monetary policy unchanged amid an uncertain inflation outlook, while central banks in Europe are taking a more non-accommodative stance in their policies in view of rising inflationary pressure.

Chart 1.30
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 31 May 2007.

Source: Respective central banks and Bloomberg

Chart 1.31
US Treasury yields

Source: US Federal Reserve

1.8 Interest rates

The US Federal Reserve has kept the fed funds target rate unchanged at 5.25% as the inflation outlook remained clouded by many uncertainties (Chart 1.30). The statement released after the latest meeting of the FOMC in May acknowledged a slowing economy in recent months, while remaining concerned over the risk that inflation will not moderate. This has led the market to conclude that the Fed is likely to keep its policy on hold in the near future, with futures prices currently implying a 96% chance that the fed funds target rate will be left intact through September 2007. In Europe, inflationary pressures have continued to increase as economic activity gathers pace, prompting both the European Central Bank and the Bank of England to raise their respective policy interest rates by 50 basis points to 3.75% and 5.5% since the previous Report. The latest economic data and comments by senior officials of the two central banks have continued to point to more tightening in the pipeline. In Asia, the Bank of Japan also raised its uncollateralised overnight call rate to 0.5% in February, but has since kept it unchanged. Although Governor Fukui told parliament he was uncomfortable with the potential impact of yen carry trade as a result of low interest rates, financial markets are convinced that a near-term rate rise is unlikely given the current economic environment.

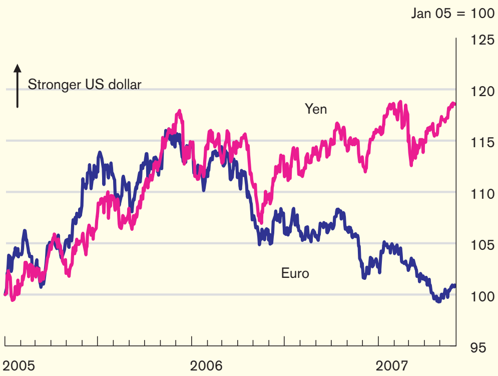
Against the background of an interest rate pause and mixed economic performance, US Treasuries have been traded in directionless markets for much of the past six months. Mixed economic data have clouded the inflation outlook and produced conflicting signals to the market. The 1-year yield has barely changed while the 10-year yield has risen by 44 basis points since the last Report (Chart 1.31), resulting in a flatter yield curve. At the end of May, the 1-year and 10-year yields closed at

4.95% and 4.9% respectively. In Europe, however, bond yields have been rising amid fears of higher inflation and further monetary tightening by central banks. The yield on the 10-year Bund has risen by 73 basis points since the end of November 2006 to 4.4%.

1.9 Exchange rates

Movements in major currencies have largely been dictated by relative economic performance and interest rate expectations over the past six months. The dollar strengthened initially in the beginning of the year on a better-than-expected economic performance, but later lost momentum as news about the sub-prime mortgage market surfaced and with the release of weaker economic data. The euro, on the other hand, was supported by a strong economy and increased expectations that interest rates are on the rise. During the period, the US dollar depreciated against the euro by 1.6% (Chart 1.32). The yen has weakened as more signs emerge that inflation is well contained, leading to the conclusion that the Bank of Japan is unlikely to take further action following its February move. The lack of any hint of disapproval from the G7, which was taken by the market as permission to go ahead with the yen carry trade, has also provided impetus to short the yen. Overall, the yen has depreciated by 5.1% against the dollar and 6.8% against the euro since the last Report.

Chart 1.32
Bilateral US dollar exchange rates

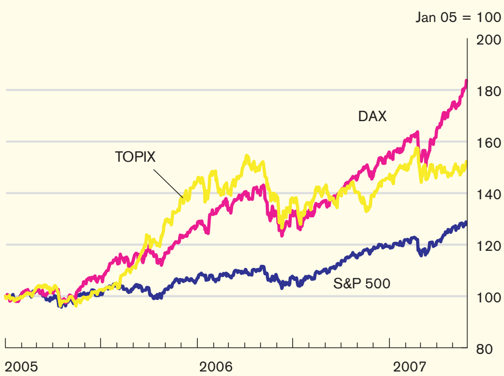


Source: Bloomberg

1.10 Equity markets

Equity markets around the world have extended their rally into 2007. A sharp correction occurred in late February and early March, but all have more than recovered. Despite the uncertain outlook and slower expansion in the US, the performance of the global economy as a whole has not disappointed investors. The weakening of the US economy has been largely contained within the housing and export sectors, while Europe and Asia saw a further pick up in activity. This has been reflected in better-than-expected earnings growth around the world. Increases in merger and acquisition activities also gave impetus to the recent rally. European markets outperformed other markets by wide margins, with the DAX advancing by 24.9% since the last Report (Chart 1.33). The S&P 500 and TOPIX also registered respectable gains of 9.3% and 9.5% respectively.

Chart 1.33
World equity indices



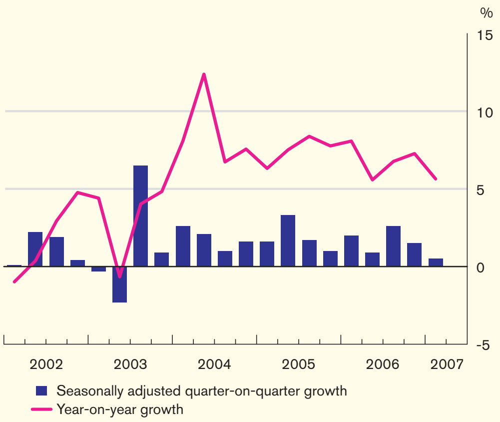
Source: Bloomberg

2. Domestic economy

Demand

The Hong Kong economy expanded for the fifteenth straight quarter in 2007 Q1, although at a moderate rate. The expansion was mainly driven by solid growth in domestic consumption, supported by further improvement in labour market conditions and a buoyant asset market. Exports of services continued to grow robustly, while growth in private investment and re-exports of goods slowed.

Chart 2.1
GDP at constant market prices



Source: C&SD.

2.1 Aggregate demand

Real GDP grew by 5.6% year on year in Q1, after a significant acceleration by 6.8% in 2006 Q3 and 7.3% in 2006 Q4 (Chart 2.1). The moderation in growth was mainly attributable to slower private investment and, to some extent, the high-base effect. In particular, growth of investment in private sector capital goods (machinery, equipment and computer software) slowed, after registering double-digit year-on-year growth throughout the four quarters of 2006. Private consumption and exports of services continued to grow at a solid pace. On a seasonally adjusted quarter-on-quarter basis, real GDP registered the fifteenth straight quarter increase of 0.5% in Q1, following a strong increase of 1.5% in Q4.

Table 2.A
Real GDP growth by expenditure component

(% yoy)	2005	2006	2006 Q2	2006 Q3	2006 Q4	2007 Q1
Gross Domestic Product	**7.5**	**6.9**	**5.6**	**6.8**	**7.3**	**5.6**
Domestic demand	2.1	5.8	5.6	4.6	5.9	5.1
Consumption						
Private	3.3	5.2	5.8	4.6	5.4	5.6
Public	-3.1	0.2	-1.5	-1.1	2.3	2.3
Gross domestic fixed capital formation	4.6	7.9	4.5	10.3	9.4	3.9
Private	8.4	11.3	7.0	13.8	11.1	5.4
Public	-16.1	-16.0	-17.4	-18.0	-3.6	-6.7
Change in inventories[1]	-0.8	0.2	0.7	-0.8	-0.2	0.2
Net exports of goods[1]	3.3	0.2	-0.7	0.8	0.5	-0.8
Net exports of services[1]	2.4	1.9	1.4	2.2	2.0	2.1

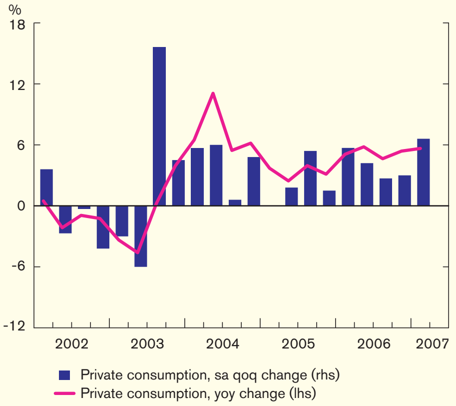
Note: 1. Percentage point contribution to annual growth of GDP.

Source: C&SD.

2.2 Domestic demand

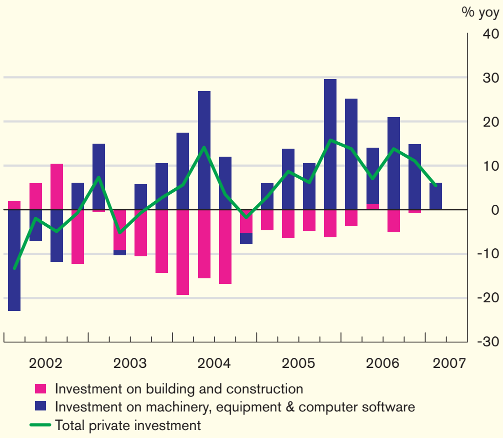
Domestic demand continued its solid expansion in Q1. Year-on-year, domestic demand grew by 5.1%, following an increase of 5.9% in 2006 Q4 (Table 2.A). Private and government consumption expenditure again picked up in Q1, while investment spending consolidated. After a decline in 2006 H2, inventories rebuilt in Q1, contributing positively to GDP growth.

Chart 2.2
Private consumption



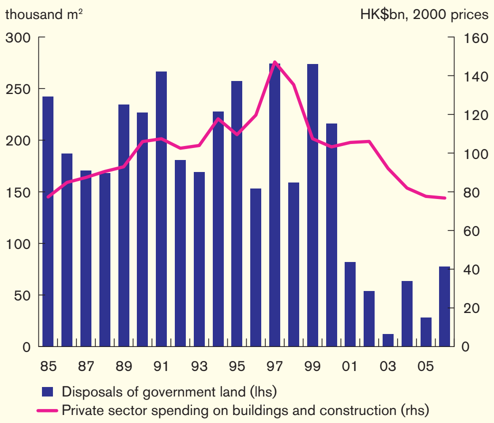
Source: C&SD.

Chart 2.3
Private investment by component



Source: C&SD.

Chart 2.4
Spending on buildings and construction and government land disposals[1]



Note: 1. Include sales of land for residential, commercial, and industrial property developments through public auctions and tenders. The figures relating to the financial year ended 31 March are shown.

Sources: C&SD, Lands Department, and CEIC.

Consumption

Similar to the pace of GDP growth, private consumption expenditure continued to expand, growing at a year-on-year rate of 5.6%, compared with 5.4% in 2006 Q4. However, the seasonally adjusted quarter-on-quarter growth rate increased to 2.2% in Q1, from 1.0% in 2006 Q4. The increase was mainly due to a further improvement in labour market conditions as well as the wealth effects stemming from the stock market rally (Chart 2.2). Government consumption expenditure continued to grow moderately in Q1 by 2.3% from a year ago, following an increase of 2.3% in 2006 Q4 (Table 2.A).

Investment

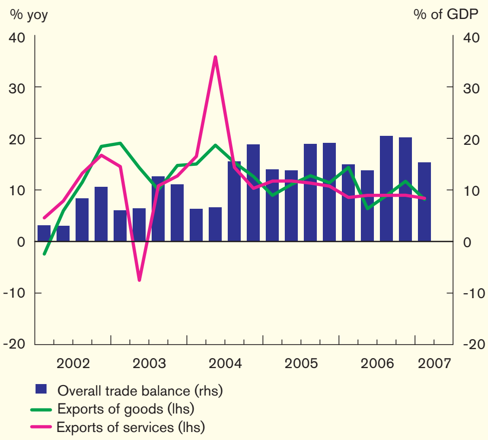
The overall investment spending increased moderately to 3.9% year on year in Q1, from 9.4% in 2006 Q4. The moderation was mainly due to a slower growth in private sector spending on machinery, equipment and computer software, which rose by 5.9% from a year ago (Chart 2.3), after a 25.2% growth in the first quarter of 2006 and double-digit growth in the following three quarters. Private sector spending on building and construction reverted to positive growth of 0.1% in Q1, following the decrease of 0.6% in 2006 Q4. These, together with an increase in the expenditure on ownership transfers, resulted in a moderation in overall private sector investment spending growth. The construction industry remained the weakest sector in the recent economic upturn. Sluggish building and construction activities were partly related to a sharp reduction in land supply in recent financial years (Chart 2.4), despite some rebound in 2006-07.

Public sector investment spending registered its thirteenth quarter of decline in Q1, falling by 6.7% from a year ago, because of a lack of large-scale construction projects in the public sector.

2.3 External trade

After a rise in the second half of 2006, merchandise exports continued to expand, but at a slower pace. Total exports of goods increased by 8.2% year on year in 2007 Q1, down from 11.7% in 2006 Q4, with exports to most

Chart 2.5
Export growth and trade balance (in real terms)



Source: C&SD.

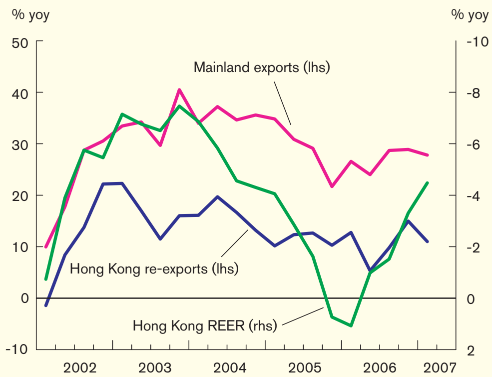
Table 2.B
Total exports of goods by major market[1]

(% yoy)	Share[2] %	2005	2006	2006 Q2	2006 Q3	2006 Q4	2007 Q1
Mainland China	47	14	14	8	13	17	13
United States	15	6	3	0	1	7	2
European Union	14	16	5	4	2	6	5
ASEAN5[3] + Korea	7	7	0	2	13	7	5
Japan	5	10	1	2	0	-2	2
Taiwan	2	3	3	-7	9	7	4
Others	10	10	0	7	9	17	14
Total	**100**	**11**	**0**	**5**	**8**	**12**	**9**

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.

Chart 2.6
Re-export growth[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 exports are in nominal terms.

Sources: C&SD and CEIC.

major markets still remaining robust (Chart 2.5 and Table 2.B). On a seasonally adjusted quarter-on-quarter basis, exports of goods increased further by 1.4% in Q1, after a marked expansion by 3.3% in the previous quarter.

The robust export growth was supported by further increases in re-exports, benefiting from the continued strong performance of the Mainland trade and a real depreciation of the Hong Kong dollar effective exchange rate (Chart 2.6). Specifically, re-exports grew by a year-on-year rate of 11.0% in 2007 Q1, after a surge of 15.0% in 2006 Q4. However, the decline in domestic exports accelerated to 33.1% in Q1, following a fall of 30.4% in the previous quarter. The decrease in recent quarters was mainly due to sharp declines in domestic exports of textile and clothing products and machinery, equipment and apparatus. This, to some extent, can also be explained by a high base of comparison because of the expansion in local clothing production in the earlier quarters of 2006, following the imposition of the safeguard measures by the US and the EU against textile imports from the Mainland. Imports of goods increased by 8.2% in Q1, compared with 11.0% in 2006 Q4, mainly because of a moderation in imports for re-exports.

Exports of services continued to grow strongly in Q1, rising by 8.4% year on year, following an increase of 9.0% in 2006 Q4. Growth in exports of services was broad-based. In particular, the export of financial and other services maintained notable growth, partly helped by buoyant fundraising activities in the stock market. Exports of trade-related and transportation services grew at a solid pace in Q1, in line with the ongoing robust offshore trade, resulting from Mainland China's strong export growth. Exports of travel services rose, as a result of the increasing number of incoming tourists. On the other hand, growth in imports of services slowed to 3.9% in Q1 from 6.5% in 2006 Q4, as the demand for transportation and travel services slowed.

Overall, the trade surplus decreased considerably to 15.4% of GDP in Q1 from 20.2% in 2006 Q4, as the balance of trade in goods reverted from surplus to deficit and the surplus of trade in services narrowed (Chart 2.5).

Output and supply

Finance and trade-related industries have been driving total output growth in recent quarters. Robust economic growth over the past several years has created more jobs, leading to a further decline in the unemployment rate.

2.4 Output

The service sector, particularly financial and external trade services, continued to lead growth in the second half of 2006 (Table 2.C).[15] Output in financing, insurance and other business services increased further by 17.3%. This mainly reflected strong growth in banking services and buoyant stock market activity. Further liberalisation of the Mainland's capital account, especially a further extension of the Qualified Domestic Institutional Investor (QDII) scheme, is likely to be favourable to the financial sector. Together with robust external trade flows, output of the trade-related and transportation sectors increased at a solid pace in H2, after some moderation in Q2. For the industrial sector, both manufacturing and construction sectors contracted in 2006 H2 due to the completion of major infrastructure projects.

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

(% yoy)	2005	2006	2006 Q1	2006 Q2	2006 Q3	2006 Q4
GDP at factor cost	**7.0**	**7.7**	**8.2**	**7.0**	**7.2**	**8.6**
Industrial sector	-1.8	-1.6	-2.4	1.1	-2.1	-2.7
Of which:						
Manufacturing	2.1	2.2	7.0	5.3	-0.6	-1.4
Construction	-9.2	-7.9	-12.6	-4.6	-10.9	-3.1
Service sector	8.0	8.7	9.3	7.6	8.1	9.6
Of which:						
Wholesale, retail, restaurant and hotel	6.8	6.7	7.0	5.9	7.6	6.3
Import and export	16.1	10.6	13.8	7.3	10.9	10.7
Transport and storage	6.8	8.2	10.6	5.1	7.5	9.4
Financing, insurance and business services	10.8	17.6	16.9	18.9	14.4	20.1

Source: C&SD.

The financial and business services industry accounted for about 40% of total output growth in 2006 H2 (Table 2.D). Services related to external trade was the second largest contributor, accounting for about 36% of the total increase.

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

(% point)	2005	2006	2006 Q1	2006 Q2	2006 Q3	2006 Q4
GDP at factor cost	**7.0**	**7.7**	**8.2**	**7.0**	**7.2**	**8.6**
Industrial sector	-0.2	-0.1	-0.2	0.1	-0.2	-0.2
Of which:						
Manufacturing	0.1	0.1	0.2	0.2	0.0	0.0
Construction	-0.3	-0.2	-0.4	-0.1	-0.3	-0.1
Service sector	7.2	7.9	8.4	6.9	7.4	8.8
Of which:						
Wholesale, retail, restaurant and hotel	0.3	0.3	0.4	0.3	0.4	0.3
Import and export	3.7	2.6	3.1	1.7	2.9	2.8
Transport and storage	0.5	0.6	0.8	0.4	0.6	0.7
Financing, insurance and business services	2.0	3.3	3.2	3.8	2.6	3.8

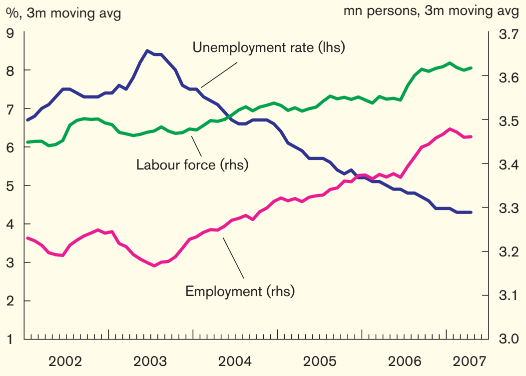
Source: C&SD.

2.5 Labour and productivity

Robust economic growth in recent years has created more jobs, particularly in the services sector, thus leading to a further decline in the unemployment rate. However, growth in labour productivity in 2007 Q1 decelerated, mostly due to slower growth in output.

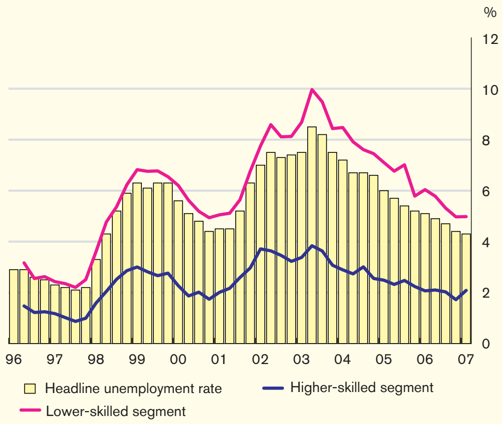
[15] GDP by economic sector for 2007 Q1 was not available at the time of the publication of this *Report*.

Chart 2.7
Labour market conditions



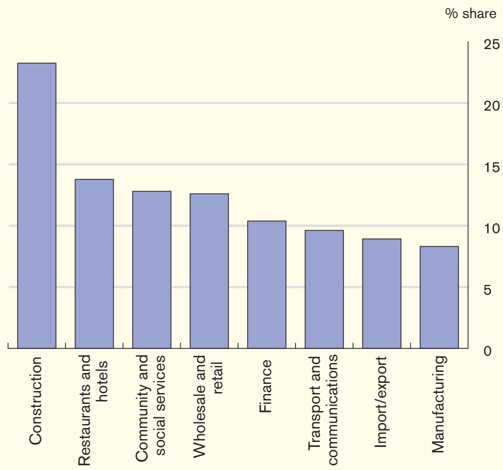
Sources: C&SD.

Chart 2.8
Unemployment rates in the higher and lower-skilled segments



Sources: C&SD and staff estimates.

Chart 2.9
Unemployment by economic sector (2003-06)



Sources: C&SD and staff estimates.

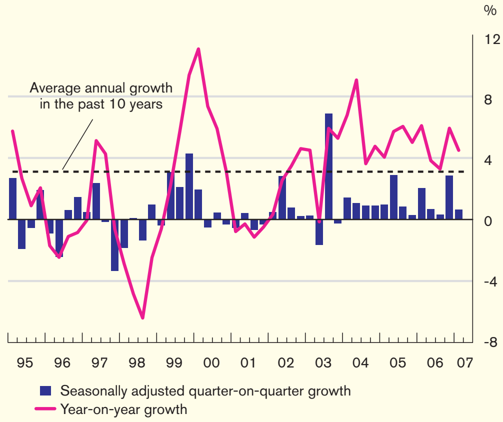
Labour market conditions

Labour market conditions improved further, with the number of people in employment remaining at a high level after breaking the all-time record in January 2007. As employment grew faster than the increase in the labour force, the seasonally adjusted three-month moving-average unemployment rate dropped to a nine-year low of 4.3% in April, compared with 4.6% six months earlier (Chart 2.7). The fall in the unemployment rate since the previous Report was mainly in the trade and tourism, and decoration and maintenance sectors. While the unemployment rate in the higher-skilled segment has declined close to the pre-Asian financial crisis level, the unemployment rate remains relatively high in the lower-skilled segment (Chart 2.8). This partly reflects the modest job creation in the construction and tourism-related sectors, leading to a higher share of unemployment in these sectors (Chart 2.9).

Nevertheless, total employment is expected to rise gradually on the back of the solid expansion in economic activities. Growing demand for financial and trade services from Mainland China will continue to boost labour demand in these sectors in Hong Kong. (Box 3 analyses the source of employment growth and discusses the contributions from the China demand to job creation in Hong Kong.)

The underemployment rate has also fallen in recent months, from 2.4% in December to 2.1% in April, lower than the figure six months ago. The improvement was particularly noticeable in the decoration and maintenance, and sanitary services sectors.

Chart 2.10
Output per worker



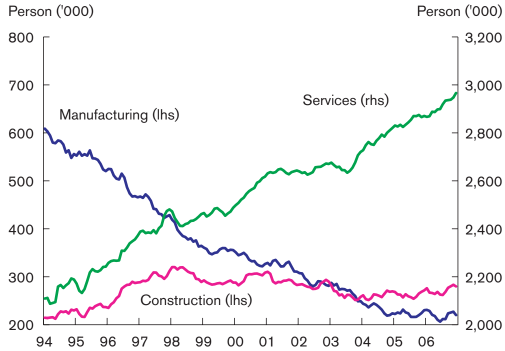
Sources: C&SD and staff estimates.

Productivity

Output per worker – an indication of labour productivity growth – continued to grow in Q1. However, on both year-on-year and quarter-on-quarter comparisons, the growth rate decelerated (Chart 2.10). This was in part associated with a slower expansion in output. Since the slower labour productivity growth was led mainly by continued employment growth, the slowdown may be temporary. Labour productivity growth could rebound again, once new recruits pick up the skills required for their new jobs.

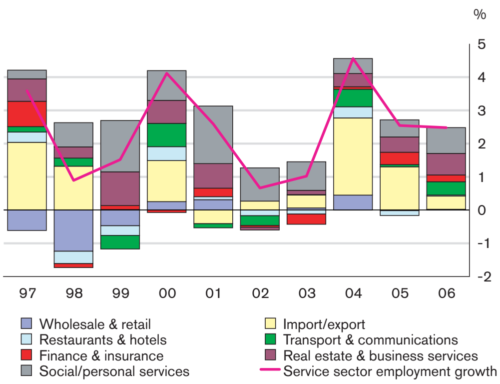
Box 3
Sources of employment growth in Hong Kong

Chart B3.1
Employment by economic sector



Source: C&SD.

Chart B3.2
Contributions to service sector employment growth



Sources: C&SD and staff estimates.

Table B3.A
Employment growth by economic sector

(Unit: %)	Share in total employment 1996	Share in total employment 2006	Average annual growth 1996-2003	Average annual growth 2003-2006
Manufacturing	16	6	-7.9	-6.6
Construction	9	8	-0.8	1.2
Service sector	74	86	2.1	3.4
Wholesale & retail	12	10	-1.6	1.3
Import/export	10	16	4.7	8.1
Restaurants & hotels	8	7	-0.2	1.0
Transport & communications	11	11	0.3	2.6
Finance & insurance	5	5	1.1	3.6
Real estate & business services	7	10	4.8	4.5
Social & personal services	22	27	3.4	2.2
- Public administration	*4*	*4*	*0.5*	*-1.7*
- Education & medical	*8*	*10*	*2.9*	*2.3*
- Other personal services	*9*	*13*	*5.0*	*3.2*
Total employment	100	100	0.4	2.2

Sources: C&SD and staff estimates.

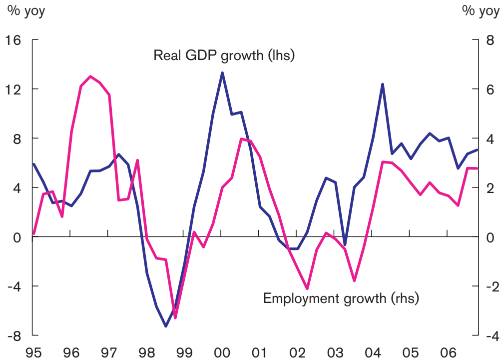
Employment expanded at an average rate of 2-3% per annum from 2004 to 2006 following the economic downturn of the preceding years. While the near-term employment outlook remains positive against the background of a continuing economic expansion, disaggregated data show structural shifts in employment across different service sectors in recent years. In particular, growing demand for trade and financial services from Mainland China has boosted employment growth in these sectors. This article analyses the sources of employment growth and assesses the contribution from Mainland demand to job creation in Hong Kong.

Sources of employment growth

In recent years, stronger growth in employment relative to the labour force has driven down the unemployment rate from the peak of 8.6% in mid-2003 to a near nine-year low of 4.3% in Q1 2007. The distribution of employment by economic sector shows that growing labour demand in the service sector has been the key driver of employment growth over the past few years, as domestic manufacturing industries continued to downsize their operations in Hong Kong and subdued residential investment restrained labour demand in the construction sector (Chart B3.1). The expansion in service sector employment has been across the board, with job creation mainly concentrating in import/export trade, personal, financial and business services (Chart B3.2).

The import/export sector has been the key contributor to output and employment growth in the recent economic upturn. During 2003-06, nearly one quarter of output growth was attributed to external trade activities, while employment of the import/export sector grew at the fastest annual pace of 8.1%. As a result, the share of the import/export sector in total employment increased to 16% in 2006 from 10% in 1996, the highest among the key economic sectors (Table B3.A). This is followed by the real estate and business service sector, whose employment increased by an average annual rate of 4.5% during 2003-06, mainly reflecting strong job growth in accounting and legal services. Over the same period, employment in the financial and insurance sector rose by an annual rate of 3.6%, higher than the overall growth rate in service sector employment. Employment growth also turned positive in the tourism-related sector such as wholesale/retail trade, restaurants and hotels, due to the strong revival in consumer spending and inbound tourism. However, labour demand remained weak in the construction sector, while manufacturing employment continued to shrink.

Chart B3.3
Output growth and employment growth

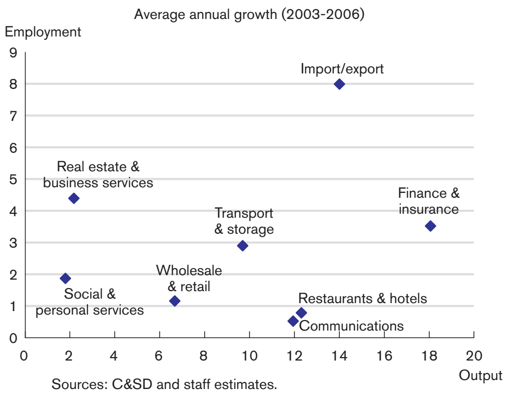


Source: C&SD.

What is driving the current employment growth cycle?

The key driving force behind the recent expansion in service sector employment has been the strong revival in aggregate demand. Historical data show there is a strong positive relationship between employment growth and output growth, with the former being driven by the latter with a time lag of about one quarter (Chart B3.3). During 2003-06, real GDP increased at an average annual rate of 7.7%. Growing business activities drove corporations to expand their workforces. The estimates from an HKMA in-house production function model suggests that a 1% increase in output will, on average, raise employment by 1.5%, keeping capital investment and technology unchanged.

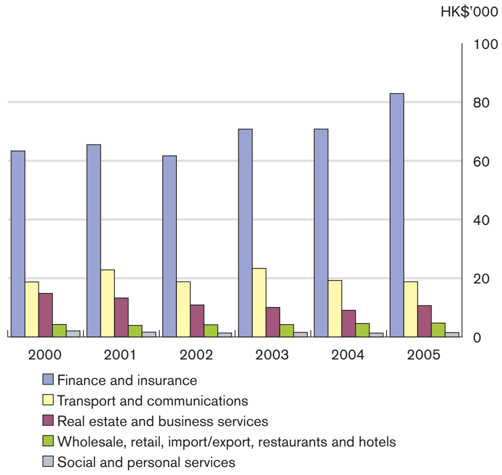
Chart B3.4
Output and employment growth among key service sectors



Sources: C&SD and staff estimates.

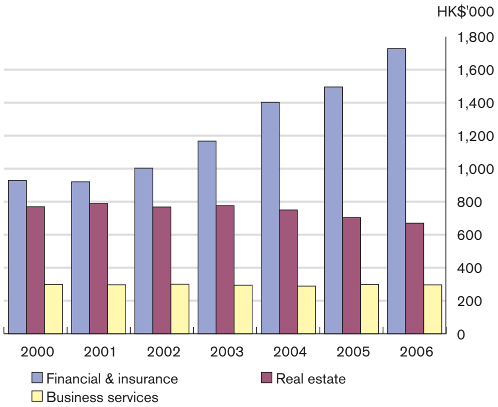
While service sector employment has in general benefited most from the recent economic upswing, disaggregated data show that employment growth has varied substantially across different service sectors. Chart B3.4 compares output growth and employment growth of key service sectors during 2003-06. Employment growth in real estate and business services was shown to be more responsive to output growth, as these sectors were more labour-intensive and the scope of labour-capital substitution was limited. In contrast, employment growth in communications, restaurants and hotels, wholesale/retail trade remained subdued, and stayed below their respective levels of output growth. One striking development is that despite the strong expansion in financial activities in recent years, employment growth in the financial and insurance sector has lagged behind output growth.

Chart B3.5
Per-labour IT investment in the service sector



Sources: C&SD and staff estimates.

Chart B3.6
Output per labour in the financial services sector



Sources: C&SD and staff estimates.

One possible explanation for the tepid growth in financial sector employment relative to output growth is that financial institutions have been investing heavily in information technology (IT) and shifting their business mix to higher value-added services such as financial planning and wealth management. These factors have helped raise labour productivity and led to higher output per employee. Compared with other service sectors, per-labour IT spending in the financial and insurance sector is the highest within the service sector (Chart B3.5). The rapid expansion in IT investment and the shift to higher value-added services resulted in faster growth in output per labour in the financial and insurance sector (Chart B3.6).

Contribution from Mainland China demand

While the strong revival in economic activities has been the key driving force for employment growth in recent years, growing business activities with Chinese enterprises and stronger service demand from the Mainland have created new job opportunities in the domestic labour market. Rising cross-border economic and financial activities have increased the number of Hong Kong residents working on the Mainland. According to figures released by the Census and Statistics Department, about 52,000 Hong Kong employees (2% of total employment) worked on the Mainland occasionally or regularly in 1998. By 2005, this number had increased more than three-fold to 229,000 (7% of total employment). This is much larger than the number of Mainland residents working in Hong Kong through the Admission Scheme for Mainland Talents and Professionals.[16]

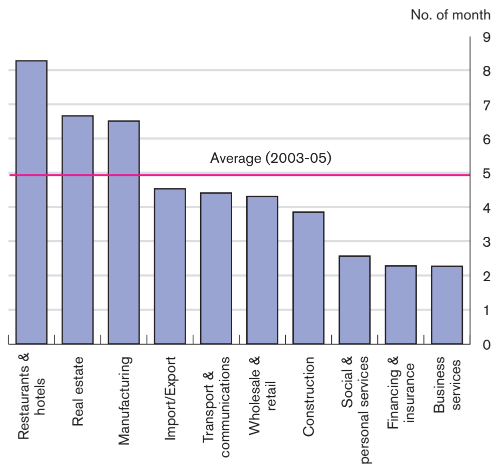
In the 1980s and 1990s, Hong Kong residents working in Mainland China were mainly concentrated in the manufacturing sector, as domestic manufacturers relocated their production base across the border. During the initial stage of setting up their assembly lines, domestic manufacturers needed the managerial expertise from Hong Kong employees to supervise and manage the

[16] According to the Immigration Department, there were 18,000 Mainland residents working in Hong Kong through the Admission Scheme for Mainland Talents and Professionals by the end of April 2007. The Scheme was implemented on 15 July 2003.

Chart B3.7
Hong Kong residents working in Mainland China

Source: C&SD.

Chart B3.8
Duration of stay of Hong Kong residents working in Mainland China (2003-05)



Source: C&SD.

Table B3.B
Contribution from Mainland demand to domestic employment growth by sector

	Employment Growth[1] (2001-05)	Contribution from Mainland China demand (Not adjusted for duration of stay)	(Adjusted for duration of stay)
Manufacturing	-31.5	-4.9	-3.1
Construction	-7.9	0.9	0.7
Wholesale & retail	3.8	-0.9	-0.3
Import/Export	28.5	13.6	7.1
Restaurants & hotels	-1.2	0.7	0.4
Transport & communications	2.4	1.4	0.9
Financing & insurance	1.6	2.4	1.0
Real estate & business services	8.1	1.5	-0.1
Social & personal services	9.4	-0.2	-0.2
Overall	**2.8**	**1.6**	**0.7**

1. Domestic employment growth between 2001 and 2005.

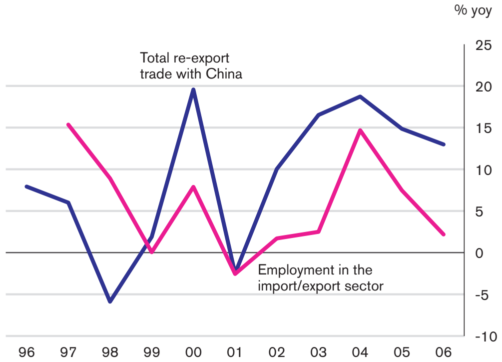
Sources: C&SD and staff estimates.

workforce in their factories located in the Pearl River Delta region. In recent years, however, there has been a gradual shift in the number of Hong Kong residents working on the Mainland from the manufacturing sector to the service sector. Between 1995 and 2005, the share of Hong Kong residents working across the border in the manufacturing sector declined from 56% to 20%, while the service sector's share increased from 40% to 77%. Within the service sector, the import/export sector witnessed the largest increase in the number of Hong Kong residents working on the Mainland, rising from 16,000 in 1995 to 122,000 in 2005 (Chart B3.7). This was followed by the financial and business service sector, whose number increased from 6,000 to 25,000, mainly reflecting the expansion in business service employment over the same period.

Not all Hong Kong residents working across the border are required to visit and work on the Mainland regularly. On average, they spend about 40% of their man-month on the Mainland, and this ratio has been very stable over the past few years. Reflecting differences in job nature, the average duration of stay has been the longest in labour-intensive sectors, such as restaurants and hotels, real estate and manufacturing, ranging from three months to more than six months. In contrast, business service professionals, such as accountants and lawyers, on average only spend about two weeks to three months working on the Mainland (Chart B3.8).

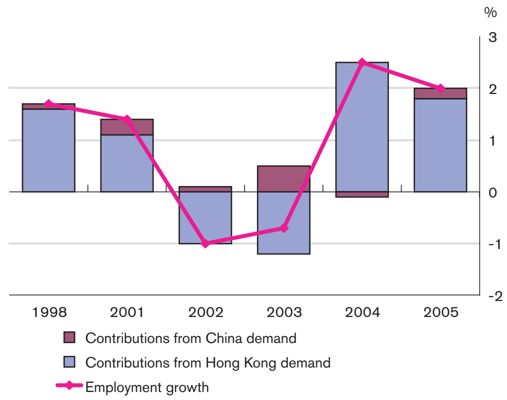
How important has the derived labour demand from Mainland China been to domestic employment growth? Using the number of Hong Kong residents working across the border, irrespective of their duration of stay, as a proxy for labour demand derived from the Mainland, it would have contributed about 1.6 percentage points to the overall employment growth of 2.8% in Hong Kong during 2001-05. This was equivalent to almost 60% of the net increment in domestic employment. However, this figure may have overstated the effect of Mainland demand on domestic employment growth, as the number of man-months spent on the Mainland varies across sectors. After adjusting for the duration of stay, the contribution from Mainland China demand to domestic employment growth declined to 0.7 percentage points. This represented about one quarter of the net increase in domestic employment for the period 2001-05 (Table B3.B).

Chart B3.9
Re-export trade with the Mainland and employment in the import/export sector



Source: C&SD.

Chart B3.10
Contributions from Mainland China demand to employment growth in Hong Kong[1]



Note: 1998 and 2001 data is calculated using the average annual growth rate between surveyed dates while figures from 2002 onwards are year-on-year growth rates.

1 Adjusted for duration of stay in China

Sources: C&SD and staff estimates.

The rapid employment growth in the import/export sector in Hong Kong reflects the importance of the rising labour demand derived from the growing re-export trade with the Mainland (Chart B3.9). In addition, the rising China demand for professional services from Hong Kong has mitigated the negative impact from external shocks on the domestic labour market. For example, during 2001-03, while Hong Kong experienced a sharp cyclical downturn in labour demand, the number of residents working on the Mainland continued to grow strongly. This reflected Mainland China's rapid economic expansion and the increased willingness of unemployed people in Hong Kong to cross the border in tough times. In recent years, however, as domestic labour demand picked up alongside the economic recovery, the contribution from Mainland demand to domestic employment growth has become less significant (Chart B3.10).

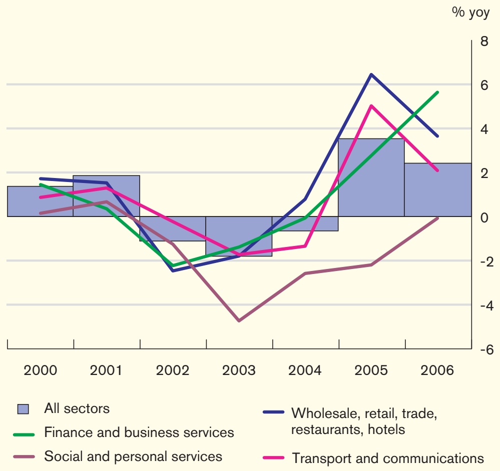
While the number of Hong Kong residents working in Mainland China is a useful proxy to gauge the direct impact of the Mainland demand on domestic employment growth, it is difficult to measure the overall effect of Mainland factors on the labour market in Hong Kong. Given growing trade and financial activities across the border, Mainland business has become an important source of income for firms in Hong Kong, and has boosted domestic employment growth in direct and indirect ways.[17]

[17] Statistics from the C&SD show that Mainland affiliates operating in Hong Kong hired about 18,000 employees at the end of 2004, equivalent to 3.3% of total employment by foreign affiliates operating in Hong Kong. However, the figures may be under-estimated as some of the Chinese enterprises with operations in Hong Kong may register their business ownerships in offshore financial centres like the British Virgin Islands and Bermuda for tax reasons.

Prices and wages

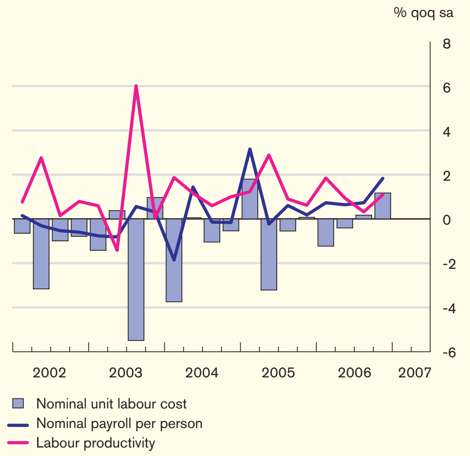
Consumer price inflation picked up steadily, underpinned by stronger domestic demand and higher residential rents. Cost pressures from the supply side have been growing, and are starting to feed through to higher consumer prices. While consumer prices are expected to rise gradually on the back of robust household spending, the risk of a substantial increase in inflation remains low.

Chart 2.11
Growth in nominal payroll per person by economic sector



Source: C&SD.

Chart 2.12
Unit labour cost and labour productivity



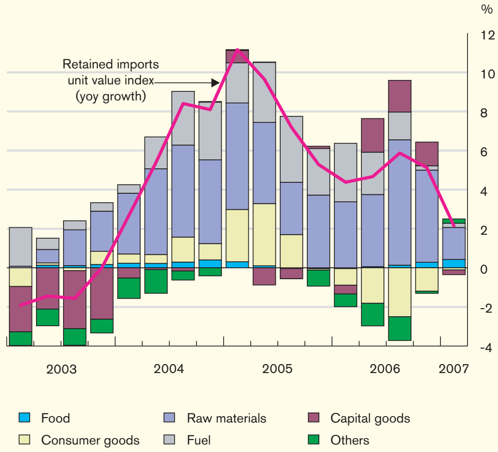
Sources: C&SD and staff estimates.

2.6 Labour costs

The vibrant labour market and steady employment growth have boosted labour earnings. On a quarter-on-quarter comparison, nominal wage growth accelerated to 0.5% in Q4 2006 from 0.3% in Q2, while growth in nominal payroll per person picked up to 1.8% from 0.6% over the same period. The financial and business service sector registered the fastest rate of increase in nominal payroll per person in 2006, followed by the trade and tourism-related sectors (Chart 2.11). Growing demand for financial and trade services and strengthening business confidence will continue to support labour income growth in the service sector. Payroll increments are expected to be stronger in the higher-skilled segment, as labour demand for managers and professionals appears to have outpaced supply.

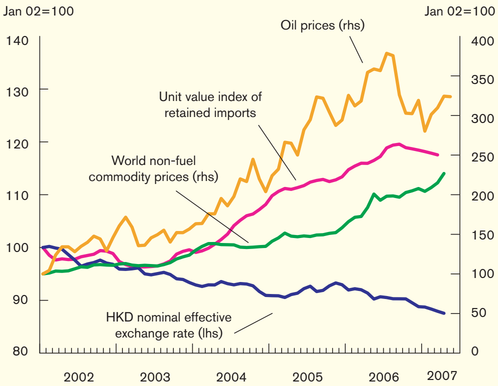
Growing labour productivity has contained the growth of unit labour costs over the past few years. However, the recent slowdown in productivity growth has exerted upward pressures on unit labour costs, which rose by 1.2% quarter on quarter in Q4 2006 after growing by 0.2% in Q3. So far, higher labour costs have not significantly driven up producer prices. The PMI shows that growth in output prices has remained stable in recent months. However, price pressures from the supply side will be more visible if unit labour costs continue to rise at the current pace, in particular given the relatively tight labour market conditions and moderation in productivity growth (Chart 2.12).

Chart 2.13
Contributions to import price inflation



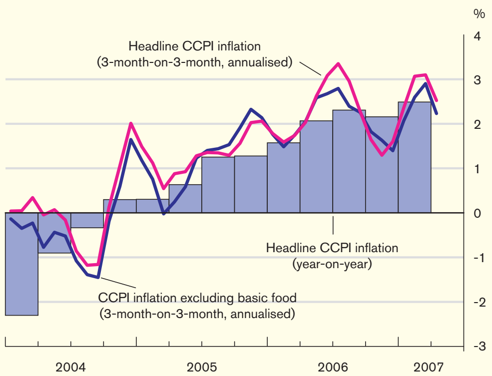
Sources: C&SD and staff estimates.

Chart 2.14
Commodity and Import prices



Sources: C&SD and IMF.

Chart 2.15
Different measures of consumer price inflation[1]



1. After removing the effect from one-off relief measures.
Sources: C&SD and staff estimates.

2.7 Commodity and import prices

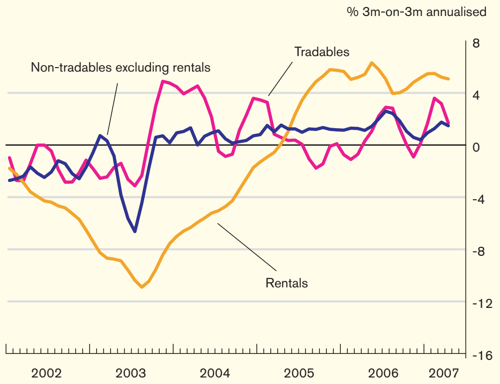
Higher commodity prices and a weaker Hong Kong dollar have raised import prices. In comparison to a year earlier, prices of retained imports increased by 2.1% in Q1 after rising by 5.1% in the preceding quarter (Chart 2.13). On a quarter-on-quarter basis, prices of retained imports have eased, as lower raw material prices offset higher prices for food and consumer goods. Nevertheless, the recent rebound in fuel prices and the steady rise in non-fuel commodity prices are likely to push up the prices of retained imports (Chart 2.14).

Finally, the expected depreciation of the US dollar and a gradual strengthening of the renminbi will continue to exert downward pressure on the Hong Kong dollar effective exchange rate. This means prices for goods sourced from the Mainland and other non-US trading partners could become more expensive in domestic currency terms. That said, the direct impact of higher import prices on domestic inflation should not be very significant, as tradable goods only account for 30% of household expenditure in the composite CPI basket (Box 4 discusses how to estimate the share of retained imports from China and the potential impact of renminbi appreciation on domestic inflation).

2.8 Consumer prices

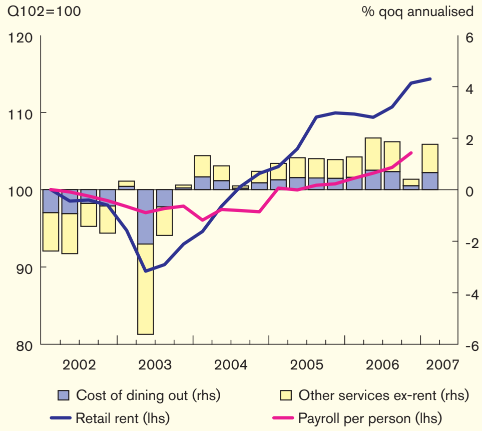
Inflationary pressures have been building up as a result of stronger domestic demand and higher rental costs. After removing the one-off effect from the waiver of public housing rents in February and the government rate concession in April, the composite consumer price index (CCPI) increased by 2.5% (three-month on three-month, annualised) in April after rising by 3.1% in March, mainly driven by sustained increases in housing rents and food costs. Excluding the basic food component, which is volatile in nature, the CCPI rose by 2.2% after growing by 2.9% over the same period. Compared with a year ago, CCPI inflation picked up to 2.5% in Q1 from 2.2% in Q4 2006, the fastest rate of price increase since Q3 1998 (Chart 2.15).

Chart 2.16
Consumer price inflation by broad component[1]



1. After removing the effect from one-off relief measures.
Sources: C&SD and staff estimates.

Chart 2.17
Service price inflation excluding rent



Sources: C&SD and staff estimates.

The recent pick-up in consumer price inflation has been broad-based, as shown by the simultaneous increases in housing rents, service costs and goods prices (Chart 2.16). The gradual rise in house prices and residential rents has continued to boost consumer price inflation. The steep increase in commercial rents and growing labour costs have also started to feed through to higher service prices. On a three-month-on-three-month basis, service price inflation excluding rent rose to 1.5% (annualised) in April from 0.4% in December last year. The acceleration of service price inflation mainly reflected higher costs of dining out, which contributed to about half the increase in overall service prices over the past few quarters (Chart 2.17). As the service component excluding rent accounts for 45% of household spending in the CCPI basket, growing cost pressures in the service sector are expected to push up consumer prices in the coming months.

Inflationary pressures stemming from higher goods prices have become more visible. On a three-month-on-three-month annualised basis, goods price inflation picked up to 1.7% in April from 0.1% in December last year, mainly due to larger increases in basic food prices. The gradual appreciation of the renminbi has driven up the price of food and other goods imported from the Mainland, but its impact on the headline inflation rate is less significant compared with the steady rise in non-fuel commodity prices and the general weakness of the US dollar.

Given a positive output gap, growing labour costs and the steady rise in residential rents, consumer prices are expected to rise gradually in the coming months. However, the one-off relief measures introduced by the Government will offset part of the price increase from the headline inflation rate in 2007.

Box 4
How much of Hong Kong's retained imports is sourced from Mainland China?

As the renminbi continues to appreciate against the US dollar, questions have been raised as to how such appreciation would affect Hong Kong's inflation outlook. The size of the impact depends on how much of Hong Kong's retained imports is sourced from Mainland China. Data on retained imports are not directly available and have to be estimated using figures of total imports, re-exports and re-export margins. Leung and Chow (2007) estimated the possible range of Mainland China's share of retained imports in Hong Kong, and assessed the impact of a stronger renminbi on domestic inflation.[18]

Estimation of retained imports from the Mainland

Since there are no official statistics to directly measure the size of imports retained for domestic use, the figures have to be estimated using the re-export margin.[19] The re-export margin measures the price difference between re-exports and imports expressed as a percentage of re-export prices.[20] Given the re-export margin, retained imports can be estimated by the following equation.

Retained imports

$$= \text{Total imports} - \text{Re-exports}*(1 - \text{Re-export margin}) \quad (1)$$

The 2005 figures show that re-export margins for Mainland China and the rest of the world are 23.5% and 7.8% respectively, with the overall margin being 17.5%. Using equation (1), retained imports from the Mainland are estimated to be HK$25 billion, equivalent to 4.3% of total retained imports in Hong Kong. The share is small compared with other major trading partners such as Japan and the US (Table B4.A).

Table B4.A
Retained imports by country of origin

2005 (HK$bn)	Imports by origin	Re-exports by origin	Re-export margin[1] (%)	Retained imports	Share of HK's retained imports (%)
China	1,030	1,313	23.5	25	4.3
US	106	64	7.8	46	7.9
Japan	266	186	7.8	95	16.2
Euro area	135	75	7.8	65	11.2
Taiwan	172	152	7.8	32	5.4
Korea	129	74	7.8	61	10.4
Others	492	249	7.8	261	44.7
Total	2,329	2,114	17.5	585	100.0

1. The re-export margin for non-China trading partners is estimated to be 7.8% on average for 2005.

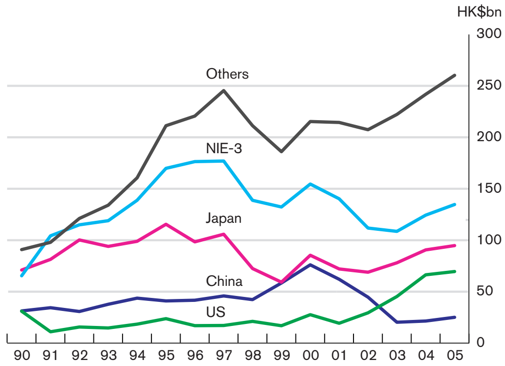
Sources: C&SD and staff estimates.

[18] For details, see "How Much of Hong Kong's Import from Mainland China is Retained for Domestic Use?" *HKMA Research* Note 01/2007, June 2007.

[19] Re-export margin statistics are compiled by the Census and Statistics Department based on survey data.

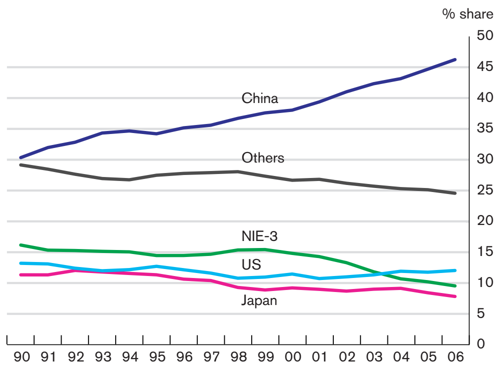
[20] In other words, re-export margin = (re-export prices – import prices)/re-export prices.

Chart B4.1
Retained imports by key trading partners



Note: NIE-3 refers to Korea, Singapore and Taiwan.
Sources: C&SD and staff estimates.

Chart B4.2
Trade share by key trading partners



Sources: C&SD and staff estimates.

Table B4.B
Sensitivity of retained imports from Mainland China to changes in re-export margins

2005	Re-export margin for China (%)	Retained imports originated from China (HK$bn)	China's share of HK's retained imports (%)
Mean - 10%	21.2	-5.8	-1.0
Mean - 5%	22.3	9.7	1.7
Mean estimate	23.5	25.1	4.3
Mean + 5%	24.7	40.5	6.7
Mean + 10%	25.9	55.9	9.1

Note: We assume that re-export margins for other trading partners will remain unchanged, and total retained imports will change along with different re-export margins used for China.

Sources: C&SD and staff estimates.

While retained imports from most trading partners have been picking up along with rising domestic demand in Hong Kong, imports originating from China for domestic use have been declining (Chart B4.1). This seems to be at odds with the growing importance of China trade in Hong Kong, and raises the question of whether the re-export margin for goods sourced from the Mainland is under-estimated (Chart B4.2). In particular, as 60% of re-exports in Hong Kong originate from the Mainland, even small sampling or reporting errors in the re-export margin statistics may have considerable impact on the estimate of retained imports from the Mainland.

To test the sensitivity of the share of retained imports from the Mainland to changes in re-export margins, 5% and 10% deviations from the mean estimate are used to reflect sampling errors in the survey data.[21] Table B4.B shows that if the actual re-export margin for the Mainland is 5% and 10% above the mean estimate, its share of Hong Kong's retained imports would rise to 6.7% and 9.1% respectively for 2005. However, the share would turn negative if the actual re-export margin is 10% below the mean estimate, which is not a sensible outcome.

If the actual re-export margin for Mainland China is 10% higher than the published figure, the share of imports from the Mainland retained for domestic use would increase from 4.3% to 9.1% for 2005, with the level of retained imports rising from HK$25 billion to HK$56 billion, assuming that re-export margins for other trading partners remain unchanged.

The breakeven re-export margin for Mainland China

The hypothesis of a higher re-export margin for the Mainland could also be justified by past movements in the breakeven re-export margin and shifts in the product composition of re-exports originated from the Mainland. The breakeven re-export margin is defined as the margin that will lead to zero retained imports. It can be derived

[21] Based on the sampling errors from the survey data, a 10% deviation from the mean estimate of re-export margins is equivalent to a 95% confidence interval within which the true re-export margins will fall.

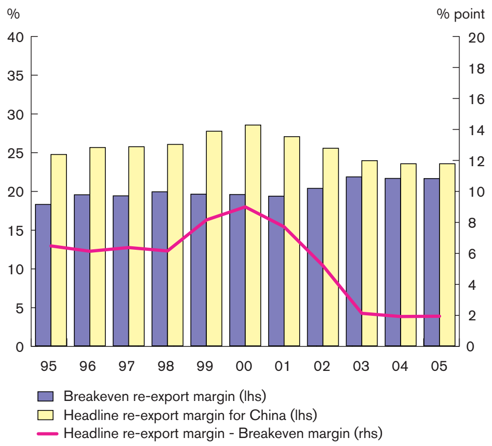
by re-arranging equation (1) and setting retained imports to zero, that is:

Breakeven re-export margin = 1 – (Imports / Re-exports)   (2)

In other words, the breakeven re-export margin is the difference between re-exports and imports expressed as a percentage of re-exports. Positive retained imports require the actual (or estimated) re-export margin to be higher than the breakeven re-export margin. The larger the difference between the two, the higher will be the retained imports.

Past developments showed that the breakeven re-export margin and the headline re-export margin (published by C&SD) for Mainland China tended to move together during the period 1995-2000, with the spread between the two widening gradually from six percentage points to nine percentage points. However, the headline re-export margin has started to decline since 2001, meanwhile the breakeven margin has risen. As a result, the spread declined notably to two percentage points in 2005 (Chart B4.3).

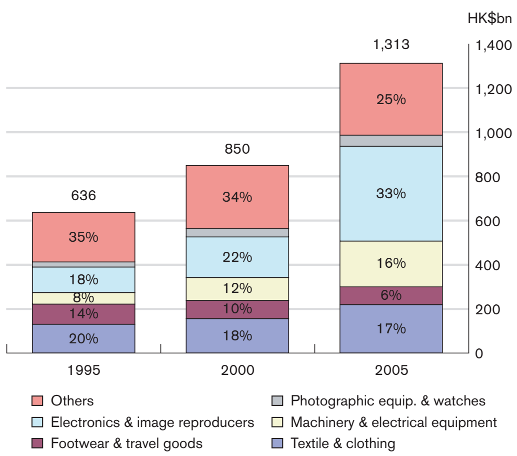
Chart B4.3
Breakeven and headline re-export margins for Mainland China



Sources: C&SD and staff estimates.

However, the composition of re-exports from the Mainland shows that manufacturers have shifted to produce goods with higher valued-added such as machinery and electronics products, whose combined share increased from 26% in 1995 to 49% in 2005 (Chart B4.4). This suggests that the profit margin for China-originated re-exports should have improved or at least remained stable, which is consistent with the rising breakeven margin (the blue column in Chart B4.3), but at odds with the falling headline margin (the yellow column in Chart B4.3).

Chart B4.4
Re-exports originated from Mainland China by commodity group



Sources: C&SD and staff estimates.

Suppose that the true re-export margin follows the movement of the breakeven margin as shown in Chart B4.3 and the spread between the two remains stable over time, the actual re-export margin for Mainland China would be higher than the headline figure of 23.5%. Using the average spread of seven percentage points during 1995-2000, the derived re-export margin for the Mainland would rise to 28.6% for 2005, with a range estimate of 27.7%-30.6%. As a result, the share of

Table B4.C
Alternative estimates of the re-export margin for Mainland China

	Spread for the period 1995-2000 (% point)	Derived re-export margin for 2005 (%)	China's share of retained imports in 2005 (%)
Smallest	6.1	27.7	12.5
Largest	9.0	30.6	17.4
Average	7.0	28.6	14.1
Breakeven re-export margin		***21.6***	

Note: We assume that re-export margins for other trading partners will remain unchanged, and total retained imports will change along with different re-export margins used for China.

Sources: C&SD and staff estimates.

Table B4.D
Retained imports from the Mainland under different assumptions on re-export margin

2005	Re-export margin for China	China's share of retained imports
Headline re-export margin	23.5%	4.3%
Headline margin + 10%	25.9%	9.1%
Spread over the breakeven margin	28% - 31%	13% - 17%
Plausible range	***26% - 31%***	***9% - 17%***
Mean estimate	***28.5%***	***14%***

Note: We assume that re-export margins for other trading partners will remain unchanged, and total retained imports will change along with different re-export margins used for China.

Sources: C&SD and staff estimates.

imports from the Mainland for domestic use would increase to an average of 14.1% for 2005 (Table B4.C). This is comparable to the levels seen in the early 2000s. The plausible range of the share of retained imports from the Mainland under different assumptions on re-export margins is summarised in Table B4.D.

The impact of renminbi appreciation on domestic inflation

A higher portion of imports from Mainland China retained for domestic use is expected to increase inflationary pressure in Hong Kong given the continued strengthening of the renminbi. Assuming China's share of retained imports is 14% and there is a one-to-one exchange rate pass-through to consumer prices, a 10% renminbi appreciation could increase Composite CPI inflation by 0.4 percentage points, as tradable goods only account for 30% of household expenditure in the Composite CPI basket (that is, 10%x0.14x0.3). However, the overall impact of a stronger renminbi on consumer price inflation could be larger or smaller than the above estimate, depending on the degree of exchange rate pass-through, the indirect impact on service prices, and the actual share of retained imports from the Mainland.

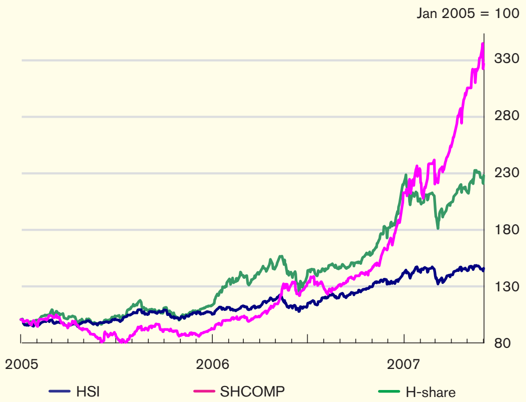
Asset markets

Local shares have been traded in cautious markets in recent months, with risk appetite declining from a peak reached in the last quarter of 2006. In the residential property market, house prices and transactions picked up steadily in the first quarter, as lower mortgage rates and growing labour income improved housing affordability. Reflecting the growing business demand and limited supply, office rents rose notably and are likely to stay high for the rest of the year.

2.9 Equity market

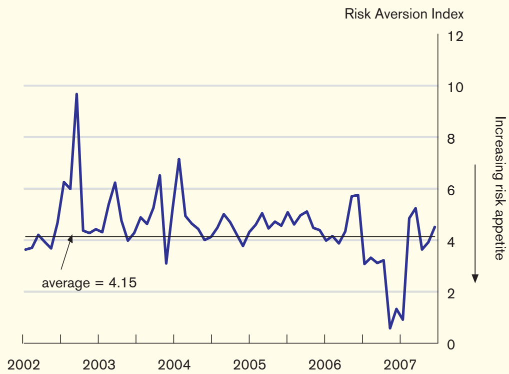
The local market staged a strong rally towards the end of 2006, with the Hang Sang Index (HSI) breaking the 20,000 level. At the start of 2007, local equities, especially H-shares, joined the roller coaster ride with Mainland markets (Chart 2.18). However, in recent months domestic investors have behaved more cautiously, while their counterparts on the Mainland continued to push prices to dizzy heights. This is despite a series of positive news and developments supporting the local market, including tax cuts, improved economic conditions, increased property market activity, the widened investment scope of the QDII, and record highs reached in many overseas markets. As shown in our estimated risk aversion index, domestic investors had a strong appetite for risk towards the end of 2006, but started curbing their enthusiasm this year, with the risk aversion index returning to around the historical average in recent months (Chart 2.19).[22] This is likely to reflect that domestic investors are acutely aware of the downside risk posed by a potential sharp adjustment in the markets across the border. In the first five months of 2007, the HSI rose by 3.4%, in sharp contrast with a 53.6% increase in the Shanghai Composite Index. It also underperformed most other markets around the world.

Chart 2.18
Equity prices in Hong Kong and Shanghai



Source: Bloomberg.

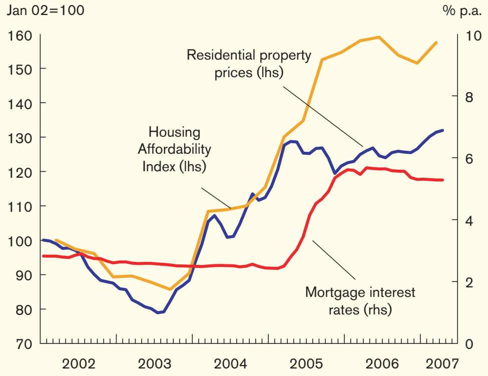
Chart 2.19
Risk Aversion in Hong Kong Equity Markets



Source: Staff estimates.

[22] The index is derived by taking the variance of the ratio of option-implied probability density function of equity return to the historical (subjective) probability density function based on actual cash market returns, divided by the risk-free interest rate. A low value indicates high risk appetite of investors, and vice versa. Details of the methodology can be found in Yu and Tam (2007), "Measuring Market Sentiment in Hong Kong's Stock Market", a forthcoming HKMA Working Paper.

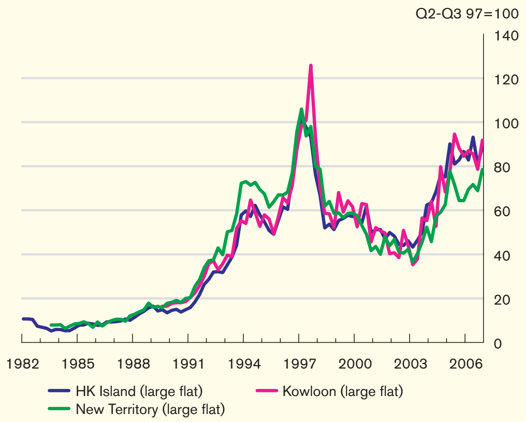
Chart 2.20
Property price, interest rate and housing affordability[1]



1. A lower housing affordability index means more affordable housing to home-buyers.

Sources: Rating & Valuation Department and C&SD.

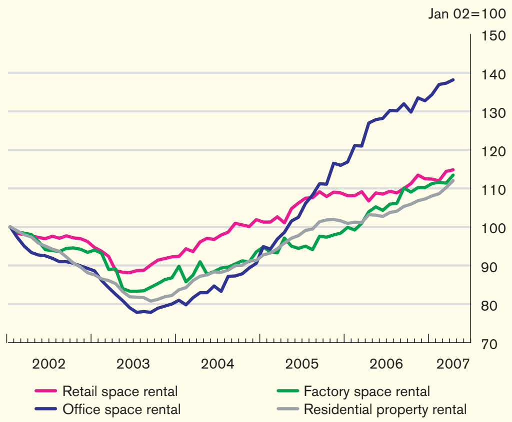
Chart 2.21
Average transacted prices of luxury flats[1]



1. Since the average transacted price index is not adjusted for quality changes in residential property over time, it is not directly comparable with the headline residential price index.

Sources: Rating & Valuation Department and staff estimates.

Chart 2.22
Rental indices by property type



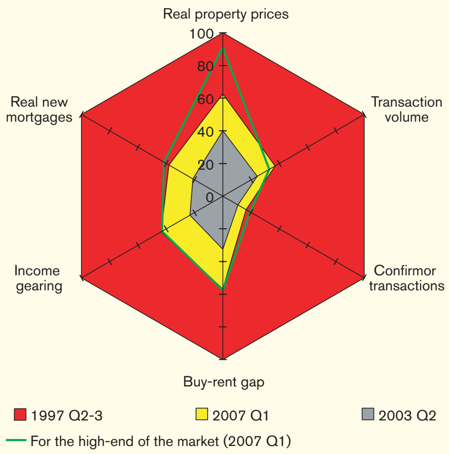
Sources: Rating & Valuation Department, C&SD and staff estimates.

2.10 Property market

Activity in the property market regained momentum in the first quarter, as lower mortgage rates and growing labour income improved housing affordability (Chart 2.20). On a quarter-on-quarter comparison, house prices increased by 3.3% in Q1 after growing by 0.6% in Q4 2006. Transactions of residential property also rebounded strongly, rising by 13% in Q1 following a contraction of 6.9% in the previous quarter, driven by increased secondary market turnover. A breakdown by saleable area shows that the rate of price increase of large flats (160 m^2 or above) continued to outpace that of medium-sized flats (from 40 m^2 to below 100 m^2). The average transacted price of luxury flats on the Hong Kong Island has risen close to the levels in mid-1997, valued at HK$11,500 per square foot in Q1, which was just 14% lower than the peak (Chart 2.21). This partly reflected the relatively limited supply in the upper-end market. The continued narrowing of the buy-rent gap and a favourable interest rate outlook are expected to stimulate activity in the residential property market.

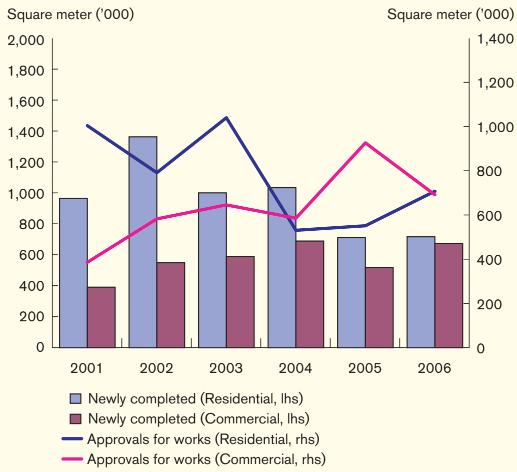
In the commercial segment, office rents picked up notably in Q1, rising by 3.2% following a tepid growth of 0.9% in the preceding quarter. Rents of Grade A office space located in the core area picked up even faster, rising by 6.0% after growing by 3.9% in Q4 2006, reflecting the low vacancy rate of prime office space and growing business demand. In comparison, the rise in rental costs of retail premises and factory space has been more moderate (Chart 2.22).

Chart 2.23 Graphical analysis of the housing market



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

Chart 2.24 Supply of residential and commercial properties



Sources: C&SD and Buildings Department.

Various indicators have pointed to a healthy development in the housing market (Chart 2.23).[23] The modest pick-up in prices and transactions of residential property mainly reflected growing demand from home-buyers. The level of speculative activity continued to subside, with the share of confirmor transactions falling to a three-year low of 1.17% in Q1. Compared with the trough in Q2 2003, residential property prices have increased by 57% in real terms. However, the current level is still 37% below the peak in mid-1997. In the luxury property market, house prices have reached much higher levels, underpinned by growing demand from the high-income group, the corporate sector and foreign investors. Price differentials between the high-end and low-end markets largely reflect different supply and demand conditions in the two segments. Overall, there is little sign of overheating in the housing market, with activity indicators pointing to a steady expansion in the residential property market.

On the supply side, newly completed residential properties (measured in terms of the floor area built) increased by 0.8% in 2006 following a marked contraction in 2005. The strong rise in approvals for commencement of building works in 2006 suggests that housing stocks will pick up steadily along with growing demand in coming years. In the commercial property segment, while newly completed office space and commercial areas expanded notably in 2006, the marked decline in approvals for commencement of building works suggests that the supply of commercial properties will remain tight over the medium term. Growing business demand and a low vacancy rate are likely to keep office and commercial rents high (Chart 2.24).

[23] 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

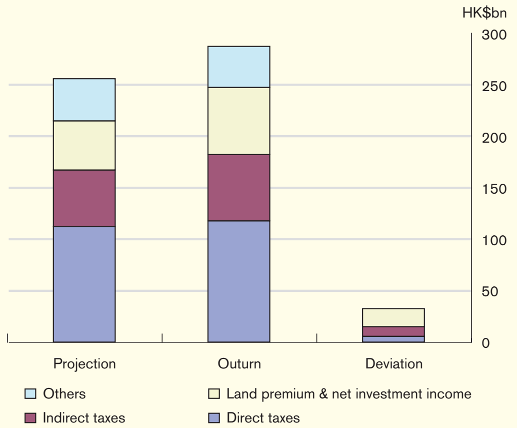
The fiscal outturn for 2006/07 was significantly stronger than the Government's original estimate, mainly reflecting increased revenue underpinned by robust economic growth and favourable conditions in asset markets. The proposed Budget for 2007/08 is generally viewed as expansionary given the tax relief measures and one-off rebates. The new income-sharing arrangement between the fiscal reserves and the Exchange Fund is expected to generate a more stable stream of investment income for the Government.

2.11 *Public finances*

The consolidated fiscal surplus increased notably to HK$58.6 billion (4.0% of GDP) in 2006/07, compared with the original projection of HK$5.6 billion and the fiscal surplus of HK$14.0 billion (1.0% of GDP) in 2005/06. The positive outturn was mainly due to stronger-than-expected land premium and investment income, while the record-high stock market turnover also increased markedly the proceeds from stamp duties (Chart 2.25). As a reflection of the Government's continued effort to restrain public spending, total expenditure contracted further by 1.6% to HK$229 billion in 2006/07.

On the back of a strengthened fiscal position, the Government proposed to cut taxes and increase public spending in 2007/08, which would reduce the fiscal surplus to HK$25 billion (1.7% of GDP). The decline reflects a fall in revenue due to tax concessions, one-off rebates and lower but more stable investment income following the implementation of the new profit-sharing scheme with the Exchange Fund. Government expenditure will also expand, mainly owing to increased operating expenditure (Table 2.E). The macroeconomic impact of the 2007/08 Budget is generally regarded as expansionary (Box 5 assesses its possible impact on economic growth and inflation in 2007).

Chart 2.25
Projected and actual government revenue for 2006/07



Sources: The 2007/08 Budget and Treasury.

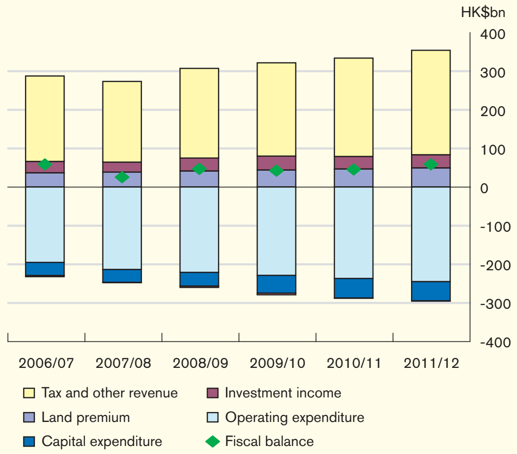
Table 2.E
Analytical presentation of fiscal account

Fiscal year[1]	2005/06	Budget 2006/07	Estimate 2006/07	Projection 2007/08
	(In percent of calendar-year basis GDP)			
Revenues[2]	17.8	17.4	19.5	17.8
Tax	12.3	11.4	12.4	11.2
Non-tax	5.5	6.0	7.1	6.6
Land premium	2.1	2.1	2.5	2.5
Asset sales / privatisations	0.0	0.3	0.0	0.0
Investment income (net)[3]	0.7	1.2	1.9	1.6
Others	2.7	2.5	2.7	2.4
Expenditure	16.8	16.8	15.6	16.1
Recurrent	13.9	14.2	13.3	13.9
Capital[4]	2.9	2.7	2.3	2.2
Overall balance before net borrowing	1.0	0.6	4.0	1.7
Overall balance after net borrowing	1.0	0.4	3.8	1.7
Fiscal reserves	22.5	20.8	25.0	25.4
Net fiscal reserves	20.6	19.2	23.5	23.9

Notes: 1. Figures are based on the 2007/08 Budget and Treasury data.
2. Exclude proceeds from the issuance of government bonds/notes.
3. Netting out interest expenses of government bonds/notes.
4. Exclude interest expenses and repayments of government bonds/notes.

Sources: Budget Speech, Treasury and staff estimates.

Chart 2.26
Contributions to the projected fiscal surplus over the medium term



Sources: The 2007/08 Budget and Treasury.

The medium-term fiscal outlook remains positive. The Government projects that both operating and consolidated fiscal balances would remain in surplus over the next five financial years. The consolidated fiscal surplus is expected to rise from 1.7% of GDP in 2007/08 to 3.0% in 2011/12, reflecting larger increments in revenue than expenditure over the period (Chart 2.26). As a result, fiscal reserves are projected to increase from HK$391 billion (25% of GDP) to HK$584 billion (30% of GDP). This favourable projection of the fiscal outturn, however, is subject to uncertainty because of the volatility of land premium and investment income. In this regard, the new income-sharing arrangement between the fiscal reserves and the Exchange Fund is expected to help by dampening the volatility of investment income due to changes in market conditions.[24]

In the longer term, an ageing population and a relatively narrow tax base remain the key policy challenges for the Government to maintain a sound and sustainable fiscal position and reserves to finance rising health care expenses and to meet future development needs. To address these structural issues, the Government has initiated public consultations on possible reforms to the tax structure and financing arrangements for health care, which are the first steps towards maintaining long-term fiscal sustainability.

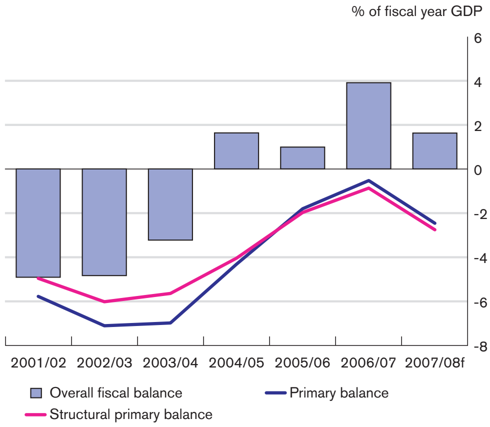
[24] Under the new income-sharing arrangement, the annual investment return on the fiscal reserves will be calculated based on the average rate of return of the Exchange Fund's investment portfolio over the past six years, with the guarantee of a minimum return not lower than the average yield of three-year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

Box 5
Macroeconomic impact of the 2007/08 budget

The Government cut taxes and increase expenditure in the 2007/08 Budget. These expansionary fiscal measures are expected to stimulate economic growth and boost employment. Given the strength of the economy and a possible positive output gap, the expansionary fiscal stance is likely to add pressure on underlying inflation. However, the one-off relief measures proposed by the Government are likely to drag down the headline Composite CPI inflation rate in 2007. This box analyses the underlying fiscal policy stance of the 2007/08 Budget and assesses its macroeconomic impact.

The budget's underlying fiscal policy stance can be gauged by changes in the fiscal balance. One useful measure of this is the primary balance, which excludes interest payments and non-recurrent revenue items such as land premium and investment/asset income from the overall headline fiscal balance. However, as unexpected changes in cyclical conditions could lead to significant deviation of the final outcome of fiscal operations from the intended policy stance, it is necessary to strip out the cyclical components from the primary balance. The resultant balance, known as the structural primary balance, is a measure of the underlying fiscal policy stance. It is purged of the effects of the business cycle and fluctuations in land premium and net investment income. Using figures in the 2007/08 Budget, the structural primary balance is estimated to be in a deficit of 2.8% of GDP in 2007/08, larger than the 0.9% deficit in 2006/07 (Chart B5.1).

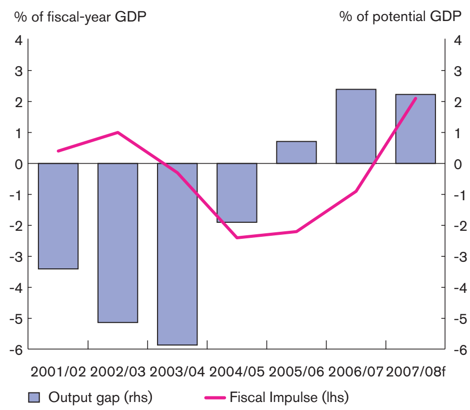
Chart B5.1
Primary balance and structural primary balance



Sources: Budget Speech, Treasury and staff estimates.

The fiscal impulse indicator, which is measured by the change in the structural primary balance, is estimated to be positive in 2007/08 after being negative in previous fiscal years (Chart B5.2). This indicates an expansionary underlying fiscal policy stance for 2007/08.

Chart B5.2
Fiscal impulse and output gap



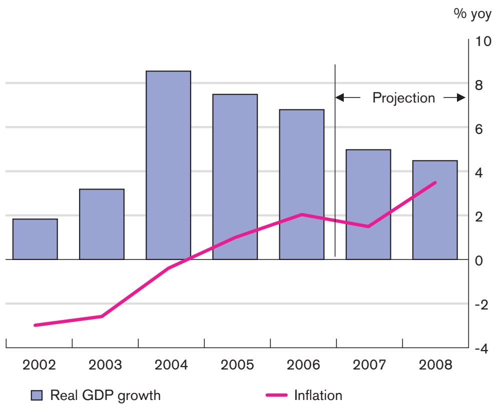
Note: A positive fiscal impulse indicates expansionary fiscal policy.
Sources: Budget Speech, Treasury and staff estimates.

Tax concessions and increased government spending in the 2007/08 Budget will be positive to growth and employment. Based on estimates of the tax and government spending multipliers, the reduction in tax revenue and other government income will raise GDP growth by 0.6 percentage points for this year, while the expansion in public spending will increase GDP growth by 0.4 percentage points.[25] Overall, the policy stimulus as proposed in the 2007/08 Budget will boost economic growth by a total of one percentage point through the multiplying effect on aggregate demand.

The impact on GDP growth in the current year, however, is likely to be smaller than one percentage point, given that some of the proposed measures will only be implemented in years other than 2007. According to the HKMA in-house small structural forecasting model, the budgeted measures, if fully implemented, will boost GDP growth in 2007 by 0.5 percentage points, and raise underlying inflation by 0.2 percentage points.

However, various one-off relief measures proposed by the Government this year are likely to ease the headline Composite CPI inflation rate. For example, the waiver of public housing rents in February and the proposed rent reduction by 11.6% for public housing starting from July 2007 will trim the annual inflation rate by 0.3 percentage points in 2007. Together with the waiver of government rates for two quarters and the introduction of the Pre-Primary Education Vouchers Scheme, the above relief measures will subtract a total of one percentage point from the headline consumer price inflation rate. Reflecting this, the Government projected consumer price inflation to be 1.5% in 2007, lower than the 2.0% inflation rate in 2006. However, the effects of these one-off measures are expected to last for only one year and inflation pressures are likely to become more visible from 2008 onwards. Specifically, the Government projected the trend rate of Composite CPI inflation to be 3.5% over the period from 2008 to 2011 (Chart B5.3).

Chart B5.3
Government projection of output growth and inflation



Source: The 2007/08 Budget.

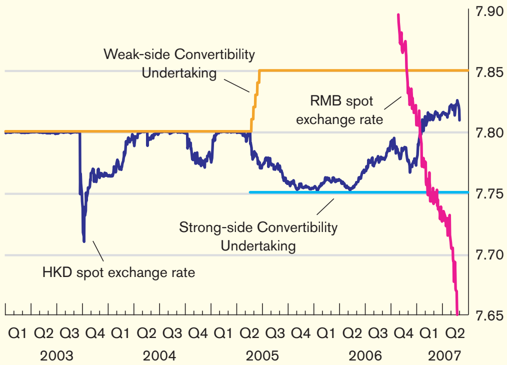
[25] The tax and spending multipliers are estimated to be 0.4 and 0.6 respectively in previous studies. This means, on average, a tax cut of HK$1 would raise output by HK$0.4, and an additional HK$1 spent by the Government would raise output by HK$0.6. The multipliers are smaller than one, reflecting leakages through savings by the household sector (i.e., households do not spend all of the additional income gained through tax cuts) and imports (i.e., not all additional spending by the Government is for purchases of goods and services produced domestically in Hong Kong). For details, see "Hong Kong: Macroeconomic Impact of Recent Fiscal Measures", *HKMA Quarterly Bulletin*, February 2000.

3. Monetary and financial sector

Exchange rate, interest rates and monetary developments

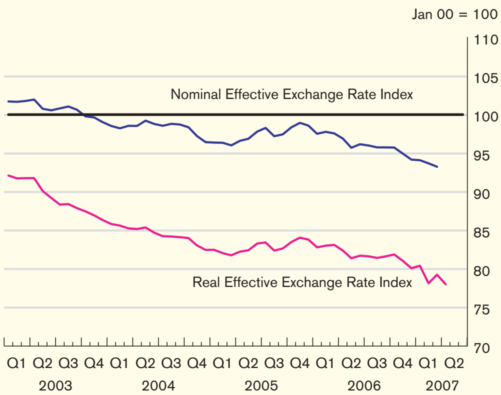
The Hong Kong dollar spot exchange rate stayed near the centre of the Convertibility Zone during the review period and there was little repercussion for the domestic foreign exchange and money markets when the renminbi became stronger than the Hong Kong dollar. Local monetary conditions remained supportive, with persistent negative interest rate spreads and steady monetary growth.

Chart 3.1
Hong Kong dollar exchange rate



Source: HKMA.

Chart 3.2
Nominal and real effective exchange rates



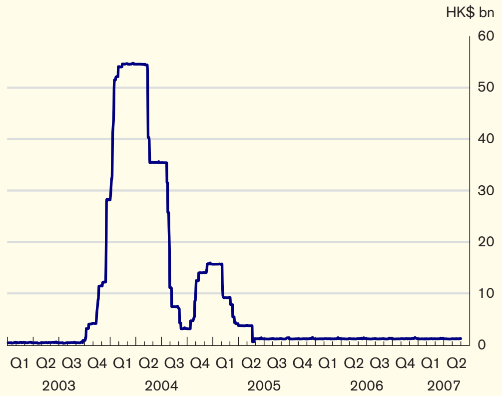
Note: Real Effective Exchange Rate Index is seasonally adjusted.
Source: HKMA, staff estimates.

3.1 Exchange rate and interest rates

The Hong Kong dollar exchange rate has weakened since the beginning of 2007, reaching 7.8255 on 23 May (Chart 3.1). This was in part attributable to interest rate arbitrage activities and the conversion of proceeds from equity initial public offerings (IPOs) into US dollars by Mainland companies newly listed on the Hong Kong Stock Exchange. Thereafter, the spot exchange rate strengthened towards the end of May, reflecting some unwinding of carry trade positions amid concern about narrower interest rate spreads. On the whole, the Hong Kong dollar exchange rate stayed near the centre of the Convertibility Zone and there was little reaction in the foreign exchange and money markets when the renminbi spot exchange rate became stronger than the Hong Kong dollar in Q1. (Box 6 discusses the statistical properties of the Hong Kong dollar spot exchange rate since the introduction of the three refinements of the Linked Exchange Rate system in May 2005.)

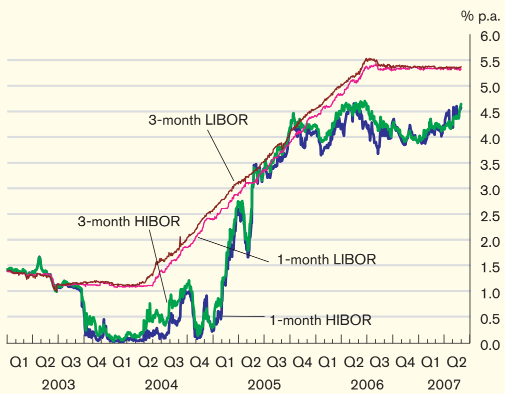
The trade weighted nominal and real effective exchange rate indices of the Hong Kong dollar also depreciated (Chart 3.2), driven mainly by weakness in the US dollar. The dollar initially held up well on better-than-expected economic data in early 2007, but later lost ground as news of adverse conditions in the US sub-prime mortgage market emerged to drag down the US dollar (see Section 1.9 for more details).

Chart 3.3
Aggregate Balance
(before Discount Window Activity)



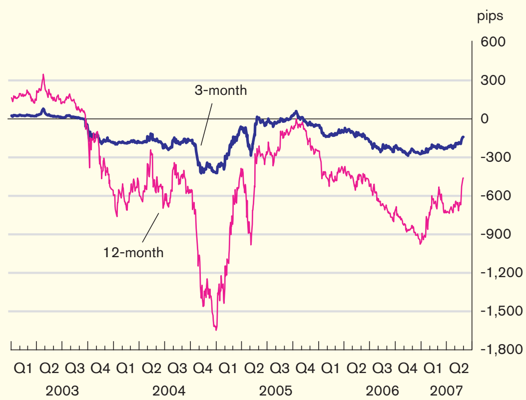
Source: HKMA.

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



Source: HKMA.

Chart 3.5
Hong Kong dollar forward
exchange rate



Source: HKMA.

The Convertibility Undertakings were not triggered and the HKMA did not conduct any discretionary intra-zone monetary operations during the review period. As a result, the Aggregate Balance remained stable at around HK$1.3 billion (Chart 3.3).

Owing to interest rate arbitrage activities and increased liquidity demand relating to equity IPOs, the 1-month and 3-month HIBORs have increased since early 2007 (Chart 3.4). The corresponding LIBORs remained stable at around 5.3% after the US Fed decided to keep the target for the federal funds rate intact at 5.25% on 21 March and 9 May. As a result, the negative spreads of Hong Kong dollar interest rates over their corresponding US dollar interest rates narrowed to below 100 basis points.

In line with the movements in interest rate differentials, Hong Kong dollar forward discounts narrowed (Chart 3.5). The narrowing of the 12-month forward discount caused the 12-month forward exchange rate to appreciate towards the strong-side Convertibility Undertaking in January and stay around the CU rate thereafter.

Box 6
Is the Hong Kong dollar exchange rate "bounded" in the Convertibility Zone?

Policy literature has argued that for a target zone to be credible, the currency exchange rate should have a specific statistical property – a mean-reversion. Our test results, however, show that in the period after the introduction of the three refinements in May 2005 – which essentially made the Linked Exchange Rate system a target zone – the Hong Kong dollar does not possess such a property. Instead it follows a random walk.[26] Does this mean the current exchange rate arrangement is not credible? In this section, we argue and provide empirical evidence that this is not necessarily the case.

Theoretical case

A good case can be made that if a currency follows a mean-reverting process, which may be driven by within-zone central bank intervention or "stability speculation" by market participants, the market probably judges the target zone to be credible.[27] Such an argument was particularly popular in policy circles in the 1990s, triggering a considerable amount of empirical work trying to examine the statistical properties of European currencies in the era of the Exchange Rate Mechanism.[28] However, a new school of thought now argues that mean-reversion is not a necessary condition for the exchange rate behaviour in a credible target zone. Even if the currency follows a random-walk process, its target zone can still be credible provided the currency also follows a bounded process.[29]

A bounded process for the currency in a credible target zone can be attributable to many reasons, the most obvious being potential central bank intervention and

[26] The tests employed are the Dickey-Fuller unit root and variance-ratio tests.

[27] The exchange rate may not exhibit such a property if intervention occurs only at the limits of the target zone.

[28] The results, however, are fairly mixed.

[29] See Nicolau, J. 2002, "Stationary process that look like random walks – the bounded random walk process in discrete and continuous time", *Econometric Theory*, 18, 99-118.

the ability of the central bank to defend the band. As long as the exchange rate is "well within" the band, market participants behave as if they are in a comfort zone and do not feel particularly compelled or encouraged to pull the exchange rate towards the central parity. However, when the exchange rate moves closer to the boundary, the market may anticipate an intervention and push the rate back. Simply put, a bounded process contains a reversion effect that only occurs close to the boundaries of the zone, but not in or around the middle. Statistically, it is therefore possible for the random walk and bounded properties to co-exist, and together they are consistent with a credible system.

Empirical findings

For the Linked Exchange Rate system, we hypothesise that the exchange rate follows a random walk most of the time, but that it tends to bounce off the Convertibility Undertaking (CU) levels whenever it comes close to them. In empirical testing, we adopt the following specification of the bounded process:

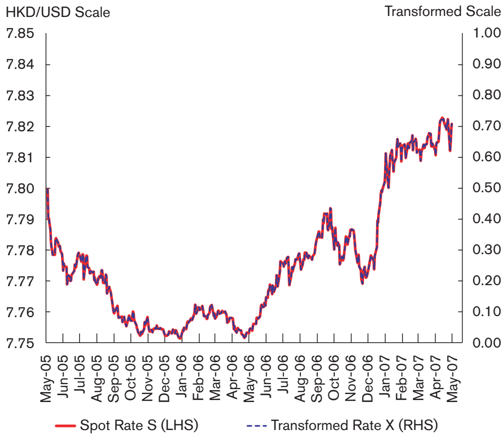
$$dx = \sigma(-\ln x)^{\gamma} x dz ,$$

where the HKD exchange rate S is transformed into x with a scale from zero to one:

$$x = \frac{S - 7.75}{7.85 - 7.75},$$

$\sigma^2(-\ln x)^{2\gamma} x^2$ is the variance that depends on the level of S, γ is a real number and dz is a standard random process.[30] It is noted that x is between zero and one as S is between 7.75 and 7.85 (see Chart B6.1). When S reaches the bands of the target zone (7.75 and 7.85), the variance of the exchange rate vanishes as it gets very close to either of the CUs.[31] This in turn implies that the exchange rate is unlikely to touch either CU. The coefficient γ captures the sensitivity of the variance of

Chart B6.1
Spot exchange rate and transformed rate of HKD/USD

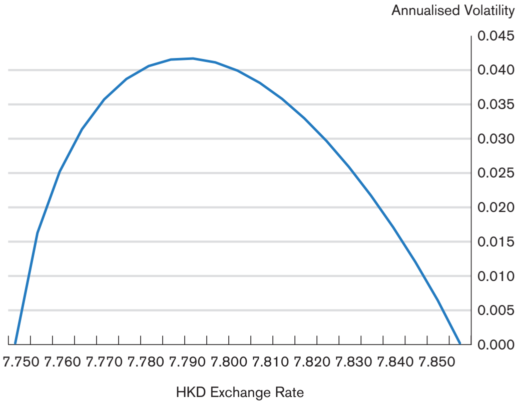


30 The specification of the bounded process is generalised from the specification used in Lo, C. F. 2007, "Exact solution to the functional Fokker-Planck equation of a bounded stochastic process and its application to modelling tumour cell growth", Working Paper, the Chinese University of Hong Kong.

31 When S converges to 7.75, $(-\ln x)^{\gamma} x$ will converge to zero. On the other hand, when S is 7.85, x is 1 and lnx is zero, hence $(-\ln x)^{\gamma} x$ is zero.

the exchange rate process to the distance from the target zone limit. If γ is positive, the process will be bounded, and the larger is γ, the more sensitive is the exchange rate.

Chart B6.2
Annualised volatility in the HKD exchange rate at different levels



To test this hypothesis, we use the maximum-likelihood technique to estimate the parameters of the bounded process using the daily Hong Kong dollar spot rates from 18 May 2005 to 17 May 2007. The results show that the process is adequately fitted and the parameters σ and γ are 0.07 and 0.96 respectively, which are both statistically significant.[32] The annualised volatility in the exchange rate at different levels under the bounded process is shown in Chart B6.2. The volatility is at the maximum (about HK$0.04 annually or HK$0.0025 daily) near the central parity of 7.8 and approaches zero at the strong-and weak-side limits.[33]

Conclusion

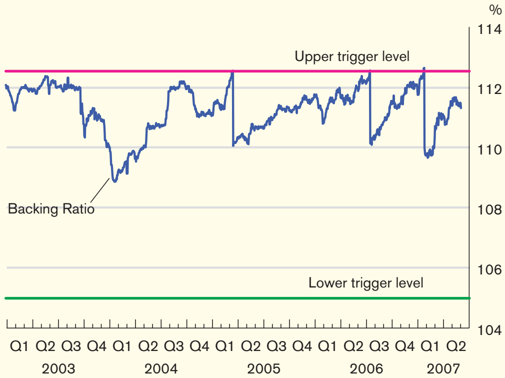
The results of the empirical test suggest that the Hong Kong dollar follows a bounded process, one that is consistent with a fully credible exchange rate band. Although there may be few forces or incentives for market participants to drive the exchange rate towards 7.8, the bounded process implies that relatively large movements of the exchange rate towards the central parity are expected when the exchange rates moves close to either side of the band.[34]

[32] The Portmanteau test statistics suggest that the process is adequately fitted because there is no serial correlation among residuals.

[33] The changes are not symmetric at the central parity because during most of the time the exchange rates stayed in the strong-side CZ since the introduction of the three refinements.

[34] In January, this occurred when the exchange rate moved from the strong-side CZ towards the 7.8 level.

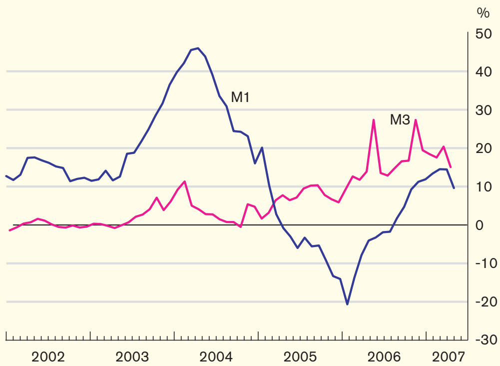
Chart 3.6
Backing Ratio



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%.

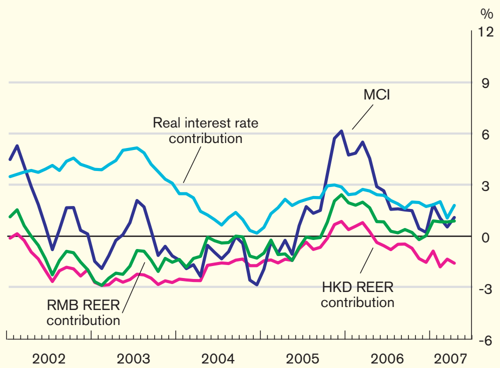
Source: HKMA.

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

With a decrease in the Monetary Base and rises in net interest income and revaluation gains, the Backing Ratio increased to 112.61% on 21 January, 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 22 January. Thereafter, the Backing Ratio continued to increase, as revaluation gains more than offset the effect of an increase in the Monetary Base. The Backing Ratio closed at 111.28% on 31 May. (Box 7 discusses the impact of renminbi appreciation on the demand for Hong Kong dollar banknotes.)

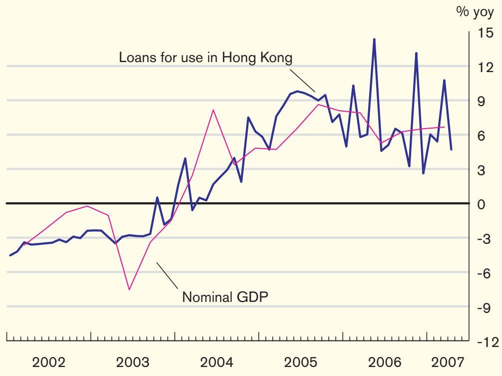
3.3 Money, credit and monetary conditions

Monetary aggregates continued to expand on the back of steady economic growth, but their growth rates decelerated in April (Chart 3.7). The year-on-year growth rates of Hong Kong dollar narrow money (M1) were above 13% from January to March, due to active trading and fund-raising activities in the stock market. As IPO activities receded, the growth rate dropped to 9.4% at the end of April. In line with the movements in narrow money, the expansion in Hong Kong dollar broad money (M3) was equally brisk in Q1, with the year-on-year growth rate reaching 20.1% at the end of March, before moderating to 14.8% in April.

Local monetary conditions have been easing in general since the beginning of 2006, as indicated by the downward trend of the monetary conditions index (MCI) (Chart 3.8). This was due to a depreciation of the real effective exchange rates of the Hong Kong dollar and the renminbi, and, to a lesser extent, a decline in real interest rates on the back of rising inflation. The current monetary conditions appear to be broadly neutral, with no signs of visible macroeconomic imbalances in the local economy given the relatively low level of inflation.

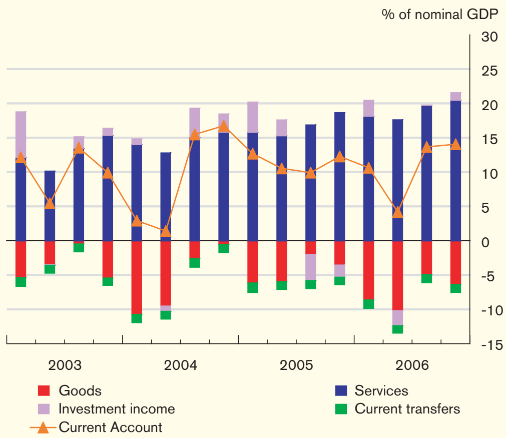
Domestic loan growth remained steady. Apart from occasional spikes arising from increased credit demand associated with equity IPOs, growth of loans for use in

Chart 3.9
Loans for use in Hong Kong and nominal GDP



Sources: HKMA and Census & Statistics Department.

Chart 3.10
Contributions to current account surplus



Source: Census & Statistics Department.

Table 3.A
Balance of Payments account by standard components

In percent of GDP	2005	2006	2006 Q1	Q2	Q3	Q4
Current Account	**11.4**	**10.9**	**10.7**	**4.2**	**13.7**	**14.1**
Capital and Financial Account	**-13.2**	**-13.7**	**-14.2**	**-7.6**	**-15.9**	**-16.6**
Capital transfers	-0.4	-0.2	-0.1	0.1	-0.5	-0.1
Financial non-reserve assets (net change)	**-12.1**	**-10.4**	**-10.7**	**-4.8**	**-11.9**	**-13.4**
Direct investment	3.6	-0.3	7.9	-8.6	-4.2	3.5
Portfolio investment	-17.7	-17.5	9.8	-22.5	4.6	-58.1
Financial derivatives	2.2	2.6	0.7	4.2	2.2	3.5
Other investment	-0.2	4.8	-29.1	22.1	-14.5	37.7
Reserve assets (net change)	**0.8**	**3.2**	**3.3**	**2.9**	**3.5**	**3.0**
Net errors and omissions	**1.8**	**2.8**	**3.5**	**3.3**	**2.2**	**2.5**

Source: Census & Statistics Department.

Hong Kong closely tracked the nominal GDP growth (Chart 3.9). Analysed by economic uses, lending to stockbrokers and loans for investment companies increased notably in 2007 Q1, driven by vigorous stock market activities. Mortgage loan growth, however, remained subdued.

3.4 Capital flows

The latest Balance of Payments (BoP) statistics showed an increase in reserve assets for the sixth consecutive quarter. The increase was attributable to a steady flow of interest incomes from the US dollar assets in the Exchange Fund.

The current account remained in surplus in 2006 Q4, with the surplus in service trade exceeding the deficit in merchandise trade (Chart 3.10 and Table 3.A). Rising exports of transportation and trade-related services have been the main contributors to the growing service trade surplus. This partly reflected an improvement in external competitiveness as a result of a depreciation of the real effective exchange rate.

The non-reserve financial account continued to record a net outflow in the final quarter of 2006, largely because of portfolio investment outflows (Table 3.A). Equity portfolio investment outflow was driven by Hong Kong residents buying H-shares of Mainland companies, which are treated as foreign equity in the BoP statistics. Local banks also increased their holdings of short-term overseas money market instruments.

On the other hand, for the third consecutive quarter, there was a marked expansion in currency and deposits held in Hong Kong by non-residents. This resulted in a substantial net inflow from the “other investment” account in 2006 Q4, which includes mainly loans and deposits held by non-residents. In turn, liquid deposits, in both Hong Kong dollars and foreign currency, posted a notable growth over the same period. The temporary placements of IPO proceeds by Mainland companies newly listed on the Hong Kong Stock Exchange also may have been related to this sizable inflow.

Box 7
Impact of renminbi appreciation on the demand for Hong Kong dollar currency

Introduction

The renminbi exchange rate has appreciated beyond the Hong Kong dollar exchange rate since early 2007. The rise has reportedly caused some shops in Shenzhen to stop accepting Hong Kong dollar banknotes as a means of payments. For the convenience of Hong Kong residents, Hong Kong dollar banknotes have been widely accepted as the medium of payments in the southern part of China on a one-for-one exchange rate with the renminbi. The practice was also beneficial to the shops, as the Hong Kong dollar was numerically "more expensive" than the renminbi. Now, with the renminbi "more expensive", shops are reluctant to accept Hong Kong dollars on a one-for-one exchange rate with the renminbi for the fear of suffering exchange rate losses.

This phenomenon raises concerns about the potential monetary impact on Hong Kong if the demand for Hong Kong dollar banknotes related to the Mainland shrinks markedly and the Hong Kong dollar banknotes circulating on the Mainland are repatriated to Hong Kong in the face of continued renminbi appreciation. This box provides an assessment of the potential impact of renminbi appreciation on the demand for Hong Kong dollar banknotes in Mainland China.

Major channels

Demand for Hong Kong dollar banknotes in Mainland China mainly originates from three channels:

➢ Mainland residents travelling to Hong Kong use Hong Kong dollar banknotes as a convenient means of paying bills and making purchases. Mainland tourists typically exchange renminbi for Hong Kong dollar cash before they arrive in Hong Kong, mostly in large denominations of $500 or $1,000 banknotes (the renminbi's largest denomination is only

RMB100, while that of the Hong Kong dollar is HK$1,000).[35] It is estimated that demand from this channel absorbed roughly one sixth of total banknotes in circulation at the end of 2006.

- As Hong Kong becomes increasingly integrated with southern China, Hong Kong residents regularly visit Shenzhen and Guangdong, spending money on goods and services using widely accepted Hong Kong dollars. Demand for Hong Kong dollar banknotes from this channel was roughly one twentieth of total banknotes in circulation at the end of 2006.

- Hong Kong dollar banknotes are also circulated in economies other than the Mainland, such as Macau and other overseas markets. Updated estimates of Ho, Shek and Shi (2006)[36] show that total external demand for Hong Kong dollar banknotes amounted to roughly 50% of total currency in circulation at the end of 2005. Accordingly, the demand for Hong Kong dollar banknotes for use in markets other than the Mainland was estimated to be roughly one third of Hong Kong dollar banknotes in circulation at the end of 2006.

Impact of renminbi appreciation on external demand for Hong Kong dollars

The above estimates suggest that even if shops in Shenzhen stop accepting Hong Kong dollar banknotes, the effect on monetary conditions in Hong Kong will not be significant as this channel of external demand represents only a small part of total banknotes in circulation.

The demand for Hong Kong dollar banknotes of large denominations by Mainlanders intending to visit Hong Kong is also not likely to be affected by the rising renminbi. Compared with the direct use of renminbi

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35 The launch of renminbi business in Hong Kong may have reduced such demand to a certain extent, as Mainland visitors can carry China union cards to directly withdraw cash in Hong Kong.

36 Daryl Ho, Jimmy Shek and Joanna Shi (2006), "External Demand for Hong Kong Dollar Currency (revisited)", *HKMA Quarterly Bulletin*, March 2006.

banknotes in Hong Kong for making payments, Hong Kong dollar banknotes of larger denomination are more convenient for Mainland visitors to carry when they travel to Hong Kong. The same convenience factor also implies the demand for Hong Kong dollar banknotes in third markets, other than the Mainland, is unlikely to be affected significantly.

As to the impact of Hong Kong dollar currency being repatriated from the Mainland to Hong Kong, it is possible the redemption of Certificates of Indebtedness (CIs) in exchange for US dollars could occur if banks consider their holdings of Hong Kong dollar currency too large. The repatriation can be considered as either an unexpected shock or a structural change to cash demand.

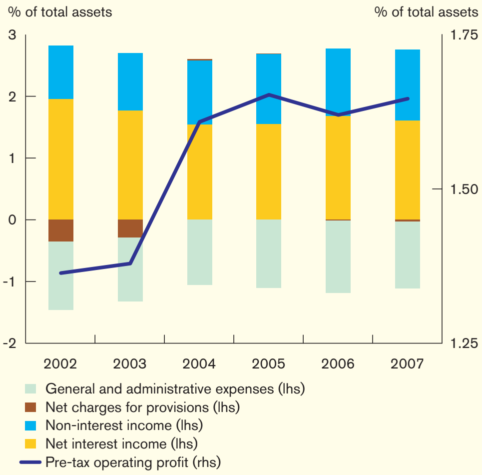
The HKMA has developed a simple statistical tool for monitoring shocks to cash demand that cannot be explained by trend or seasonal factors, which indicates that so far there have not been any very visible shocks or structural changes in the demand for Hong Kong dollar cash. However, anecdotal evidence suggests the demand for Hong Kong dollar banknotes of small denominations has declined on the Mainland, while the demand for the larger denominations has increased.

The impact of the repatriation on the Hong Kong dollar market exchange rate and interest rates is likely to be minimal. Under the present monetary arrangements, CIs and the Aggregate Balance are not transferable and changes in one would not affect the other: CIs are issued or redeemed at a fixed exchange rate of 7.8 and do not pay any interest, while only foreign exchange operations of the HKMA will materially change the Aggregate Balance to affect market exchange rate and interest rates. Therefore, market exchange rate and interest rates will not be affected by the issuance or redemption of CIs.

Banking sector performance

The profits of retail banks continued to grow, with a broad-based improvement in incomes outpacing the increase in general and administrative expenses. Capitalisation and liquidity remained strong, and asset quality further improved, although some signs of a modest deterioration in the quality of credit card lending appeared. High liquidity due to capital inflows, coupled with limited lending opportunities, has contributed to further intensification of price competition, in particular in the mortgage market, increased holding of debt instruments and expansion of unsecured consumer loans. In this environment, banks need to closely monitor the basis risk arising from a possible reversal of capital flows and interest rate movements, and the risk related to personal insolvencies.

Chart 3.11
Profitability of retail banks



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

3.5 Profitability and capitalisation

Profitability

Retail bank profitability, measured by pre-tax operating profit as a percentage of total assets, improved in the six months to March 2007 (Chart 3.11). Underpinning this was growth in both net interest income and non-interest income, and a net write-back of provisions in the fourth quarter of 2006[37]. These more than offset higher general and administrative expenses arising from a significant increase in staff and rental expenses.[38]

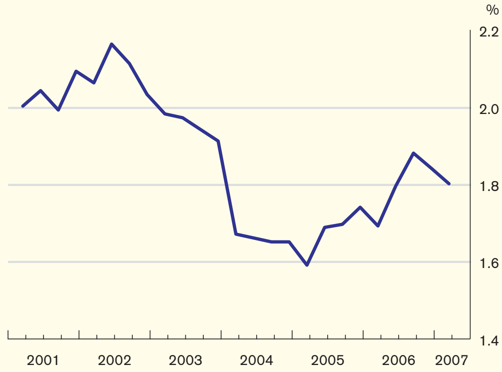
The increase in net interest income was due mainly to a general expansion of interest-bearing assets, including loans and advances to customers and negotiable debt instruments (other than negotiable certificates of deposits) held, which outweighed the decline in net interest margins since the fourth quarter of 2006.

For non-interest income, the increase was partly due to the strong rise in trading income in the second half of

37 Retail banks recorded net write-backs of provisions in the fourth quarter of 2006 but impairment charges in the first quarter of 2007. As a whole, for the six months ending March 2007, the net charges for debt provisions decreased significantly compared to that of the preceding six months ending September 2006.

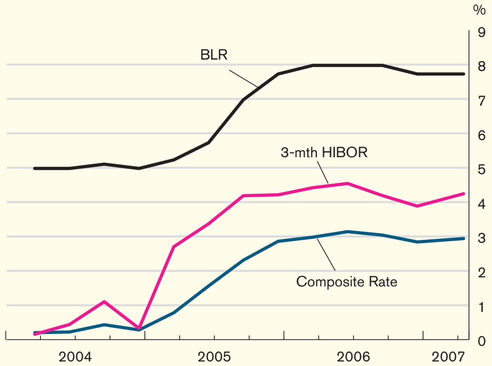
38 The increase in staff expenses was attributable to both general pay rises and additional employment due to business expansion, with the nominal payroll and the number of persons engaged in the banking industry increasing by 16.4% and 7.3% respectively in the second half of 2006.

Chart 3.12
Net interest margin of retail banks



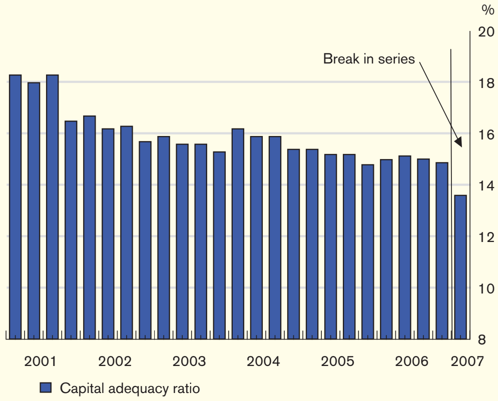
Note: Quarterly annualised figures.
Source: HKMA.

Chart 3.13
Composite interest rate



Note: End of period figures
Source: HKMA.

Chart 3.14
Capitalisation of locally-incorporated AIs



Source: HKMA.

2006. As banks are inevitably exposed to different market risks when they are engaged in trading activities, it is important to monitor whether excessive risk is being taken. Box 8 provides a review of market risk-related activities in the local banking sector, based on annual reports of locally incorporated banks. It suggests that some banks increased the level of risk-taking in the past year, while the risk-adjusted performance of market risk-related activities improved.

Net interest margins narrowed since the last assessment (Chart 3.12). While interest margins from HIBOR-based lending of banks widened as a result of higher HIBORs, lower interest margins earned from Best Lending Rate (BLR)-priced lending put pressure on banks' overall interest margins. The lower margins were due to the 25 basis-point cut in the BLR in November 2006 against a relatively stable cost of funds of retail banks and intensification of price competition in the mortgage market. During the assessment period, the three-month HIBOR increased by 23 basis points (from the end of October 2006 to the end of April 2007), partly due to buoyant stock market activities, particularly IPOs[39], while the BLR decreased by 25 basis points.[40, 41] The composite interest rate, which reflects the average cost of funds of retail banks, was down by seven basis points (Chart 3.13).

Capitalisation

With effect from 1 January 2007, a revised capital adequacy framework ('Basel II') was introduced for locally incorporated authorized institutions (AIs). The numbers from March 2007 are therefore not directly comparable with those up until December 2006. The aggregate consolidated capital adequacy ratio of locally incorporated AIs stood at 13.61% at the end of March 2007 (Chart 3.14), which was strong and well above the minimum international standard of 8%.

39 HIBORs, in particular those with short-term maturity, were affected by initial public offering (IPO) activities in the stock market, as demand for short-term funds in the market increased for stock subscriptions.

40 Best lending rate (BLR) refers to the rate quoted by The Hongkong and Shanghai Banking Corporation Limited.

41 Banks downward adjusted their BLRs and savings deposit rates by 25 basis points on 7 November 2006.

Box 8
Market risk of banks in Hong Kong

The market risk of financial institutions has attracted increased attention from investors and regulators in recent years, as the risk level of global banks (measured by the value-at-risk (VaR)[42] of their portfolios) has risen in general since 2002, along with marked increases in trading activities and revenues.[43] This is despite the relatively low volatility environments in major financial markets, which are conducive to lower VaR values. Banks in Hong Kong are no exception, with their trading incomes growing significantly over the past year.[44] An increase in market risk-related activities is normally accompanied by a higher market risk that has implications for banking stability.

Public information on the market risk of banks in Hong Kong is scant. However, some useful data can be found from the published accounts in the annual reports of locally incorporated banks.[45] Based on this information, this article provides some broad assessments of market risk of banks in Hong Kong. A survey of the annual reports of banks reveals that, of the 24 locally incorporated banks in Hong Kong[46], 15 disclosed quantitative information about their market risk-related

[42] VaR is a common tool adopted by regulators and market practitioners to measure the maximum loss of a portfolio that could arise from market risk, which may occur with a given level of confidence over a certain horizon. VaR statistics are commonly reported by financial institutions at the 99% confidence interval over either a 1-day or 10-day horizon.

[43] For example, in 2006, for a group of five large global investment banks, the average trading revenue and VaR increased by 54% and 24% respectively. The respective figures for a group of six large global banking groups were 23% and 7%. See Fitch Ratings (2007) "Securities Firms: YE06 Peer data".

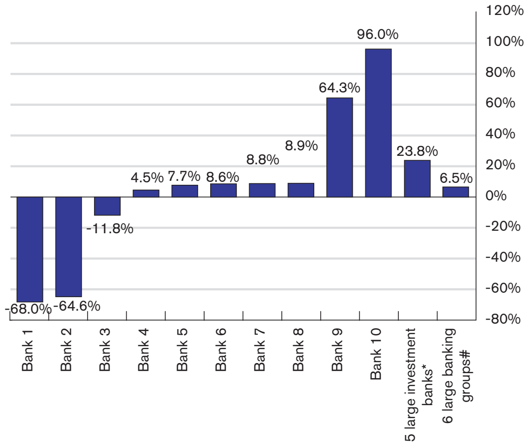
[44] At the same time, major investment banks and large banking groups have reported favourable results from their market-risk related businesses. In general, they attained improved risk-adjusted performances as indicated by higher values of the revenue to VaR ratios.

[45] According to the Supervisory Policy Manual "Financial Disclosure by Locally Incorporated Authorized Institution (AI)" (FD-1), all locally incorporated AIs that have material market risk arising from the trading book are expected to contain quantitative disclosures about the market-risk-related activities in their annual accounts.

[46] As of April 2007.

activities in their 2006 annual reports, while the rest did not have material market risk-related exposures.[47] The average daily revenue attained from market risk-related activities in 2005 and 2006 and their standard deviations are reported. Ten of the banks further disclosed their internal VaR estimates and, among them, seven provided breakdowns of the VaR by different risk exposures (for example, foreign exchange, interest rate, equity, and credit risks). Banks disclosing market risk-related information are mainly large banks or banks that have material market risk-related activities. As such, the sample covers most local banks that have material market risk-related exposures and should be representative of the industry.[48]

Chart B8.1
Percentage change in VaR from 2005 to 2006



Notes: * Based on Fitch (2007): Average of 5 large investment banks, including Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley.

Based on Fitch (2007): Average of 6 large banking groups, including Bank of America, Citigroup, Credit Suisse Group, Deutsche Bank, JPMorganChase, and UBS.

Sources: Banks' annual reports of 2006; Fitch (2007); HKMA staff calculation.

An increase in market risk for some local banks

Largely in line with the global trend, the level of risk-taking of some local banks in Hong Kong is found to have increased in 2006. As shown in Chart B8.1, seven of the 10 local banks disclosing their VaR reported an increase in their VaR in the past year, while only three reduced their market risk exposures. Information of the seven banks disclosing their VaRs on different risk exposures showed that interest rate risk generally remained the major market risk.

How has the strategy of taking larger market risk fared?

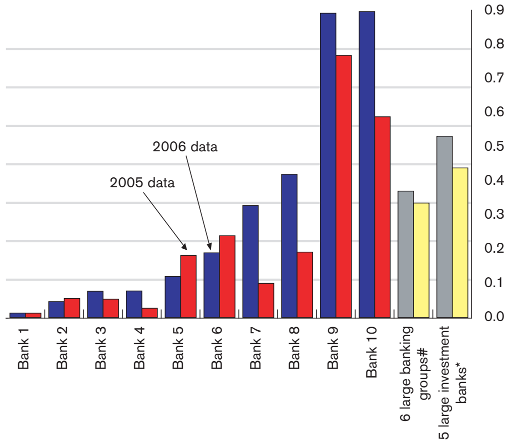
In this section, two commonly used measures of the risk-adjusted performance of banks are adopted. The first is the VaR efficiency, which is defined as the ratio of average daily revenue earned from market risk-related activities to its average 1-day 99% VaR.[49] In essence, the

[47] While most banks refer market risk-related activities to banks' activities in their trading books, it is worth pointing out that some non-trading portfolios are also marked-to-market and included in the market risk-related activities by some large banks. Their reported revenues or risks arising from market risk-related activities are not restricted to the returns and risks arising from their trading book activities. Because of this, we adopt the term "market risk-related activities" instead of using the narrower term "trading activities".

[48] However, it should be pointed out that data reported in annual reports reflect the consolidated position of banks, which includes the market risk positions of their subsidiaries and overseas offices.

[49] For those banks that reported the VaR in different time horizons or confidence levels, their VaRs are converted into 1-day 99% VaR by assuming a normal distribution. All VaR statistics that are denominated in foreign currencies are converted into Hong Kong dollars by using year-end exchange rates.

Chart B8.2
Risk adjusted performance (VaR efficiency) of banks

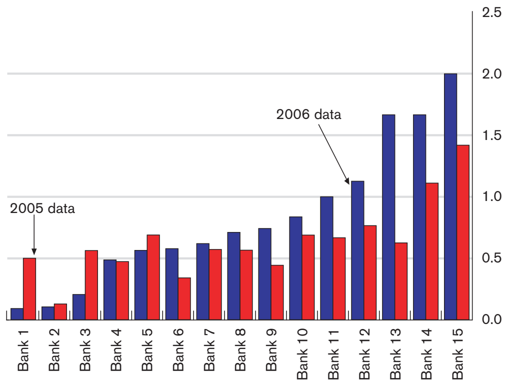


Notes: * Based on Fitch (2007): Average of 5 large investment banks, including Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley.

\# Based on Fitch (2007): Average of 6 large banking groups, including Bank of America, Citigroup, Credit Suisse Group, Deutsche Bank, JPMorganChase, and UBS.

Sources: Banks' annual reports of 2006; Fitch (2007); HKMA staff calculation.

Chart B8.3
Risk adjusted performance (Sharpe ratio) of banks



Sources: Banks' annual reports of 2006; HKMA staff calculation.

return arising from market risk-related activities is adjusted for the level of risk-taking which is measured by VaR.[50] Reported results of banks showed that most of them (seven out of the 10 banks disclosing their VaR) had achieved higher VaR efficiency in 2006, indicating a general improvement in the risk-adjusted performance of banks on market risk-related activities (Chart B8.2). This is largely in line with the global performance.[51]

While this VaR-based ratio is popular, it is an imperfect measure and is subject to various limitations such as the model risk of the VaR estimates.[52] To complement this, a second measure – the Sharpe ratio[53] – which is defined as the ratio of average daily revenue earned from market risk-related activities to its standard deviation, is also considered.[54, 55] Similar to the results obtained from the VaR efficiency, a majority of banks (11 out of the 15 banks, see Chart B8.3) recorded a higher Sharpe ratio in 2006, indicating that banks in Hong Kong were generally more able to turn risk into revenue during the past year than a year earlier. Reported results showed banks that outperformed their peers in terms of the Sharpe ratio in 2005 also achieved significant improvements in their Sharpe ratio in 2006. This suggests there may be factors other than business strategy and market movements that

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50 For details, see Fitch Ratings (2007).

51 For a group of five large global investment banks, the average VaR efficiency increased from 43.9% in 2005 to 53.2% in 2006. The respective figures for a group of six large global banking groups were 33.6% (in 2005) and 37.1% (in 2006). For details, see Fitch Ratings (2007).

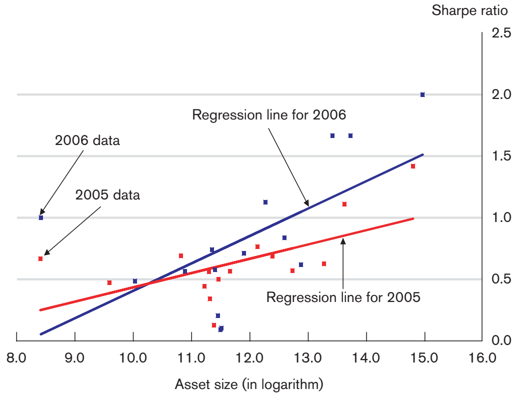
52 For a detailed discussion, see Box 3 "Trading revenues and Value-at-Risk", *Financial Stability Report*, July 2006, Bank of England.

53 The ratio of the average daily trading revenue to its standard deviation is referred to as the Sharpe Ratio in some related studies (RiskMetrics Group (1999), "Risk Management: A Practical Guide"; Jorion, Philippe (2005), "Bank Trading Risk and Systemic Risk", working paper (no. 11037), National Bureau of Economic Research). We follow their practices and use the same term in this study. However, it should be noted that the Sharpe ratio is originally defined as the ratio of the excess return to its standard deviation. The Sharpe ratios so defined are not comparable to the one used in this study.

54 Revenue variability (measured by the daily standard deviation of revenue) of portfolios is a common indicator of banks' market risk. See for example, Standard and Poor's (2007) "Request for Comment: Risk-Based Framework for Assessing the Capital Adequacy of Financial Institutions". Banks' portfolios that contain significant portions of financial assets of high volatility and with low degrees of hedging should likely exhibit high revenue variability.

55 One advantage of using the Sharpe ratio is that it enlarges the number of banks covered in the study (from 10 to 15).

Chart B8.4
Relationship between risk-adjusted performance and bank asset size



Sources: Banks' annual reports of 2006; HKMA staff calculation.

could have affected the risk-adjusted performance of banks. It appears that bank size may be one of these factors, which is found to be positively related to the risk-adjusted performance (Chart B8.4). This seems to indicate that economies of scale may exist in banks' market risk-related activities, in that larger banks may have a better capacity for risk diversification.

Comparing the market risk tolerance level with other international banks

One conventional way of assessing the level of a bank's market risk tolerance is by looking at the ratio of a bank's VaR to its tier-one capital.[56] Recent reports by Risk (2004, 2005, and 2006) reveal major global financial institutions that have significant market risk exposures generally have a ratio of less than 0.5%. It is also revealed that the average VaR to tier-one capital ratio for a group of 20 large global banks in 2005 was 0.18% and it moved within a narrow range of 0.17% to 0.2% for the period 2002-2005. By comparison, a majority of banks in Hong Kong which disclosed their VaR values (seven out of 10) had a lower ratio than that of the 20 global financial institutions (0.18%), while three banks reported higher values than the average. However, it should be pointed out that the business mix of local banks may differ significantly from that of banks covered by Risk, so the comparison should be interpreted with caution.

Looking ahead, the general improvement in return on market risk-related activities over the past year and the intense competition in other business lines may raise banks' market risk tolerance level. Whether these developments may lead banks to take a significantly large amount of market risk should thus be monitored.

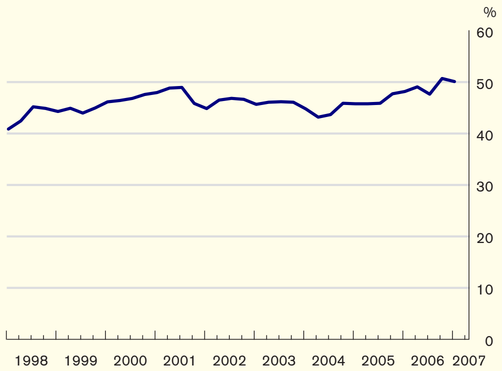
[56] See pages 99 to 102, *Financial Stability Review*, December 2006, European Central Bank; *Risk* (2004), "VaR: Ready to Explode"; *Risk* (2005), "A rise in VaR", and *Risk* (2006), "VaR Breakdown".

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 are sufficiently liquid to fulfil both expected and unexpected financial commitments as they arise.

In 2007 Q1, the average liquidity ratio of retail banks rose further to 50.1%, substantially higher than the regulatory minimum of 25% (Chart 3.15). By March 2007, net placements to banks abroad and debt securities holdings, which are relatively liquid, accounted for substantial portions – some 17% and 24% respectively – of retail banks' total assets.

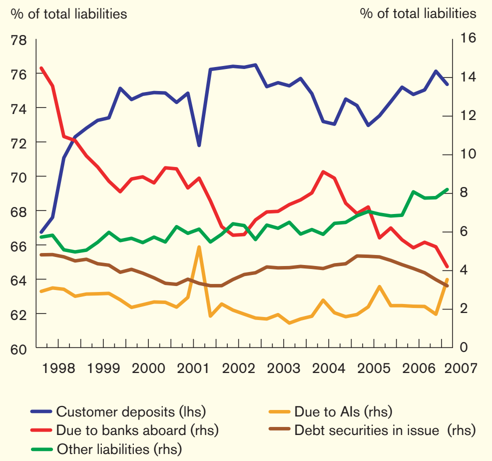
Chart 3.15
Liquidity ratio of retail banks



Source: HKMA.

In addition to holding liquid assets which are a potential source of liquidity, banks can obtain liquidity from the interbank market. Liquidity conditions there form a major determinant of banks' vulnerability to liquidity risk because they govern how easily banks can raise funds with short notice through interbank borrowing. Since the *December Report*, interbank liquidity remained stable. The Aggregate Balance was steady at HK$1.33 billion in April 2007, with small fluctuations due to interest payments on Exchange Fund paper.

Chart 3.16
Liabilities structure of retail banks



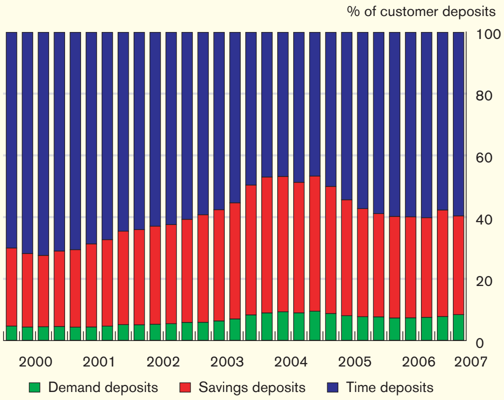
Note: Debt securities comprise negotiable certificates of deposits and all other negotiable debt instruments.

Source: HKMA.

The structure of banks' liabilities is a longer-term factor influencing the degree of liquidity risk. Customer deposits have been the most important funding source of retail banks. Since September 1998 (Chart 3.16), they have accounted for over 70% of retail banks' liabilities. Its share remained steady at 75% in March 2007. A substantial customer deposit base is advantageous for banks' financial strength, since retail funding is typically less expensive and less volatile than wholesale funding.

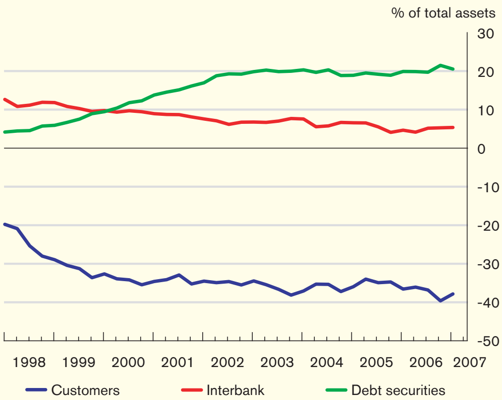
The liquidity risk of retail banks is affected by the composition of customer deposits. Among the different types of deposits, time deposits are usually more stable than savings deposits, which are in turn more stable than demand deposits. Since the *December Report*, the structure of deposits has been stable. While the share of demand deposits rose moderately to 8.3% from 7.4%, partly due to strong activity in the stock market, the share of time deposits dropped slightly to 59.6% in March 2007, from 60.2% in September 2006, and that of

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.

Chart 3.19
Hong Kong dollar loan-to-deposit ratios

Source: HKMA.

savings deposits decreased marginally to 32.1% from 32.3% (Chart 3.17). Looking ahead, however, should US interest rates start to move downwards, as expected by some market participants, substitution may take place 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. This gap in March 2007 was -37.9%, which was further widened from -36.9% in September 2006 (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 liquefiable assets. At the end of March 2007, the Hong Kong dollar loan-to-deposit ratio was at 75.7% for the banking sector as a whole, and at 70.6% for retail banks, compared to 79.1% and 73.1% respectively in September 2006 (Chart 3.19). Such a structure suggests that liquidity risk may not be a major concern.[57]

The extent of 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. As retail banks have a strong customer deposit base, interbank funding does not constitute a significant source of funding. On the other hand, they are net lenders in the market. On the domestic market front, for retail banks as a whole, the amount due to other AIs in Hong Kong accounted for only 3.5% of total liabilities by March 2007 while the amount due from other AIs in Hong Kong contributed to 9.0% of their total assets. The former rose from 2.1% in September 2006, while the latter increased from 7.4%, partly due to IPO activities. Given interbank exposures among AIs in Hong Kong only shared a small portion of retail banks' balance sheets, the contagion risk stemming from interbank exposures in the domestic market is not a significant concern.

[57] The excess in liquidity has, however, caused pressures on profitability. More discussions on the impact of excess liquidity on the banking sector can be found in section 3.7 on interest rate risk.

3.7 Interest rate risk

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.

Chart 3.20
Retail banks' gap of HKD deposits and loans

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

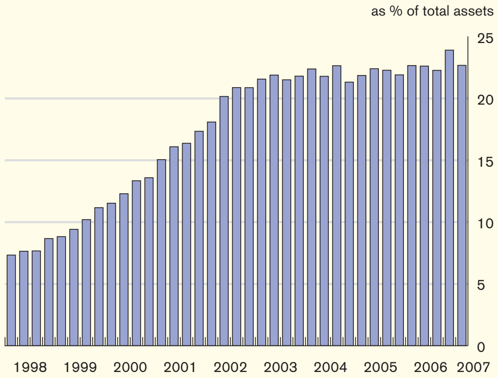
In the *December Report*, we pointed out that some interest rate risks existed from the excess liquidity in the banking sector and possible reversals of capital flows. Such risks appear to have increased since the previous assessment. The gap between Hong Kong dollar deposits and loans of retail banks further widened to HK$717 billion by March 2007, representing some 23.8% of retail banks' Hong Kong dollar assets (Chart 3.20). The recent strong growth in Hong Kong dollar deposits, particularly time deposits, may be attributed to inflows of capital. Some of these deposits may be placed by non-Hong Kong residents, which were partly stimulated by increased stock market activities, especially IPOs. Since these deposits may be of short-term maturity and could be less stable than other customer deposits, their nature and maturity should be closely monitored. As such, banks holding a significant amount of these deposits, or with a high proportion of their funds obtained from the interbank market, may be exposed to higher interest rate risk.[58] The interest margins of their loan portfolios funded with these deposits may be squeezed in the event of a tightening in liquidity due to a reversal of capital flows resulting from changes in market sentiment.

Such risk is particularly apparent in the mortgage loan market, as price competition has intensified with the abundance of liquidity. The latest surveys on residential mortgage lending reveal that a major portion of new loans approved was priced at more than 2.5% below the BLR.[59] This implies an effective mortgage rate of less

[58] It should be noted that in the event of a large scale outflow of funds from the system, not only banks with these deposits will be subject to interest rate risk. If interbank interest rates rise as a result this could have system-wide implications.

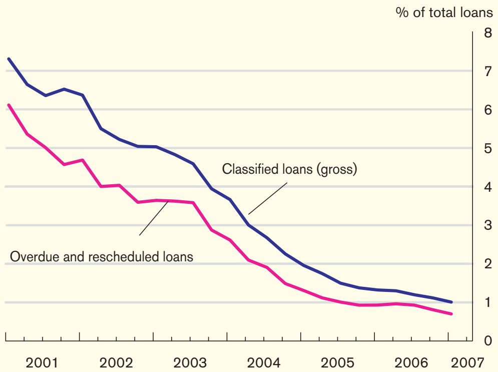
[59] Market information showed that the new loans were usually priced at BLR minus 2.75% to 3.0%.

Chart 3.21
Negotiable debt instruments held by retail banks



Source: HKMA.

Chart 3.22
Asset quality measures of retail banks



Source: HKMA.

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

	Quarter-on-quarter % changes				Share of total (%)
	Jun-06	Sep-06	Dec-06	Mar-07	Mar-07
Loans for use in Hong Kong[1]	**2.8**	**1.5**	**-1.4**	**7.6**	
Of which:					
Trade financing	10.1	4.9	-4.7	-1.0	6.6
Mortgages[2]	-0.6	-0.5	0.3	-0.1	26.0
Manufacturing	3.7	-5.4	-2.5	2.6	4.6
Transport and transport equipment	5.5	-2.3	-1.9	2.9	5.5
Electricity and gas	14.9	-1.9	-4.5	-18.4	1.2
Information technology	-8.0	6.5	-19.4	30.8	1.1
Building, construction, property development and investment	5.7	-0.9	4.1	0.9	21.7
Wholesale and retail trade	1.9	0.1	2.1	2.8	4.7
Financial concerns[3]	-1.3	4.7	-2.5	12.4	9.1
Stockbrokers	-6.0	620.6	-82.5	959.5	3.9
Credit card advances	2.4	2.5	11.9	-6.8	2.7

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.

than 4.75% to 5%. With HIBORs currently hovering around 4.5%, the risk buffer for banks relying heavily on interbank placements for funding appears to be small.

For the hybrid HIBOR-based products in the mortgage market that are priced with a BLR-based cap, banks ultimately bear the basis risk as if the loans are priced on the BLR. With the 25 basis-point cut in the BLR on 7 November 2006 and recent rises in HIBORs, the possibility of borrowers exercising the "option" has increased. If there is a further significant increase in HIBORs with BLRs increasing at a more moderate rate, the interest rate margin for these hybrid HIBOR-based loans would be affected.

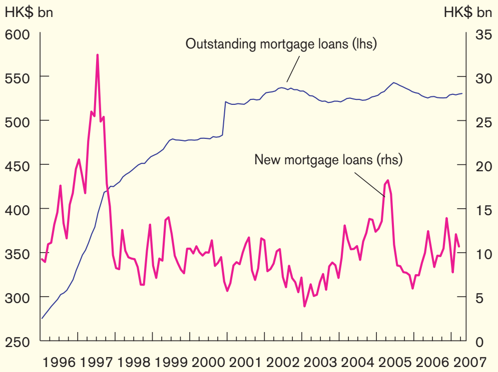
With ample liquidity in the banking system, retail banks have also further increased their portfolio allocation to fixed-income securities (Chart 3.21), which are subject to interest rate risk.

3.8 Credit risk

The asset quality of the banking sector continued to improve during the six months to March 2007. The proportion of classified loans and that of overdue and rescheduled loans in total loans reached a record low. This is in line with the continued growth of the domestic economy, which has supported corporate profitability and household income. The classified loan ratio further improved to 1.00% from 1.19%, while the overdue and rescheduled loan ratio decreased to 0.69% from 0.92% (Chart 3.22).

Domestic lending resumed its growth in the first quarter of 2007, expanding by 7.6%, after decreasing by 1.4% in the fourth quarter of 2006. Growth in loan demand in different economic sectors has been mixed (Table 3.B). Property-related loans generally increased in the fourth quarter of 2006, but were mixed in the first quarter of 2007. Of this, credit for building, construction, property development and investment increased by a moderate 0.9% in the first quarter of 2007, after expanding by 4.1% in the preceding quarter. The outstanding stock of residential mortgage loans fell slightly in the first quarter of 2007, after edging up by 0.3%, as new loans, which

Chart 3.23
Outstanding and new mortgage loans of surveyed AIs



Note: The marked jump in the outstanding mortgage loans in late-2000 reflected a change in the coverage of banks in the survey.
Source: Monthly Survey of Residential Mortgage Lending.

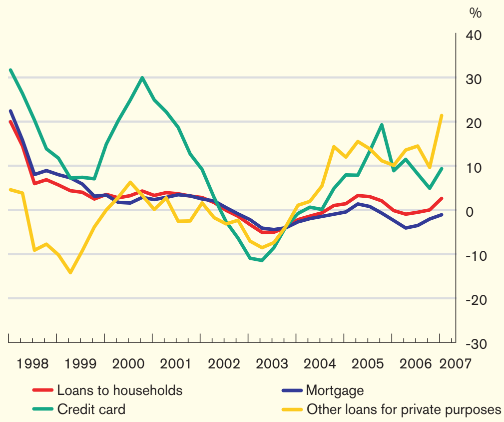
have been stable in recent months, were more than offset by repayments on existing mortgage loans (Chart 3.23). Overall, the share of property-related loans in total domestic lending declined to around 47.6% in March, from 49.5% in the *December Report*.

Among other sectors, lending to stockbrokers and financial concerns registered substantial growth of 959.5% and 12.4% respectively in the first quarter of 2007, largely due to increased stock market activities. Lending to information technology, transport and transport equipment, wholesale and retail trade, and manufacturing sectors also recorded significant growth. By contrast, loans to the electricity and gas and trade finance sectors, and credit card lending registered declines.

Household exposures

Loans to households accounted for 36.2% of loans for use in Hong Kong in March 2007.[60] The share has dropped steadily since September 2002. Mortgage lending accounts for a major proportion of loans to households, while the remainder comprise mainly unsecured lending via credit cards and other personal loans for private purposes. By the end of March, 76.7% of loans to households were used to finance residential properties, which declined from 78.4% in the previous Report.

Chart 3.24
Annual growth of lending to households by AIs



Source: HKMA.

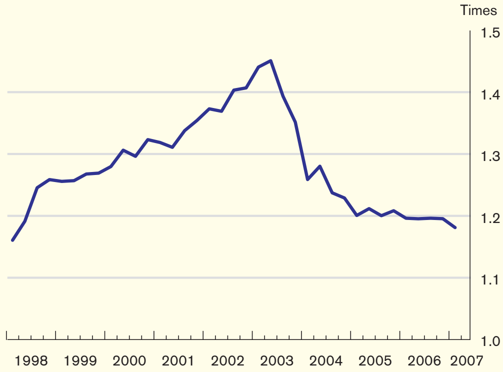
Loans to households increased by a year-on-year 2.7% in March, after declining by 0.4% in September 2006 (Chart 3.24), due to a strong growth in other personal lending for private purposes and credit card lending.[61] In sharp contrast to the marked increase in unsecured household lending, residential mortgage loans continued to decrease. 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 23.3% in March 2007, from 21.6% in September 2006. This indicates that the trend for banks to seek profit opportunities by expanding more of their businesses on unsecured consumer lending has continued. In general, this type of lending has a higher credit risk compared with other secured lending such as mortgage loans.

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

61 This was despite some transfers of rescheduled receivables outside the credit card portfolio.

However, this may not be a problem if the loans are priced correctly.[62]

Chart 3.25
Effective housing capital gearing ratio



Source: Staff estimates.

The various factors affecting the asset quality of banks' exposure to the household sector have improved since 2006 Q3. The rebound in property prices in recent years has strengthened the balance sheets 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 2005 and was steady in 2006. As residential property prices have picked up gradually since December 2006, the gearing ratio further improved to 1.18 in March 2007 (Chart 3.25).

In this issue, two broad indicators are introduced to assess the household sector debt burden. The first is the household debt-servicing ratio and the second is household debt leverage. In general, a higher debt-servicing burden arising from either a drop in household incomes, or an increase in interest rates, or due to an increase in the leverage of households, may lead to a deterioration in the asset quality of household debt. However, because of the absence of some required data, in particular details of household incomes and repayment information on unsecured consumer lending[63], it is difficult to construct a comprehensive ratio. Given this, a more restricted index covering only the debt-servicing ratio for new mortgages is calculated for monitoring the debt-servicing burden of mortgagors over time.[64] Note that this can best serve as a rough

[62] Correct prices can help mitigate the losses should they incur.

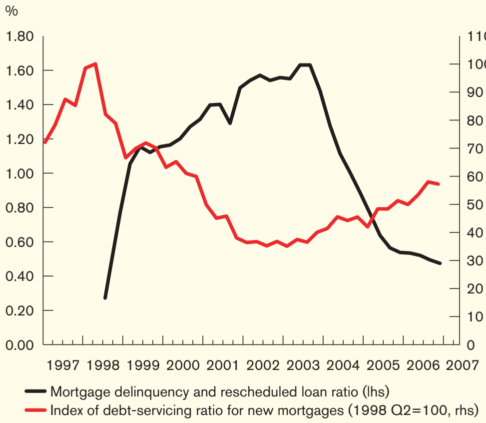
[63] For example, for revolving debt, the repayment may be subject to some required minimum payments. The amounts usually vary with product types. In addition, data on the interest rate charged and remaining maturity for closed-end personal loans are not readily available, which precludes an accurate calculation of repayment of personal loans.

[64] The debt-servicing ratio is defined as the ratio of monthly mortgage payment to median monthly household income. The median monthly household income of households residing in private permanent quarters (excluding those households residing in public rental flats and government subsidised sale flats) is used for the calculation. For the monthly mortgage payment, it is calculated based on information extracted from the monthly residential mortgage lending survey conducted by the HKMA. In particular, the average amount of new loans drawn down, the average contractual life (months) of new loans approved and an estimated effective mortgage rate based on interest margins on new loans approved are used. The debt-servicing ratio is presented by an index where 1998 Q2 is chosen as the base.

partial indicator only, and it is derived with a high degree of approximation. Nevertheless, the ratio should still be useful in assessing household credit risk, given that residential mortgage repayments generally account for a major portion of the household debt-servicing burden.

Historical movements of the debt-servicing ratio for new mortgage loans and the asset quality of mortgage loans indicate that the ratio can be used as a rough leading indicator. For instance, the sharp rise in the problem loan ratio (measured by the sum of delinquency and the rescheduled loan ratios) from the second half of 1998 to the first half of 2003 to an extent reflects the deterioration of the loans underwritten around 1997-1998 which, in general, had a high debt-servicing ratio[65]; and the improvement in the problem loan ratio since the second half of 2003 was consistent with the decline in the debt-servicing ratio since the second quarter of 1998. At its current level, the debt-servicing burden of households arising from mortgages is significantly lower than that preceding the Asian financial crisis (Chart 3.26).

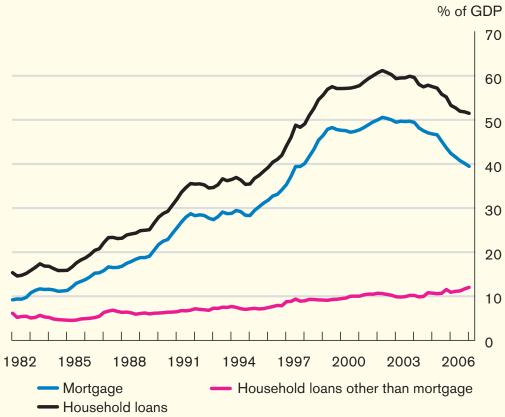
Chart 3.26
Household debt-servicing burden of new mortgages



Source: Staff estimates.

For household debt leverage, a commonly used indicator is the ratio of household debt to GDP.[66] The debt-to-GDP ratio reached its recent peak at around 61% by the second quarter of 2002, reflecting the increase in residential mortgage lending before the Asian financial crisis and the slowdown in economic activity after the crisis (Chart 3.27). With the economy recovering from 2004, the household debt leverage has since declined. By the end of March 2007, the debt-to-GDP ratio had fallen to 52%, which was lower than the average of many mature banking markets in 2005 (58%).[67]

Chart 3.27
Household debt leverage



Source: Staff estimates.

[65] Since data for the median household income of households residing in private permanent quarters are not available before 1998, the median household income used to calculate the debt-servicing ratio in 1997 is assumed to be the same as that of the first quarter of 1998 (= HK$24,000).

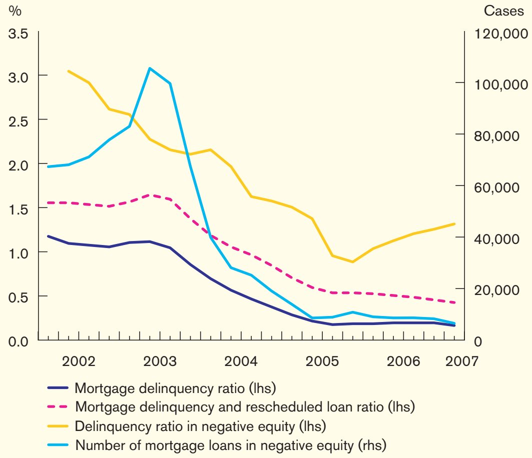
[66] The ratio is widely adopted for assessing the vulnerability of household sector debt, in particular for country comparisons. See, for example, International Monetary Fund (2006a), "Household credit growth in emerging market countries", *Global Financial Stability Report*; European Central Bank (2006), *Financial Stability Review*, December issue; and International Monetary Fund (2006b), "Financial Soundness Indicators, Compilation Guide".

[67] These include Italy, France, Japan, Germany, Spain, Australia, Ireland, New Zealand, and the United States. For details, see International Monetary Fund (2006a).

However, in recent quarters the debt-servicing burden and the debt-to-GDP ratio have shown mixed trends. In particular, the debt-servicing ratio has increased since 2003 Q1, partly due to higher effective mortgage rates stemming from the tightening of US interest rates and the recent rise in property prices. If property prices rise further in the coming months and the rapid expansion of non-mortgage debt continues, how the debt burden in the household sector may be affected should be monitored.

Labour market conditions have continued to improve. The unemployment rate declined to 4.3% in the three months ending April 2007, from 4.6% in the three months to the end of October 2006. The nominal payroll per worker rose by 2.0% in 2006 Q4 year on year. The real payroll per worker, which measures the purchasing power of earnings, also edged up by 0.1% in 2006 Q4, after increasing by 0.3% in 2006 Q3. The median monthly household income remained fairly stable from September to December 2006, after an increase of 4.3% in Q3.

Chart 3.28
Negative equity and mortgage delinquency ratio of surveyed AIs



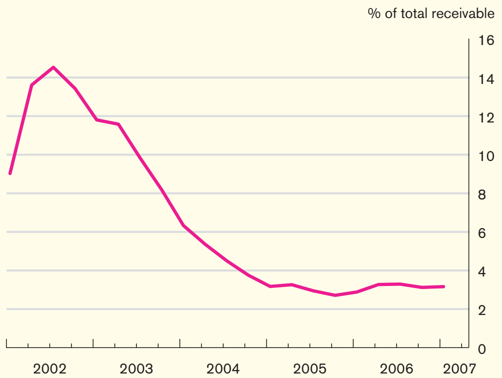
Notes:

1. The earliest available date for the rescheduled loan ratio, delinquency ratio and number of mortgage loans in negative equity are 2001 Q4, 2002 Q2 and 2001 Q3 respectively.
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.

In line with the improving labour market and the steady increase in residential property prices since December 2006, the quality of banks' overall residential mortgage portfolio improved, with the delinquency ratio reaching a record low of 0.17% in April 2007, down from 0.20% in September 2006. The rescheduled loan ratio also fell to 0.26% from 0.29%. Although the delinquency ratio of negative mortgage loans rose to 1.32% in March 2007, from 1.21% in September 2006, the number of negative equity cases continued to fall from 8,813 to 6,679, registering the largest decrease in number since 2006 Q2 (Chart 3.28).

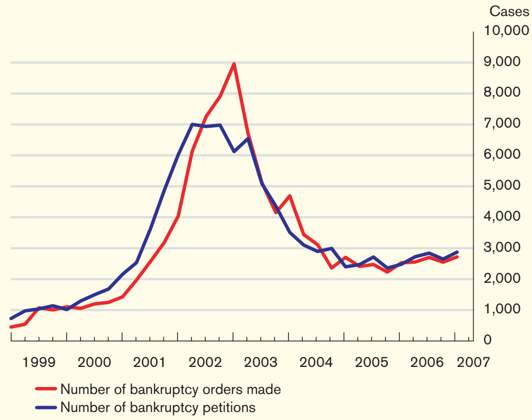
Chart 3.29
Charge-off ratio for credit card receivables of surveyed AIs



Note: Quarterly annualised figures.
Source: HKMA.

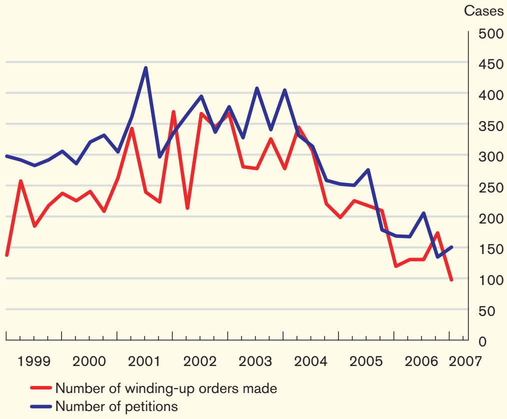
The asset quality of the credit card portfolio was mixed during the six-month period to March 2007. The annualised charge-off ratio edged up to 3.17% in 2007 Q1, after decreasing to 3.13% in 2006 Q4. While the charge-off ratios in the past two quarters were significantly lower than that in 2006 Q3 (3.30%), the decrease may be partly due to a large amount of credit card receivables arising from payments of salary tax using credit cards and festive spending in December (Chart 3.29). It should be noted, however, that the charge-off amounts have increased continuously since 2005 Q3. This coincided with increased numbers of

Chart 3.30
Number of bankruptcies



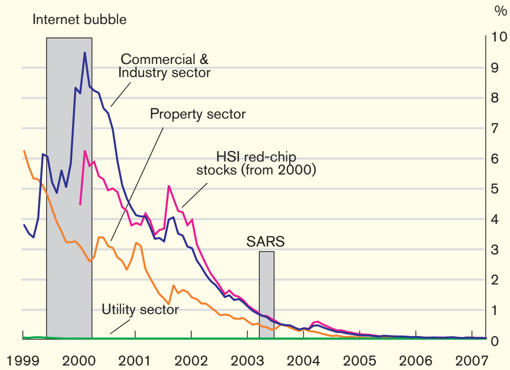
Source: Official Receiver's Office.

Chart 3.31
Winding-up orders and petitions



Source: Official Receiver's Office.

Chart 3.32
Aggregate default probabilities of HSI non-financial constituent companies



Source: Staff estimates.

personal bankruptcy cases, despite benign economic conditions. The numbers of bankruptcy orders made and petitions presented in 2006 increased to 10,324 and 10,685, from 9,810 and 9,933 in 2005 respectively (Chart 3.30). The respective figures for the first four months of 2007 were 3,589 and 3,800, which represent increases of 14% and 16% compared with the same period last year. Further examination is required to see if the lower charge-off ratio in the December and March quarters compared with the September quarter indicates a genuine improvement in the asset quality.

Corporate exposures

In March 2007, loans to corporations accounted for 63.3% of loans for use in Hong Kong.[68] Compared with March 2006, the amount of such loans grew by 16.2%. Generally, loans to corporations are subject to more volatile losses than mortgage lending, which forms the major part of household exposure. A reason for this is that most corporate lending is not collateral-based, and the available collateral is usually not as robust and simple to manage as residential properties.

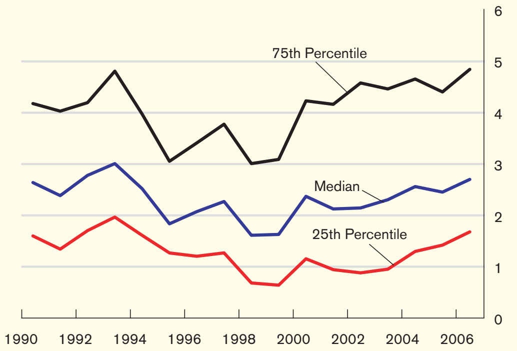
The credit risk of the corporate sector has improved since the *December Report*. The number of compulsory winding-up orders of companies declined by 35% to 552 in 2006, while that of petitions decreased by 29% to 674. In the first four months of 2007, the numbers were 140 and 189 respectively, which were in line with the downward trend (Chart 3.31).

Default probability estimates for the corporate sector obtained from a structural model remained low by historical standards.[69] In April 2007, the aggregate estimate of the Hang Seng Index (HSI) non-financial constituent companies was 0.03%, down further from 0.04% in the previous Report. The estimates for all individual HSI constituent sectors and the red-chip constituent stocks have remained stable since the last assessment (Chart 3.32).

68 Loans to corporations comprise loans and advances for use in Hong Kong except lending to professional and private individuals.

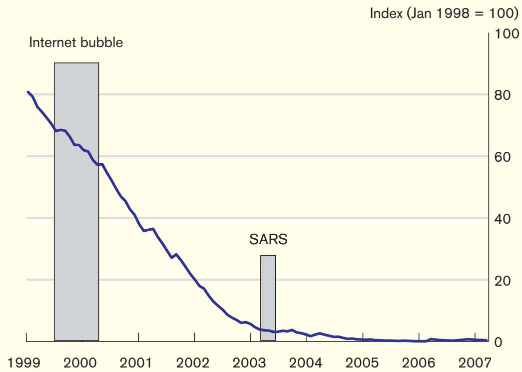
69 Details of the methodology can be found in Yu and Fung (2005), "A Structural Approach to Assessing the Credit Risk of Hong Kong's Corporate Sector", *HKMA Research Memorandum*, http://www.info.gov.hk/hkma/eng/research/RM24-2005.pdf. The approach adopted in this paper can be considered as a point-in-time assessment.

Chart 3.33
Bankruptcy risk indicators of listed non-financial companies: Altman's Z-score



Source: Staff estimates.

Chart 3.34
Multiple default risk index of the banking system in Hong Kong (Jan 1998 = 100)



Source: Staff estimates.

In addition to the structural model approach, which reveals the credit risk of the corporate sector by using stock prices of listed corporations, another approach is to examine an array of financial ratios reported in companies' financial statements. This information can be summarised to a single score to assess the credit risk of corporations. The Altman's Z-score[70] is a typical example of this and is widely adopted by market practitioners. To assess the financial health of the corporate sector in Hong Kong, the 25th percentile, median, and 75th percentile of the Z-score of listed non-financial companies in Hong Kong during 1990-2006[71] are calculated (Chart 3.33). Note that a lower Z-score indicates a higher likelihood of a company default. The time series suggests that the financial health of Hong Kong's corporate sector further improved in 2006. The broad-based improvement, included not only corporations with higher credit quality (75% percentile and median), but corporations with relatively lower credit quality (25% percentile).

The multiple default risk index of the banking system in Hong Kong (Jan 1998 = 100)[72], which serves as an early-warning indicator for systemic risk of the banking system, has declined steadily since 1999, reflecting the economic recovery in Hong Kong and consolidation in the banking sector. The index stayed at 0.4 in April 2007, indicating that the current systemic risk is low (Chart 3.34).

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70 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.

71 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 2006 figures are preliminary and cover only a limited number of companies that had reported their 2006 results by the time of writing. They are subject to revision and should be used with caution.

72 Details of the methodology can be found in Yu et al. (2006), "Assessing the Risk of Multiple Defaults in the Banking System", *HKMA Research Memorandum*, http://www.info.gov.hk/hkma/eng/research/RM06-2006.pdf.

China exposures

The HKMA has recently improved the prudential reporting by AIs on their non-bank China exposures. The major change in the revised reporting framework, which took effect from September 2006, relates to the expansion of the scope of reporting to cover the exposures to non-Chinese entities where credit is granted by AIs for use on the Mainland, and exposures to other Chinese entities which were not specified under the previous reporting criteria.

According to the revised framework, retail banks' aggregate exposures to non-bank Chinese entities increased to HK$454.6 billion (7.4% of total assets) at the end of March 2007, from HK$418.6 billion (7.4% of total assets) at the end of September 2006. For the banking sector as a whole, the total amount of non-bank China exposures increased to HK$600.6 billion (6.2% of total assets) from $535.3 billion (6.0% of total assets). Exposures to companies and individuals for purchasing properties in China increased to HK$20.6 billion at the end of March 2007, from HK$18.2 billion at the end of September 2006.

As exposures to non-bank Chinese entities share a significant 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 HKMA's newly developed macro stress testing framework.[73, 74] A variety

[73] 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.

[74] 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.

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 of real interest rates, and reductions in real property prices.[75]

The stress testing is done by taking the macroeconomic conditions in 2007 Q1 as the current environment, and produces a simulated future path with eight time points covering a two-year period from 2007 Q2 to 2009 Q1. 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.[76] In the baseline scenario, the percentage of credit loss that is expected to prevail in 2009 Q1 (or the mean of the credit loss distribution) is 0.24% of the outstanding loan amount. Introducing the artificial shocks substantially increases the expected percentage of credit loss. For example, it becomes 1.03% in the stressed scenario where Hong Kong's real GDP growth rate is shocked from 2007 Q2 to 2009 Q1.

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	0.24	1.03	0.97	0.59	0.49
VaR at 90% CL[e]	0.54	1.95	1.80	1.22	1.04
VaR at 95% CL	0.74	2.46	2.23	1.60	1.39
VaR at 99% CL	1.29	3.65	3.35	2.74	2.41
VaR at 99.9% CL	2.14	6.14	5.86	4.52	4.14
VaR at 99.99% CL	3.00	8.38	7.75	7.49	6.01

Notes: a) Reductions in Hong Kong's real GDP by 1.7%, 3.9%, 0.8% and 1.1% respectively in each of the four consecutive quarters starting from 2007 Q2.

b) Reductions in real property prices by 4.4%, 14.5%, 10.8% and 16.9% respectively in each of the four consecutive quarters starting from 2007 Q2.

c) A rise of real interest rates by 300 bps in the first quarter, followed by no change in the second and third quarters and another rise of 300 bps in the fourth quarter.

d) A fall in Mainland China's real GDP by 3.0% in only the first quarter (i.e. 2007 Q2).

e) CL denotes the confidence level.

Source: Staff estimates.

Focusing on the tails of the credit loss distributions, Table 3.C shows that even for the 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 4.14% (Mainland China GDP shock) to 6.14% (GDP shock) of the portfolios. The estimated maximum losses are similar to those experienced by the market one year after the Asian financial shock.[77] Nevertheless, the occurrence of such extreme scenarios resulting in the estimated maximum loss and beyond would have a very small probability.

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

76 Baseline scenario is the no-shock scenario.

77 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 loss given default of 70%, and the actual default rates of overall loans at 2.01% in 1997 Q3 and 8.58% in 1998 Q4.

3.9 Foreign currency position

The overall foreign currency position, including both spot and forward, for all AIs stood at HK$43.1 billion at the end of March 2007. In general, the position has been on a downward trend 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.

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

	Mar-06	Dec-06	Mar-07
Interest rate[2]			
1-month HIBOR	3.98	4.05	4.08
3-month HIBOR	4.15	4.05	4.15
BLR[3] and 1-month HIBOR spread	3.77	3.80	3.67
BLR[3] and 3-month HIBOR spread	3.60	3.80	3.60
Composite interest rate	3.00	2.86	3.00
		Retail banks	
Balance sheet developments[4]			
Total deposits	3.7	4.0	4.4
Hong Kong Dollar	5.2	4.6	6.8
Foreign currency	1.6	3.0	0.8
Total loans	-0.1	-2.2	8.4
Loans to customers inside Hong Kong[5]	-0.8	-2.1	8.7
Loans to customers outside Hong Kong[6]	14.3	-3.8	4.5
Negotiable instruments			
Negotiable certificates of deposit issued	-0.5	-7.2	-5.1
Negotiable debt instruments held	6.1	10.0	0.1
Asset quality[7]			
As percentage of total loans			
Pass loans	95.97	96.65	97.11
Special mention loans	2.71	2.24	1.89
Classified loans (gross)[8]	1.32	1.11	1.00
Classified loans (net)[9]	0.95	0.85	0.76
Overdue > 3 months and rescheduled loans	0.92	0.80	0.69
Profitability[10]			
Bad debt charge as percentage of average total assets	0.02	0.01	0.03
Net interest margin	1.69	1.80	1.80
Cost-income ratio	41.1	42.8[r]	39.6
Liquidity ratio[11]	48.2	50.7	50.1
		Surveyed institutions	
Asset quality			
Delinquency ratio of residential mortgage loans	0.19	0.20	0.17
Credit card receivables			
Delinquency ratio	0.40	0.37	0.39
Charge-off ratio — quarterly annualised (adjusted)	2.89	3.13	3.17
— year-to-date annualised	2.89	2.91	3.17
		All locally incorporated AIs	
Capital adequacy ratio (consolidated)[12]	15.0	14.9[r]	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 With effect from 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 outlook for the global economy is one of robust but moderating growth in the near term, with monetary policies in the major economies continuing to be geared towards controlling inflation. In this benign scenario, Hong Kong will be able to maintain healthy growth. Risks include a sharper-than-expected slowdown in US growth and the resultant deterioration in labour market conditions that may lead to heightened protectionism. Renewed and sustained financial market volatility, possibly triggered by a correction in stock markets that have seen sharp increases in prices, could also significantly dampen investor and consumer confidence. However, even if the risks materialise, they are unlikely to pose a major threat to Hong Kong's monetary and financial stability.

Table 4.A
Global growth and inflation 2006-08

(% yoy)	2006	2007F	2008F
IMF			
Global growth[1]	**5.4**	**4.9**	**4.9**
	(5.1)	(4.9)	—
US	3.3	2.2	2.8
Euro area	2.6	2.3	2.3
Japan	2.2	2.3	1.9
Emerging Asia	8.9	8.4	8.0
Global inflation	**3.8**	**3.5**	**3.5**
G-7 economies	2.3	1.7	2.0
Emerging Asia	3.7	3.7	3.2
Consensus Forecasts[2]			
Global growth[3]	**3.9**	**3.3**	**3.4**
US	3.3	2.1	2.8
Euro zone	2.8	2.5	2.2
Japan	2.2	2.2	2.2
North East Asia	8.6	8.2	8.0
South East Asia	5.8	5.4	5.6
Global inflation[3]	**2.8**	**2.5**	**2.5**
US	3.2	2.4	2.3
Euro zone	2.2	1.9	1.9
Japan	0.2	0.1	5.0
North East Asia	1.6	2.6	2.8
South East Asia	7.1	3.9	3.9

Note 1: Global growth and other aggregates are weighted by GDP at PPP 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 2005 GDP at average 2005 exchange rates.

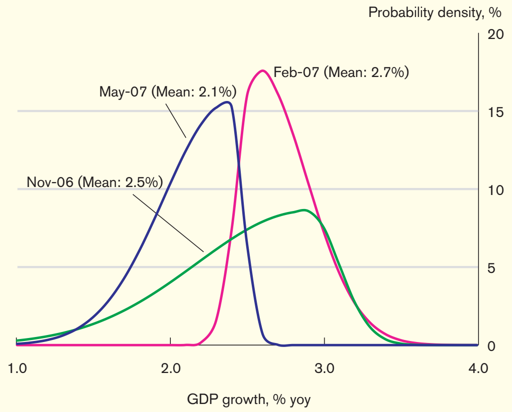
Sources: IMF World Economic Outlook, April 2007 and Consensus Forecasts, May 2007.

4.1 Global outlook

The world economy still looks set for continued robust growth in 2007, notwithstanding the recent bout of financial volatility. While the US economy has slowed more than expected, spillovers have been limited, with growth in other major economies appearing to be well sustained. In its April World Economic Outlook, the IMF maintained its forecast of global growth at 4.9% for 2007, despite moderating from the level in 2006 (Table 4.A). The Consensus Forecasts also project real GDP in 2007 to grow at a more moderate pace than in 2006.

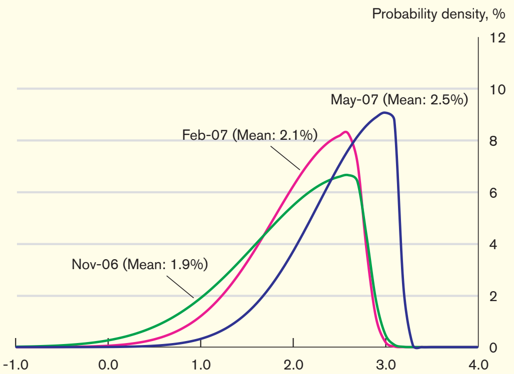
In the US, despite the slowdown, the economy is likely to gather some momentum during the course of the year as the drag from the housing sector dissipates. Reflecting this, the IMF projects real GDP growth to moderate to 2.2% this year, from 3.3% in 2006. The mean of Consensus Forecasts for US growth in 2007 was revised

Chart 4.1
US: probability distribution of growth forecasts for 2007



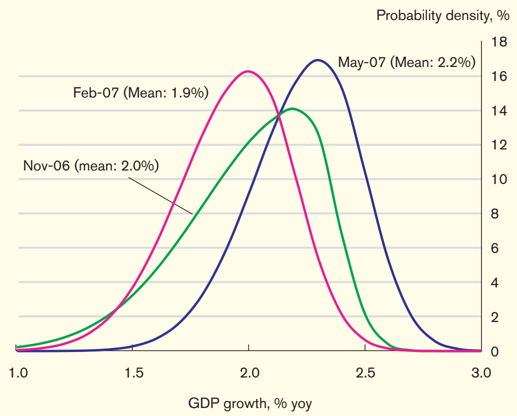
Source: Staff calculations based on Consensus Forecasts.

Chart 4.2
Euro area: probability distribution of growth forecasts for 2007



Source: Staff calculations based on Consensus Forecasts.

Chart 4.3
Japan: probability distribution of growth forecasts for 2007



Source: Staff calculations based on Consensus Forecasts.

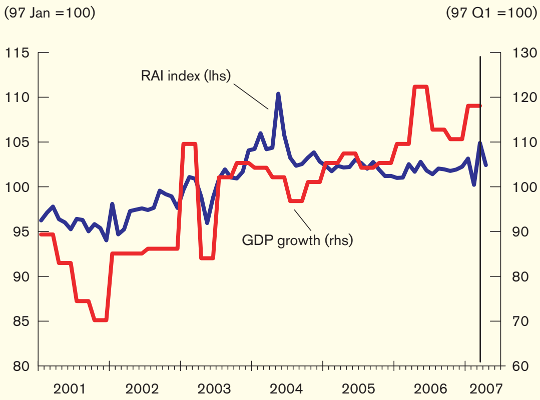
significantly downwards in May to 2.1%, from 2.7% in February (Chart 4.1). Nevertheless, a growth pause in the US appears to be more likely than a recession, as the economy continues to be supported by the robust labour market and strong corporate profitability.

The mean of Consensus Forecasts for euro area growth in 2007 has been revised upward since November 2006 to 2.5% in May this year (Chart 4.2). The mild deceleration reflects in part the gradual withdrawal of monetary accommodation and fiscal consolidation, as well as a lower external contribution to growth. However, activity in early 2007 has been well sustained, despite some cooling in consumption in Germany in the wake of the VAT increase.

In Japan, the mean forecast for growth in 2007 was revised upward to 2.2% in May from 1.9% in February (Chart 4.3). The expansion in Japan is expected to remain on track. A recovery in consumption is likely to offset some cooling of the export sector in view of the anticipated moderation in global growth.

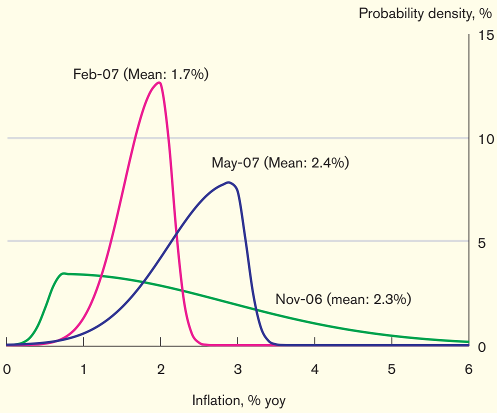
The near-term outlook in Mainland China remains strong on the back of solid external demand, strong corporate profits, and rising household income. However, growth momentum in the coming quarters is likely to moderate somewhat, as the PBoC is expected to continue withdrawing liquidity and probably raising interest rates further. In addition, the government will likely take further measures to curb loan growth, rein in fixed asset investment, and warn investors about the risks on the stock market. Based on data available in May, the HKMA's real activity index (RAI) – a leading indicator to gauge economic activity – suggests the

Chart 4.4
Mainland Real Activity Index (RAI) and GDP growth rate



Source: Staff estimates.

Chart 4.5
US: probability distribution of inflation forecasts for 2007



Source: Staff calculations based on Consensus Forecasts.

Mainland's economic activities may have already moderated in Q2 (Chart 4.4).[78] For the year as a whole, the mean of the Consensus Forecasts in May suggests the Mainland economy will grow by 10.3%, while CPI inflation continues to remain subdued at less than 3%, within the PBoC's comfort zone.

Taking China and other emerging Asian economies as a group, the IMF expected growth to ease from its high level of 8.9% in 2006, but remain strong at 8.4% in 2007, as the region continues to draw support from the benign global financial conditions. Although some moderation in growth is expected in China and India in response to policy tightening, and the NIEs are expected to record slower growth as global demand for exports softens, the ASEAN economies are likely to see a pick up in activity as the effects of earlier monetary tightening dissipate.

Global consumer price inflation is projected by the IMF to moderate to 3.5% in 2007, from 3.8% in 2006, reflecting easing concerns about inflation. For the US, the mean of Consensus Forecasts for CPI inflation in 2007 has been revised upwards to 2.4% from a previous forecast of 1.7% (Chart 4.5). This is still significantly lower than the outturn in 2006, reflecting mainly slowing US growth. However, more recent information indicates the slowdown has not dampened inflation significantly. In the euro area, inflationary pressure has continued to build up. Looking forward, global inflation is expected to remain stable in 2008. The IMF forecasts global consumer price inflation to stay at 3.5% in 2008, while the Consensus Forecasts also project inflation to be maintained at the same level as in 2007.

For the remainder of the year, the performance of financial markets should be well underpinned by sustained global growth and the recent wave of mergers and acquisitions. Under the baseline scenario, risk appetite is unlikely to change dramatically. However, nervousness appears to be growing among investors as to

[78] The index is constructed using eight 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, and the real per-capita household income in the urban area. Details of the methodology can be found in Liu, Zhang, and Shek, (2007), "A Real Activity Index for Mainland China" *HKMA Working Paper* 07/2007.

the sustainability of the current rally. Hence, financial market outlook will also critically depend on how well the Fed will perform the balancing act of controlling inflation in the face of slowing economic activity. On the currencies front, interest rate expectations are likely to continue to dictate the directions of major exchange rates as they have in the past six months. While the interest rate differentials between the US and the euro area are expected to narrow further, the interest rate differentials between the US and Japan are likely to persist in the near term, supporting the continuation of carry trade. Any major surprises are likely to depend on whether policies of leading central banks will corroborate the current expected path of interest rate differentials or decide to change direction.

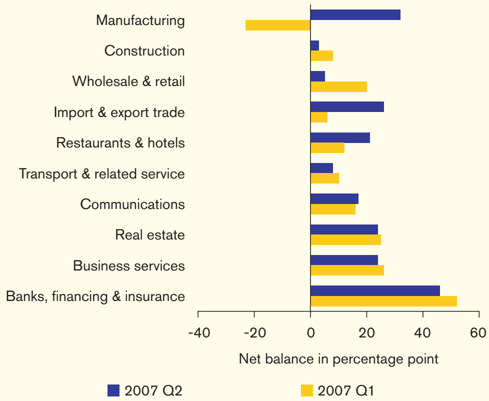
4.2 Domestic outlook

The near-term outlook for the Hong Kong economy continues to be positive. Results of the Quarterly Business Tendency Survey indicate that all the surveyed sectors expect the volume of business and output to rise in 2007 Q2 (Chart 4.6). For all covered sectors taken together, the difference between the percentage of respondents expecting the business situation to be better and those expecting it to be worse increased from 18 percentage points in Q1 to 26 percentage points in Q2. This shows that companies are still upbeat about their near-term business prospects. The Purchasing Managers' Index eased slightly to 52.9 in April from an average of 54.8 in Q1, pointing to continued business expansion. Overall, these indicators suggest healthy real GDP growth in Q2. Market consensus forecasts 5.6% year-on-year real GDP growth in Q2, the same as in Q1.

In the absence of large unexpected shocks, economic expansion will probably remain uninterrupted for the remainder of 2007, although the rate of growth is likely to abate. Market consensus projects a broad-based slowdown of real GDP growth from 6.8% in 2006 to 5.3% in 2007 (Chart 4.7). The slowdown is expected to be more visible in the second half of 2007.

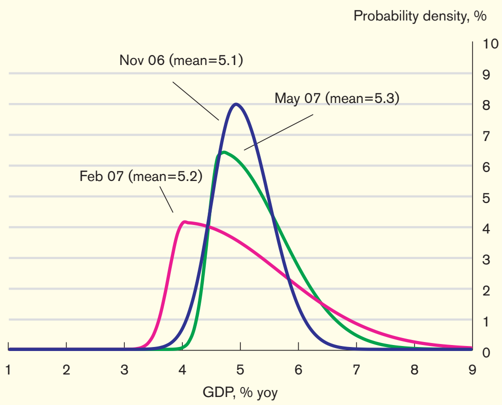
Exports are projected to grow at a more moderate but still commendable pace in 2007. External demand for Hong Kong's exports is likely to be affected by an expected

Chart 4.6
Results of Business Tendency Survey: Views on expected changes in volume of output in 2007 Q1 and Q2



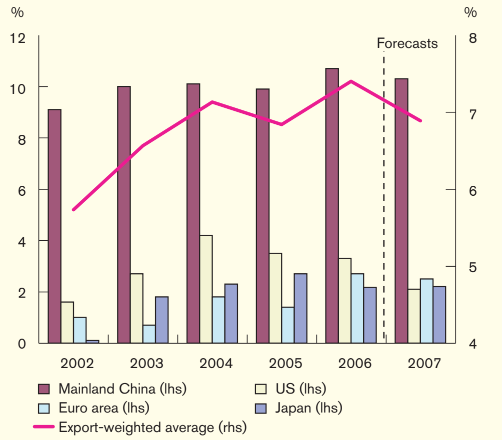
Note: Net balance refers to the difference between the percentage of respondents expecting a rise over those expecting a decline.
Source: C&SD.

Chart 4.7
Hong Kong: probability distribution of growth forecasts for 2007



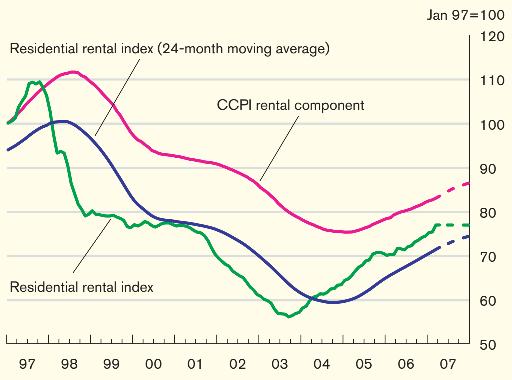
Source: Staff estimates based on market consensus.

Chart 4.8
Growth in Hong Kong's main trading partners



Sources: Consensus Forecasts and staff estimates.

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.

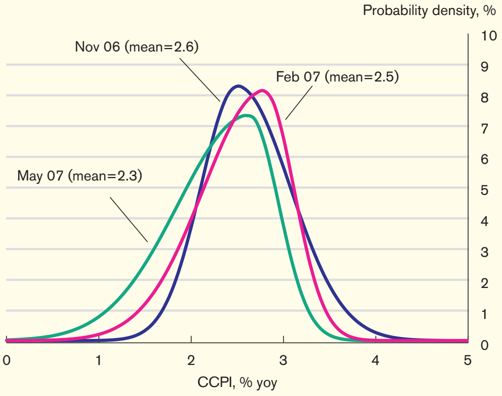
decline in the trade-weighted average output growth of Hong Kong's key trading partners by about 0.5 percentage points in 2007 (Chart 4.8). The continued appreciation of the renminbi is also expected to reduce Hong Kong's re-exports from the Mainland to the rest of the world. The combined impact of a moderating growth in external demand and renminbi appreciation, however, will be partly offset by the depreciation of the US dollar, to which the Hong Kong dollar is pegged under the Currency Board system. The US dollar has depreciated by about 3% so far this year, improving the competitiveness of Hong Kong's exports in international markets.

Domestic demand is expected to sustain robust growth in 2007. Private consumption will continue to be underpinned by low real interest rates, strong consumer confidence and steady wage and income growth amid increasingly favourable labour market conditions. Consumption spending on discretionary big ticket items is likely to be boosted by the wealth and balance sheet effects associated with higher asset prices and in-bound tourists from Mainland China as well. A supportive and stable business environment – characterised by low real interest rates, buoyant asset markets and surging corporate profits – will facilitate fixed asset investments.

The underlying inflationary pressure is expected to increase in 2007 on the back of rising property prices, stronger domestic demand, and further pass-though of external prices. Continued increases in private housing rents will feed through into the CCPI rental component further and remain the major driving force for inflation. Historically, 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). Given the past rise in the residential rental index, even if it stabilises at its current level, the CCPI rental component is projected to increase by 5.3% in 2007, after an increase of 5.0% in 2006. Driven by stronger growth in aggregate demand and favourable labour market conditions, prices of other goods and services are expected to rise, albeit at a moderate rate. Largely reflecting the weak US dollar and the continuous appreciation of the renminbi, the pass-through of external price inflation to domestic CCPI is also expected to accelerate. Our forecast on the CCPI non-rental component, based on the indicator model developed by the HKMA,[79] suggests that this component is expected to increase by 0.9%-1.9% in 2007.

While the underlying inflationary pressure is increasing, a number of budgetary measures (for example, the waiver for two quarters of rates[80]) and one-off special relief measures such as the rent waiver for public housing in February 2007 may also act to dampen the near-term pressures on headline inflation. Perhaps this is the reason why the official headline inflation forecast for 2007 remains subdued. Indeed, taking this effect into account, the Government projected the headline CCPI to increase by only 1.5% in 2007, compared with an increase of 2.0% in 2006. The latest market consensus predicts CCPI inflation to rise by 2.3% in 2007, which appears to place emphasis on the underlying inflationary pressure (Chart 4.10).

Chart 4.10
Hong Kong: probability distribution of inflation forecasts for 2007



Source: Staff calculations based on Consensus Forecasts.

The outlook for the labour market remains positive for the rest of this year. Although the pace of employment expansion may moderate somewhat, the solid expansion in domestic demand and growing inbound tourism are expected to create more new jobs in wholesale/retail trade and the restaurant and hotel sector. The high unemployment rate in the construction sector is expected to improve, following the commencement of a number of large-scale infrastructure projects to be scheduled in the coming years. The construction boom in Macau will continue to provide job opportunities for Hong Kong's construction workers, given the rapid expansion of its gaming and betting industry.

[79] 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.

[80] Rates are one of Hong Kong's indirect taxes levied on properties, which are charged at a percentage of the rateable value (the estimated annual rental value of a property at a designated valuation reference date, assuming that the property was then vacant and to let). For the current financial year 2007/08, the rates percentage charge is 5% and the designated valuation reference date is 1 October 2006.

4.3 Uncertainties and risks

International financial institutions, major central banks, and private sector analysts have maintained a baseline forecast of slower but still robust growth for the global economy. However, confidence in this baseline scenario appears to have waned somewhat, as indicated by the divergence of views. After four consecutive years of strong growth and low inflation, and low volatilities in global financial markets, there has been intense debate on whether this trend will continue, or be replaced with the onset of below-trend growth.

The sustained period of growth and the search for yields might have encouraged less-than-prudent behaviour in financial markets and pockets of excess have begun to surface. One major example is the sub-prime mortgage market in the US. Although problems in this area do not seem to have spilled over to the home loan market more generally, and the fallout on the wider financial system is expected to be limited, there is a risk that foreclosures could lead to weaker home prices and tightening credit standards. In the end, this could affect consumption and investment and cause a sharper-than-expected slowdown in the US economy. Although protectionist sentiment has been contained in the US, reflecting in large part the still healthy labour market conditions, trade frictions may intensify if unemployment rates rise in the event of a sharp and sustained economic slowdown.

A resurgence of financial market volatility would be another important downside risk facing the global economy. The sudden drop in global equity prices in late February and early March 2007 illustrated that shocks can be transmitted between markets with alarming speed; and highlighted increasing contagion risks. Few had expected that a correction in the Shanghai A-share market would trigger a global reaction and there are concerns that market volatility could return. First, carry trades have continued unabated. A larger-scale unwinding of such trades could cause abrupt capital flows and have significant implications for asset prices and financial stability in the recipient economies. Secondly, equity prices in some emerging markets, notably in Mainland China, appear rather stretched. A sharp correction in these markets could again send shock waves to other markets.

The impact these shocks would have on Hong Kong' growth is gauged using the HKMA's small structural forecasting model (See Box 9 for a discussion of the forecasting performance of this model). Assuming a $1^1/_4$ percentage points reduction in the annual rate of growth of Hong Kong's major trading partners, which is equal to one standard deviation of the rate of economic growth in those economies in the past 10 years, Hong Kong's growth would be reduced by $1^2/_3$ percentage points. The impact is significant, given the external orientation of the Hong Kong economy. Assuming a 22% decline in the Hang Seng Index for a year, which is equal to one standard deviation of the annual average changes of the Hand Seng Index in the past 10 years, Hong Kong's growth would be reduced by $^3/_4$ of a percentage point, because of the wealth effect. This analysis shows that a sharp decline in the stock market alone, if not accompanied by a general deterioration in the global economic environment, is unlikely to inflict significant damage to the Hong Kong economy.

The inflation outlook for Hong Kong is contingent upon the effective exchange rate of the Hong Kong dollar and the strength of demand compared with the potential output and the expected path of property prices. If financial market volatility leads to a much weaker-than-expected US dollar, the Hong Kong dollar will also be weaker and Hong Kong's inflation will be higher than expected. Assuming that the Hong Kong dollar nominal effective exchange rate is four percentage points weaker, which equals one standard deviation of the annual changes in the Hong Kong dollar nominal effective exchange rate in the past 10 years, then Hong Kong's CPI inflation will be boosted by $^1/_7$ of a percentage point.

Another important uncertainty facing the Hong Kong economy is the timing and strength of further policy tightening that will be needed to contain the risk of overheating and to stabilise asset prices in Mainland China. However, the probability of a sharp decline in the rate of growth of the Mainland economy is very low, and a moderate slowdown is already incorporated in the scenario that the growth of Hong Kong's major trading partners would decline by $1^1/_4$ percentage points, as discussed above. Also, a large decline in the Hong Kong stock market alone, which could be triggered by a sharp correction in the Mainland stock market, is unlikely to significantly affect Hong Kong's growth prospect.

In terms of financial stability, a durable and broad-based decline in prices of financial assets could expose vulnerabilities in the global financial system. The capital positions of financial institutions may be negatively affected if their risk models are based on assumptions of much lower volatility in the financial markets. Although banks in Hong Kong have built in a large capital cushion, difficulties in one or more large complex global financial institutions will also likely be felt in Hong Kong, because of its status as an international financial centre. Vigilance is therefore warranted to guard against such potential fallout.

Overall, even if the downside risks facing the Hong Kong economy and its financial markets materialise, given the plausible range of parameters of such risks, monetary and financial stability in Hong Kong is not likely to be threatened.

Box 9
Evaluating forecast errors of the HKMA small forecasting model

Economic forecasting is an integral part of the research activities of the HKMA's Research Department. The forecasts represent our views on the future prospects of the Hong Kong economy. In particular, range forecasts with different risk scenarios are often conducted to provide us with an important tool to analyse the impact of certain shocks described in the risks and uncertainties section. In this context, it is useful to understand where forecast errors, which are invariably made, are likely to originate, specifically whether they are principally due to the model itself or whether they can be attributed to assumptions about the external environment of the economy. The following summarises the results of our analysis of the issue.

Methodology

The forecasting work at the HKMA is model-based, which mainly relies on a structural model of simultaneous equations (small forecasting model, SFM) to conduct quarterly forecasts.[81] In general, forecasting errors for model-based forecasts can be decomposed into two types – model errors and assumption errors. Model errors refer to the errors resulting from the equation specification of the model and possibly, the model structure. Assumption errors may arise when the forecasting model in use has to apply a set of assumptions of exogenous variables over the forecasting period. If the assumptions for the exogenous variables deviate from the actual outturns of these variables, they will contribute to the overall forecast errors.

The decomposition of forecast errors is carried out in two steps. In the first step, we conduct one-year-ahead and out-of-sample forecasts for output growth, inflation and unemployment rate using the original assumptions made

[81] The model structure is described in Ha, Jiming, Cynthia Leung, and Chang Shu (2002), "A Small Macroeconomic Model of Hong Kong", *Research Memorandum* 07/2002, and Kong, Janet and Cynthia Leung (2004), "Revised Small Forecasting Model for Hong Kong", *Research Memorandum* 13/2004, Hong Kong Monetary Authority. In SFM, the output forecast is the aggregation of the forecasts of the GDP expenditure components, and the inflation forecast is based on a generalised Phillips curve.

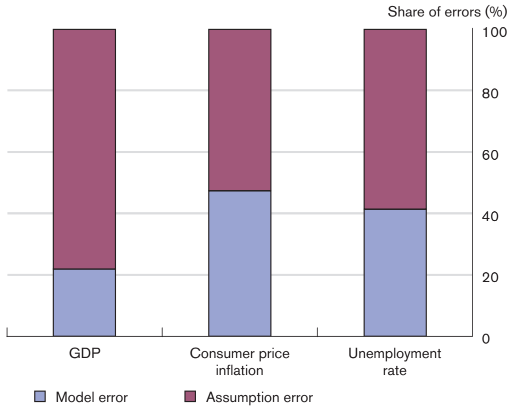
at the beginning of the forecast period. This implies that the forecasts from this step should contain both model and assumption errors. In the second step, we run the forecasts using the ex post realised values of the exogenous variables in the model assumptions. The forecast errors in this run should thus contain the model errors only.

Overall performance of forecasts

We start with evaluating the overall performance of model-based forecasts during 2003-2006. For each year during this period, the model is re-estimated using the available data of the previous year and then used to forecast the endogenous variables of the current year. Three findings emerge from our decomposition exercises:

- First, forecast errors in overall GDP forecasts are smaller than those in the forecasts of GDP components.
- Secondly, forecast errors for variables at annual frequency are less volatile than those for variables at quarterly frequency.
- Thirdly, the overall forecast errors can be in different signs for different periods, which is in line with our expectations. This suggests that there are no systematic drifts or biases in the forecasts.

Chart B9.1
Contributions to total errors



Note: The share of errors is the average performance of annual forecasts during 2003-2006.

Source: Staff estimates.

Sources of forecasting errors

We then decompose the overall forecast errors, based on the above methodology. After decomposing the model errors from those assumption errors and calculating their shares[82], we observe the following:

- The share of forecasting errors due to the model errors are relatively small in the forecasts of overall GDP growth rates, CPI inflation and the unemployment rate in the SFM (Chart B9.1). The assumption errors appear to dominate in the overall forecast errors.

[82] Since the error terms can be either positive or negative, we gauge the contribution to total forecast errors by transforming both model errors and assumption errors into absolute values and examining the share of model errors (*ME*) and assumption errors (*AE*) relative to the sum of the absolute value of these two terms.

- For the model errors, two observations emerge: 1) The share of the model errors at annual frequency are smaller than those at quarterly frequency. 2) The share of the model errors for GDP component forecasts is larger than those for overall GDP.[83]

In conclusion, it appears that the forecast errors of the SFM are mostly due to the assumption errors. Since the assumptions are mainly of foreign origin, the results show that uncertainty about the macroeconomic outlook in Hong Kong is mainly due to events in the rest of the world. This also suggests that conducting sensitivity analyses based on different scenarios is useful for us to account for the impact of external uncertainties on the Hong Kong economy.

[83] This implies there are some offsetting movements across equations, as model errors for aggregate level forecasts are smaller. For example, in a simultaneous equation system, forecasting errors of variable x1 may be due to mis-specification in the equation for variable x2. To reduce such errors, these equations should be estimated simultaneously.

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 10 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
rhs	Right-hand scale
RMB	Renminbi
ROE	Return on equity
RRR	Reserve requirement ratio
Sa	Seasonally adjusted
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