2. Global setting and outlook

Global financial markets initially reacted calmly to the US Federal Reserve's tapering of its large-scale asset purchase programme before concerns over emerging market economies later resurfaced. Prospects for advanced economies have improved, but unresolved structural issues in these economies may constrain global growth, while financial markets would continue to be very sensitive to any sudden changes in the expected paths of monetary policy.

In East Asia, net capital outflows have been mild so far, and there were few signs of foreigners fleeing the markets. Nevertheless, market volatility is likely to remain high as concerns over emerging market economies linger, and capital flows would become more vulnerable to any shocks that could trigger risk aversion.

The Mainland China economy appeared to have embarked on a path of slower but more sustainable growth. There have been market concerns about fast growth in local government and corporate debt, but the authorities have shown their determination to achieve a gradual and orderly reduction in leverage while preventing sharp swings in domestic demand. Monetary conditions have generally tightened, and regulation and supervision over banks' off-balance sheet activities have been strengthened.

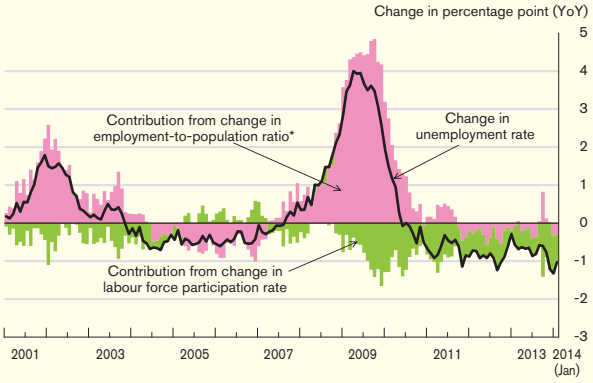
2.1 External environment

The US Federal Reserve has begun to taper its large-scale asset purchase programme, signalling the start of a complex monetary normalisation process. Global financial markets initially reacted calmly, helped by improved prospects for advanced economies and expectations that major central banks would maintain loose monetary conditions for a prolonged period. Nevertheless, concerns over how well emerging market economies can withstand the withdrawal of US monetary stimulus eventually resurfaced. Looking ahead, unresolved structural issues in advanced economies may constrain global growth, while financial markets would continue to be very sensitive to any sudden changes in the expected paths of monetary policy. Indeed the outlook for monetary policy in advanced economies remains highly uncertain, particularly as the forward guidance on interest rate is complicated by the unstable and uncertain relationship between growth, inflation and unemployment.

In the US, activities and employment growth have picked up since the second half of 2013, but structural challenges remain. In particular, the

fall in the unemployment rate has continued to be driven by falling labour force participation rate rather than rising employment-to-population ratio (Chart 2.1). While some of the outflow from the labour force may have been caused by cyclical rather than demographic factors, their increasing number and duration out of work mean there is a risk that these workers could eventually become permanently detached from the labour market. In fact, with the slow pace of labour market improvement having lasted for over 5 years in the US, a structural shift in the Beveridge curve now looks increasingly convincing (Chart 2.2). All these signal a rise in structural unemployment.

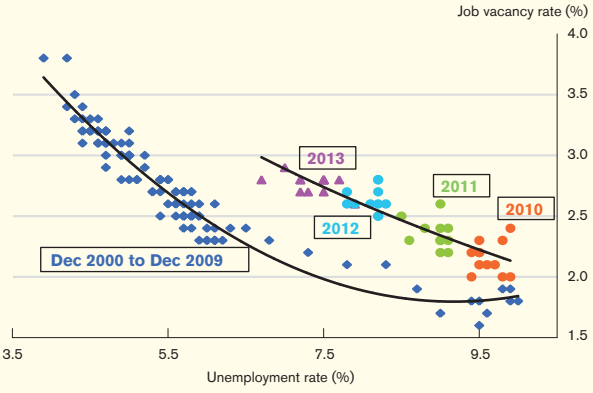
Chart 2.1
US: Decomposition of the unemployment rate



* Positive contribution denotes falling employment-to-population ratio

Sources: CEIC and HKMA staff calculations.

Chart 2.2
US: Shift in the Beveridge curve



Source: US Bureau of Labour Statistics.

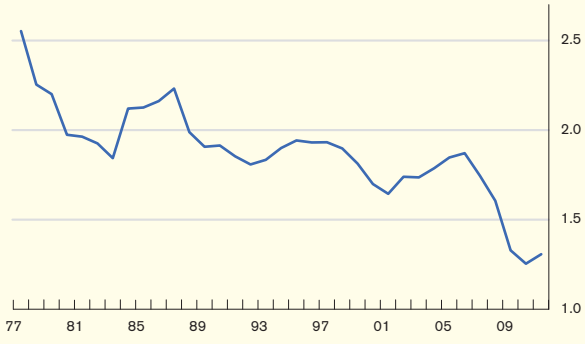
The slow recovery of the labour market may be partly explained by the weak growth in business fixed investment. The latter, together with reduced public infrastructure investment has resulted in slower accumulation of capital (Chart 2.3) which may also have impacted adversely on productivity. Indeed, new business start-up, which has been the key driver of innovation and investment in the US, has nosedived since the global financial crisis despite its marginal pick-up in recent years (Chart 2.4). All of these suggest growth potential of the US economy could turn out to be lower than currently expected. This may have implications for inflation, which could pick up faster than expected, leading to sharper-than-expected interest rate hikes once commenced.

Chart 2.3
US: Net change in capital stock

Note: Net change in capital stock is calculated by subtracting consumption of fixed capital from gross fixed investment for both public and private sectors.

Source: CEIC.

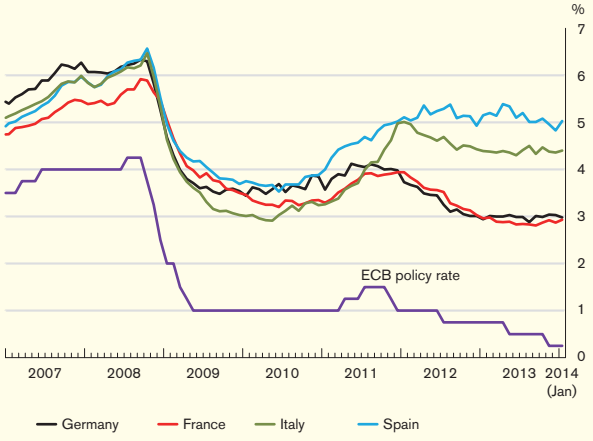
Chart 2.4
US: New business start-up



Source: US Census Bureau.

Across the Atlantic, recovery in the euro area remains broadly on track although growth is expected to remain tepid and structural challenges remain. In addition to high public debt, high private sector indebtedness continues to hamper the monetary transmission mechanism in peripheral countries as banks appear less willing to lend given their weak balance sheets and higher credit risks in the non-bank private sector. As a result, financial fragmentation continues with higher lending rates in the peripheral economies despite successive cuts in the policy rates by the European Central Bank (Chart 2.5). These structural weaknesses make a stronger recovery in the euro area difficult to achieve.

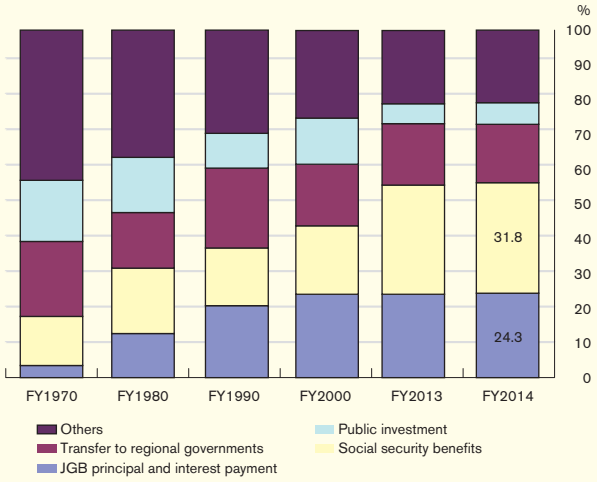
Chart 2.5
Euro area: Lending and ECB's policy rates



Source: European Central Bank.

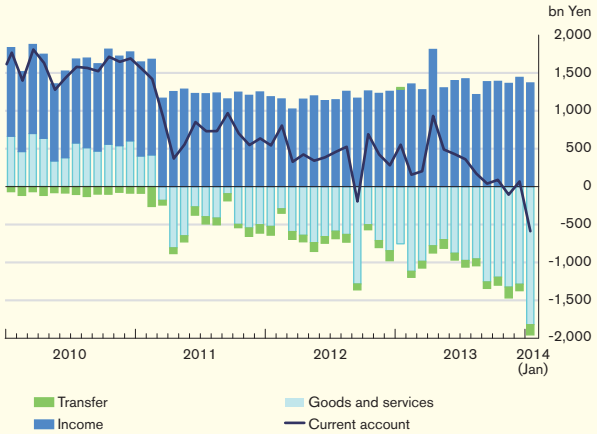
In Japan, economic conditions are improving with inflation moving gradually toward the 2% target. That said, uncertainties still cloud the economic outlook with wage growth remaining sluggish, the current account moving into deficits and a consumption tax hike coming into force in April. High public debt remains a concern for Japan. The current fiscal policy path suggests the Japanese government plans to return to primary surplus by 2020 but fiscal consolidation appears difficult as a large proportion of the government's expenditure goes into social security benefits (which is difficult to cut in view of an ageing population) and on principal and interest payments on the Japanese Government Bonds (JGB) (which makes fiscal position vulnerable to interest rate rise) (Chart 2.6). As such, there is a risk that if growth falters or JGB yields surge, the sovereign debt dynamics may worsen in Japan. In particular, Japan's seasonally adjusted current account position has swung into deficit in recent months (Chart 2.7). The risk is that continuing current account deficits could undermine investor confidence on the JGBs, calling into question Japan's fiscal sustainability.

Chart 2.6
Japan: Government expenditure by component



Source: Ministry of Finance, Japan.

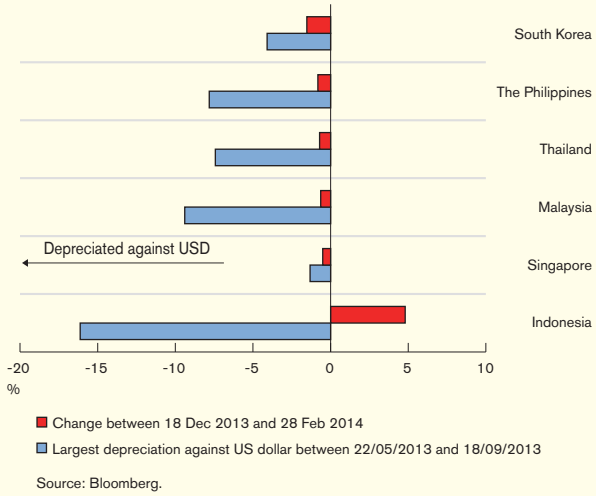
Chart 2.7
Japan: Current account position



Source: Ministry of Finance, Japan.

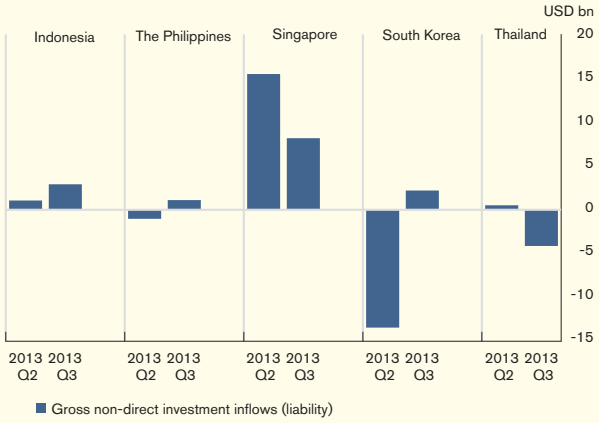
While emerging market economies that have weaker fundamentals have faced more pressure following the Fed's announcement of tapering its asset purchases in December 2013, financial market reactions in East Asia have in general been relatively calm (Chart 2.8), possibly reflecting stronger fundamentals of the region. The recent sell-off was also relatively mild compared to the episode last summer, but even then capital outflows from the region had been rather muted, with few signs of foreigners fleeing the East Asian markets. According to the Balance of Payments (BoP) statistics, the net portfolio and loan outflows in the second and third quarters of 2013 in many East Asian economies were much smaller than those recorded when the global financial crisis first hit in 2008. At the same time, some regional economies had continued to see gross non-direct investment inflows[1], albeit smaller, from non-residents (Chart 2.9).

Chart 2.8
Asia: Change in exchange rate against the USD



Source: Bloomberg.

Chart 2.9
Asia: Gross non-direct investment capital inflows



Source: CEIC.

The growth prospect of East Asia is subject to uncertainties in the pace of normalisation of monetary policy and economic growth in the US. On the one hand, uncertainties in the pace of normalisation of US monetary policy would keep financial market volatility elevated and pose risks of capital flow reversal and tighter financial conditions, which could dampen domestic demand in the region. On the other hand, to what extent the recovery in US demand could provide a significant boost to the region's exports to offset any drag from a tightening in financial conditions still remains to be seen. Meanwhile, slower-than-expected growth in Mainland China would also pose downside risks to the region's outlook.

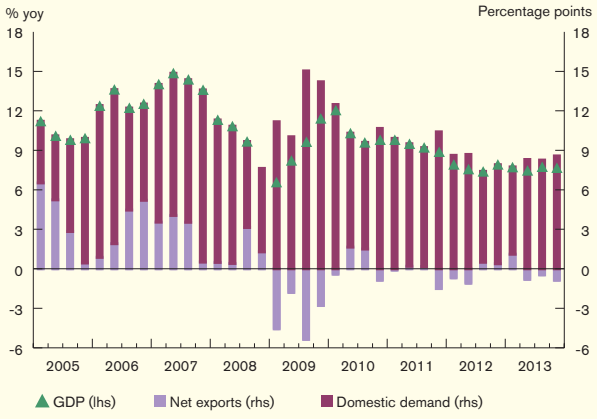
Looking ahead, market volatility in the region is expected to remain high as concerns over emerging markets linger. The alternate risk-on/ risk-off sentiment will likely continue amid the US Fed's normalisation of monetary policy, slower growth in Mainland China and the regional economies' domestic vulnerabilities and imbalances. In particular, capital flows are likely to have become more sensitive to any shocks that could trigger risk aversion.

[1] Gross non-direct investment inflows refer to increase in resident liability due to non-resident portfolio investment, bank inflows and other non-direct investment inflows in domestic economy.

2.2 Mainland China

Economic growth momentum in Mainland China recovered somewhat in the second half of 2013, with GDP rising by about 7.8% year on year in real terms, compared with 7.6% in the first half (Chart 2.10). Consumption growth remained largely stable, while exports and manufacturing investment improved. Inflationary pressures were well contained, with headline CPI inflation rate being around 2.7% year on year on average and changes in PPI being around -1.6% over the review period.

Chart 2.10
Mainland China: contributions by domestic demand and net exports to GDP growth

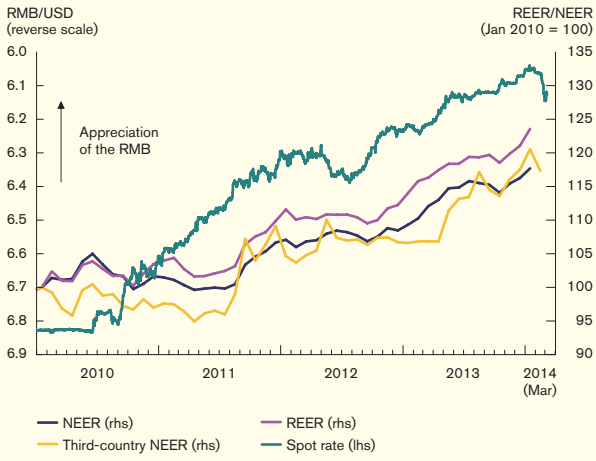


Sources: CEIC and HKMA staff estimates.

GDP growth is expected to be largely stable in the near term. The gradually improving global demand would lend more support to Mainland exports, whereas domestic demand may continue to be dampened by overcapacity problems and deleveraging pressures in a number of manufacturing industries. The authorities released a comprehensive reform package following the Third Plenum of the 18th Party Congress. These reform measures will set the stage for more sustainable economic growth over a longer-term horizon, but may not boost near-term growth significantly. Inflationary pressures are expected to be mild in the near term amid moderate growth momentum. The consensus forecasts in March project the Mainland economy to grow by 7.4% in 2014, while CPI inflation rate could be 2.9%.

Capital inflow pressures increased in the fourth quarter alongside the recovery in growth momentum, while the renminbi continued to appreciate against the US dollar before weakening somewhat recently (Chart 2.11). The wide interest rate differential between the renminbi and the US dollar may have provided additional incentives for capital inflows. The People's Bank of China (PBoC) continued to reform the renminbi exchange rate regime and widened the daily trading band of the RMB/USD exchange rate from ±1% around the central parity rate to ±2% in mid-March.

Chart 2.11
Mainland China: the renminbi exchange rates

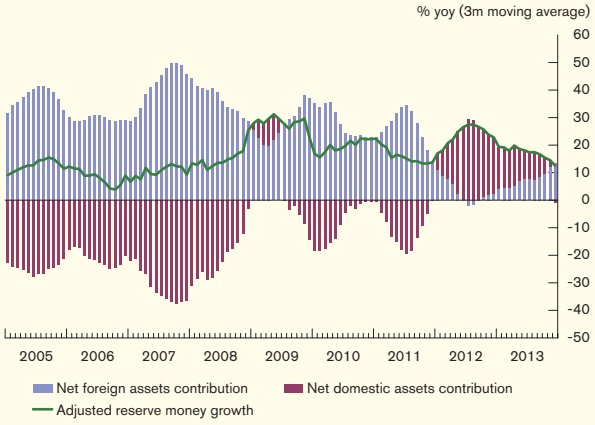


Note: A higher effective exchange rate index indicates a stronger renminbi. The third-country nominal effective exchange rate takes into account the competition that China faces in foreign markets from other economies exporting similar products. The methodology of constructing the third-country effective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

Sources: Bank for International Settlements, Bloomberg and HKMA staff estimates.

The monetary policy stance of the PBoC appeared to have had a tightening bias. While benchmark interest rates and reserve requirement ratios were unchanged, reserve money growth continued to decline (Chart 2.12). Broad money and total social financing growth also eased, though loan growth remained largely stable. Overall monetary conditions have tightened somewhat, while borrowing costs continued to diverge in real terms across industries amid significant differentials in inflationary pressures.

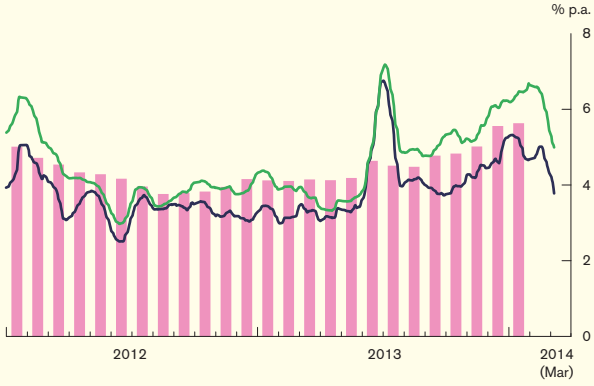
Chart 2.12
Mainland China: contributions to reserve money growth



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

Liquidity conditions in the interbank market have generally tightened as well, reflecting the interplay of seasonal factors, as well as structural issues, such as financial innovation and the lengthening of the financial intermediation chain. It might also reflect the tightening bias in the monetary policy stance. Money market rates generally trended up before the Chinese New Year holidays and dropped somewhat afterwards, while yields of bank wealth management products also rose in the past few months (Chart 2.13).

Chart 2.13
Mainland China: money market rates and bank wealth management product yields



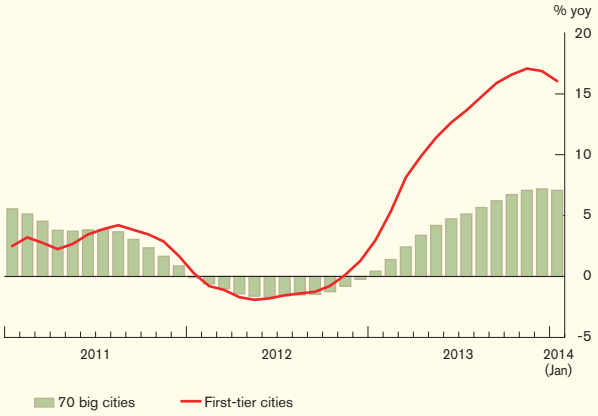
Sources: CEIC and HKMA staff estimates.

Higher interbank interest rates tend to have a greater impact on smaller banks given their relatively heavy reliance on borrowing from large banks and their sizeable exposures to off-balance sheet activities. As the process of interest rate liberalisation continues to unfold, interest rate volatility could increase. In response, the PBoC has strengthened its liquidity support facilities.

Equity prices rebounded in the third quarter but then fell back over the past few weeks, while housing markets remained vibrant on the whole.

Property prices continued to rise in most urban areas, particularly in top-tier cities (Chart 2.14). However, property prices in a number of low-tier cities have been trendless or even softened amid emerging property oversupply risks. Accordingly, policy makers in some big cities launched further measures to cool down housing markets over the past few months, while a handful of low-tier cities fine-tuned policies to support the markets.

Chart 2.14
Mainland China: house prices



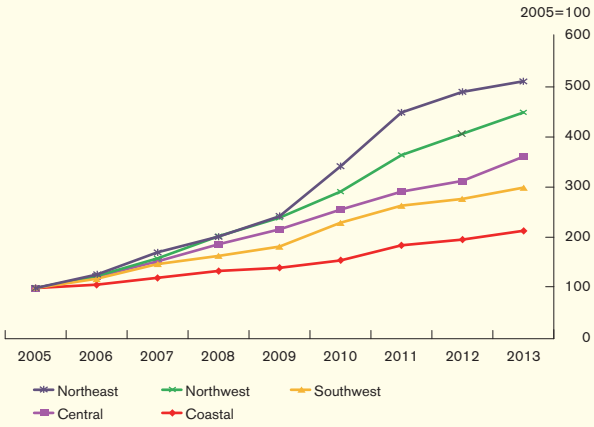
Note: The house price for the first-tier cities is the simple average of the year-on-year increase in price indices for Beijing, Guangzhou, Shanghai and Shenzhen published by the National Bureau of Statistics.

Sources: CEIC and HKMA staff estimates.

The diverse outlook for housing markets is expected to continue across geographical locations in the near term. Demand should remain strong in big cities along with the ongoing urbanisation process and robust home improvement needs. In contrast, housing markets in some small cities, especially in inland areas, may remain under pressure amid a fast increase in property supply in recent years and downside risks to population as residents tend to move from smaller cities to larger ones during the urbanisation process.

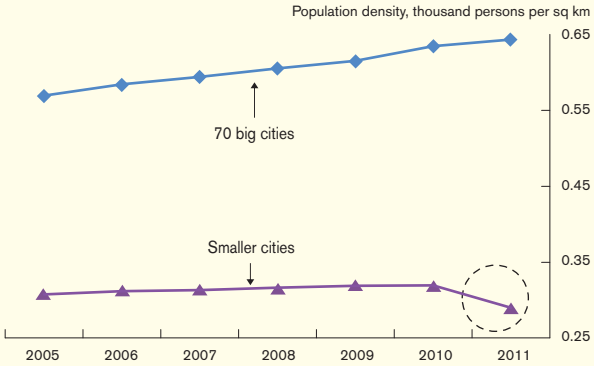
Indeed, per capita floor space under construction in inland urban areas has grown much faster than in coastal urban areas (Chart 2.15). On the other hand, while population density has been continuously rising in bigger cities, it showed signs of declining in smaller ones (Chart 2.16). An estimate by the China Index Academy, an independent property research organisation, suggests if housing sales continue at the current pace, it would take more than ten years for smaller cities to absorb the land inventory, compared with around two years for big cities (Chart 2.17).

Chart 2.15
Mainland China: per capita floor space under construction in urban areas



Sources: CEIC and HKMA staff estimates.

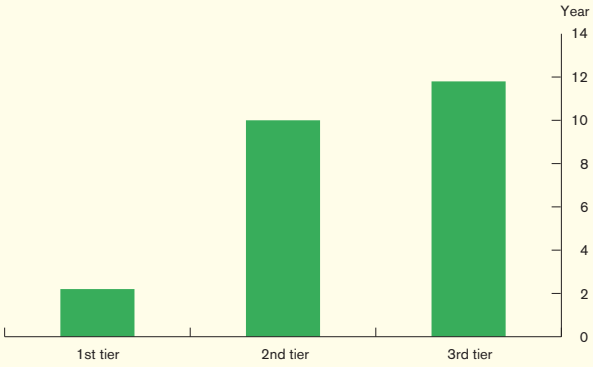
Chart 2.16
Mainland China: population density



Note: The sample for smaller cities includes 120 small cities.

Sources: CEIC and HKMA staff estimates.

Chart 2.17
Mainland China: estimated time to absorb land inventory



Note: 1st tier cities include Beijing, Guangzhou, Shanghai and Shenzhen. 2nd tier cities are mainly provincial capitals and cities specially designated in the state plan. 3rd tier cities mainly include prefectural-level cities.

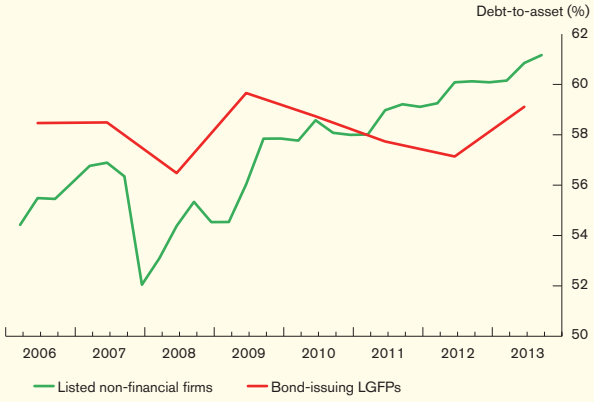
Source: The China Index Academy.

Although the number of cities facing house oversupply risks does not appear to be large, close monitoring of related risks is warranted, especially in view of the increasing linkages between real estate and other sectors (see Box 1 for more discussions on the real estate sector's linkages with others).

The banking sector continued to post solid income growth and sound capital positions in recent quarters, but asset quality has remained under pressure.[2] Overcapacity problems in a number of manufacturing industries and local government debt would continue to overshadow banks' asset quality.

Official data suggest local government indebtedness is not yet excessive despite fast growth in recent years. The latest report by the National Audit Office (NAO) shows total local government debt (including contingent liabilities) amounted to around 33% of GDP as of mid-2013. For illustration purpose, we also analysed the financial conditions for up to 900 local government financing platforms (LGFPs) that have issued bonds.[3] Their leverage has not been particularly high, with the aggregate debt-to-asset ratio being largely stable at less than 60% in recent years, compared with a continued rise in the leverage ratio for listed non-financial firms to more than 60% over the same period (Chart 2.18).

Chart 2.18
Mainland China: leverage of bond-issuing LGFPs and listed non-financial firms



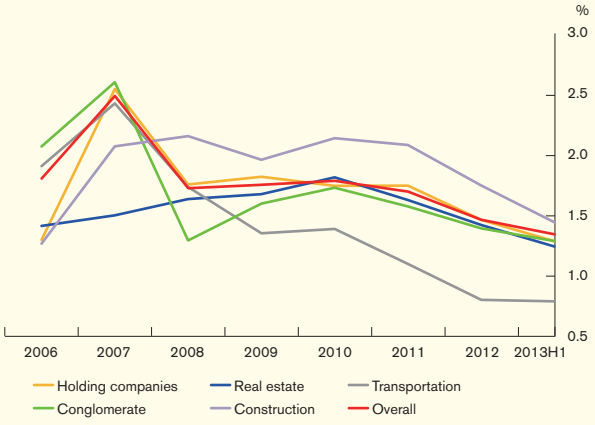
Sources: Bloomberg, WIND and HKMA staff estimates.

[2] Net profit growth was 14.5% in 2013, while capital adequacy ratio of commercial banks was 12.2% at end-2013.

[3] The firm-level data contains up to 900 LGFPs which have issued bonds classified by the WIND data provider. Due to data limitation, the sample sizes are not necessarily balanced across different time periods and indicators.

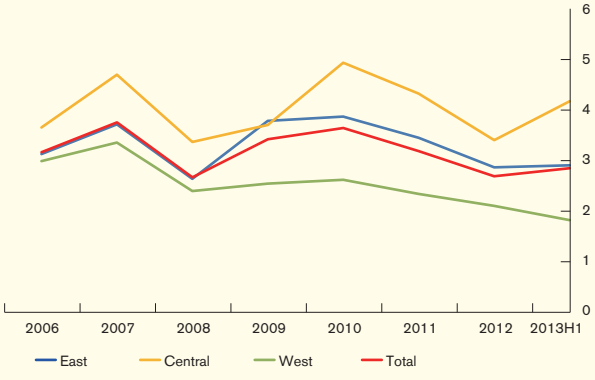
However, the profitability of some projects supported by local government debt might be fragile (Chart 2.19). Accordingly, debt servicing capacity of some local governments might be under pressure. According to the NAO survey, 10.6% of the liabilities directly borne by local governments were overdue in mid-2013. The interest coverage ratio of the bond-issuing LGFPs has also edged down in the past couple of years (Chart 2.20). Local government entities in some inland areas appear to be more of a concern. For instance, bond-issuing LGFPs in West China have had a lower interest coverage ratio than others.

Chart 2.19
Mainland China: bond-issuing LGFPs' return on asset



Sources: WIND and HKMA staff estimates.

Chart 2.20
Mainland China: bond-issuing LGFPs' interest coverage ratios

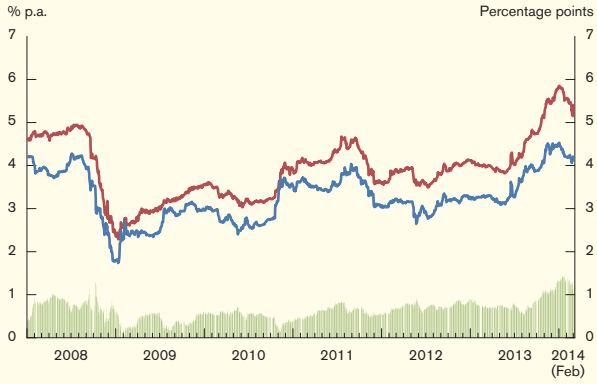


Sources: WIND and HKMA staff estimates.

Despite the increasing importance of bond issuance, banks are still a main channel for local governments to raise funds. The share of bank loans in total local government debt has declined notably in the past couple of years but was still over 55% as of mid-2013. Banks have also been major purchasers of bonds related to local governments. Non-bank financial institutions such as trust and security companies have become more important sources of funding and accounted for around 10% of total local government debt over the same period.

Concerns over banking risks have been reflected in the rising yields of bonds issued by financial institutions. For instance, the yield spread of financial bonds over government bonds widened during the review period (Chart 2.21). However, the rising spreads do not indicate an alarmingly high stress level.

Chart 2.21
Mainland China: financial and government bond yields



Sources: WIND and HKMA staff estimates.

The authorities have stepped up efforts to contain related risks. The size of banks' off-balance sheet and other non-bank intermediaries' financing activities is relatively small compared with other major economies, but they have continued to grow at a firm pace in recent periods. The State Council has reportedly clarified the responsibilities of different regulatory bodies in supervising such activities, which showed signs of slowing down more recently. The supervisory framework on local government debt has also been enhanced.[4] The Third Plenum and other high-level meetings outlined a number of measures to contain the size of local government debt and improve the efficiency of infrastructure investment.[5] These measures should help contain systemic risks arising from local government debt. While the relatively strong net asset positions of both the Central Government and local governments suggest there is ample space for policymakers to provide financial backstops if needed, the authorities will likely aim to strike a balance between preventing financial instability and containing moral hazard.

[4] For instance, 28 provincial-level, 254 city-level and 755 county-level local governments have set up reserves totalling some RMB320 billion as of mid-2013 to strengthen debt-servicing ability.

[5] For example, some local governments have established a risk monitoring system for local government debt. The size and growth of debt will also become important elements of performance assessment for local governments.

Box 1
Linkages between real estate and other sectors in Mainland China[6]

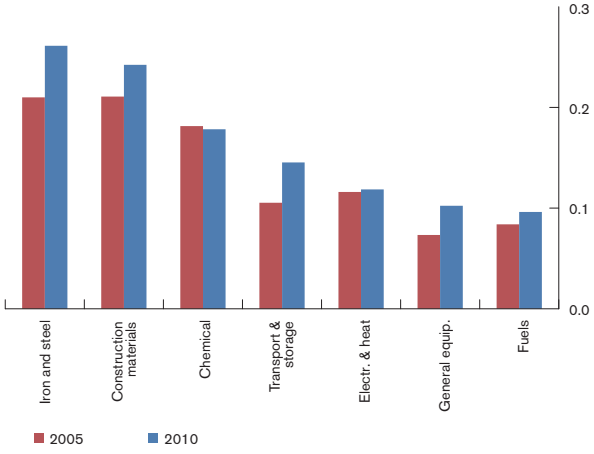
International experiences point to the critical role of sound property markets in maintaining financial stability. In Mainland China, the real estate sector has also become increasingly important for the economy. Value added generated by housing services as a percentage of the economy's total value added rose from less than 4.5% in 2005 to 5.6% in 2010, while mortgage and property development loans together accounted for around 20% of total bank loans in recent years, compared with less than 15% in early 2005. That said, such evidence likely understates the importance of the property sector as it ignores the linkages between real estate and other sectors. Against this backdrop, the analysis in this Box attempts to shed some light on the real estate sector's linkages with others through both real and financial channels.

Linkages between real estate and other sectors through real channels

Inter-sectoral linkages through real channels have been typically explored via marginal-impact analysis using input-output tables. Specifically, total input coefficients, which illustrate how much output from each sector is used as intermediate input to meet a unit of increase in the final demand of a specific sector with both direct and indirect effects considered, are often used to capture inter-sectoral linkages. As the real estate sector in Mainland input-output tables mainly refers to services provided by developers and agencies and excludes housing construction activities, we combine real estate and construction sectors in input-output tables to explore how a change in real estate related activities may affect other sectors.

We find that the real estate-construction sector's linkages with others have generally tightened, as evidenced by the increases in the total input coefficients during 2005-2010 (Chart B1.1). Iron and steel, construction materials, and chemical sectors have been most closely linked with the real estate-construction sector, followed by transport and storage, electricity and heat, general equipment, and fuels sectors. Specifically, a one yuan increase in the final demand for real estate-construction would lead to around a quarter yuan increase in the gross output of the iron and steel sector in 2010, compared with an increase of a fifth yuan in 2005.

Chart B1.1
Total input coefficients for the real estate-construction sector



Sources: CEIC and HKMA staff estimates.

Accordingly, the real estate-construction sector has been much more important to the Mainland economy's output than suggested by the share of its value added in the economy's total value added. To explore the importance of the real estate-construction sector attributable to its linkages with other sectors, we estimate the loss in the economy's value added caused by a hypothetical extraction of this sector from the input-output tables. The Mainland economy's total value added would be 32% less in 2010 if the real estate-construction sector were extracted,

[6] This box is adapted from "How Strong Have Been the Linkages between Real Estate and Other Sectors in China?" by W. Zhang, G. Han and S. Chan (2014), Hong Kong Institute for Monetary Research Working Paper, forthcoming.

much larger than the share of this sector's value added in the economy's total value added of around 12% (Chart B1.2), as eliminating the real estate-construction sector would also hurt the production of other sectors. Similarly, a hypothetical extraction of the real estate-construction sector would mean a loss of 28.5% and 26.7% in the economy's total value added in 2007 and 2005 respectively, much higher than the share of this sector's value added in the economy's total value added of around 10% over the same periods.

Chart B1.2
Loss in total value added caused by extracting the real estate-construction sector

Sources: CEIC and HKMA staff estimates.

Linkages between real estate and other sectors through financial channels

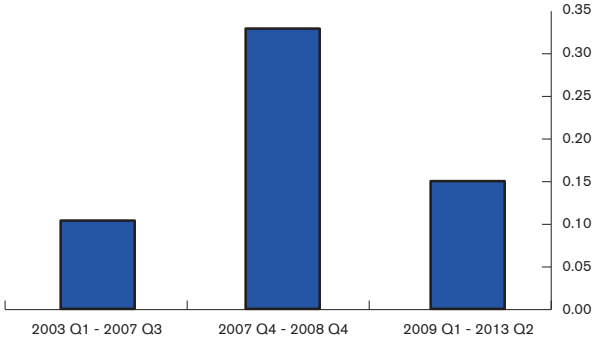
Financial linkages between real estate and other sectors may be reflected in various aspects. First of all, adjustments in property markets may affect the profitability of those industries that are closely linked with the property sector and hence the quality of their debt. Secondly, it is common for firms to use property as collateral to borrow from banks, and property price changes would affect the collateral value and asset quality.

According to the International Monetary Fund (IMF), 30-45% of loans extended by the five largest Mainland banks have been backed by collateral in recent years, the majority of which is real estate.[7] In addition, as local government debt has been in part supported by land sales revenue, property market adjustments would affect the quality of local government debt.

As it is difficult to directly quantify the financial linkages across sectors due to data constraints, we shed light on this issue by studying the spillover of credit risks. Credit risks are proxied by default likelihood estimated using financial data of listed firms, such as stock prices, asset growth and volatility, and liabilities.[8] The real estate sector is represented by listed real estate developers.[9] Our analysis shows that the leverage ratio (debt to asset) is the key indicator for default risks, while liquidity conditions and firm sizes are also quite informative.

Corporate credit risks appear to have increased in recent years. Aggregate corporate default likelihood was around 0.10 during 2003 Q1 - 2007 Q3, but surged to over 0.30 on the eve of the global financial crisis (Chart B1.3). It declined thereafter but has been still higher than that of 2003-2007. Specifically, real estate, construction and industries with severe overcapacity problems, such as cement, aluminium, ship-building, iron and glass, have seen higher risks than other sectors, reflecting relatively faster growth in their leverage as well as a weakening in their profitability.

Chart B1.3
Aggregate corporate default likelihood in Mainland China



Sources: Bloomberg and HKMA staff estimates.

7 See "People's Republic of China: Financial System Stability Assessment", the IMF, 2011, page 17.

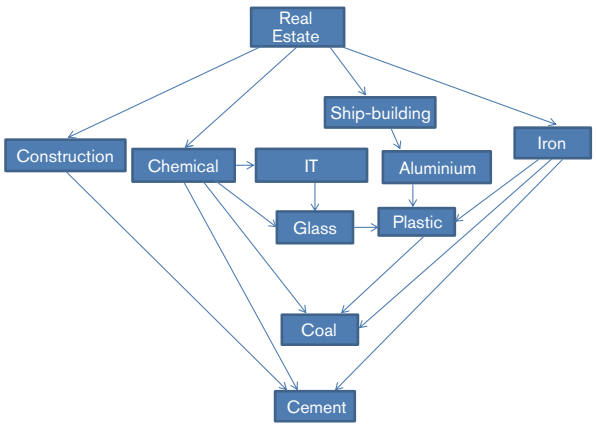
8 In our analysis, default occurs when the stock-price-implied total asset value of a firm is less than its total liabilities.

9 Housing construction activities are also in part captured by real estate developers' data.

In order to analyse the inter-sectoral linkages of credit risks, we use the network analysis and set up a vector auto-regression (VAR) model to identify the directions and quantify the magnitude of credit risk spillovers across sectors. Spillover directions are determined by correlation and predictive causality of default likelihood variation across sectors. Simply put, if a sector's default likelihood variation is correlated with and adds explanatory power to that of another sector, then there will be spillovers from the former to the latter. The sizes of spillover effects are estimated with forecasting error variance decomposition in the VAR.

Our research shows that the real estate sector could be an important source of credit risks across sectors. The analysis of contemporaneous spillover effects demonstrates that upstream industries, such as plastic, cement, coal, glass and information technology and telecom (IT), are in general receivers of spillovers, while machinery, auto, real estate, and chemical sectors are sources of risks. Specifically, real estate and machinery sectors have the largest number of receivers of spillover effects. Credit risks of the real estate sector may spill-over directly into construction, chemical, ship-building and iron industries, which would in turn spread their credit risks to other industries including glass, coal, plastic, cement, etc. (Chart B1.4).

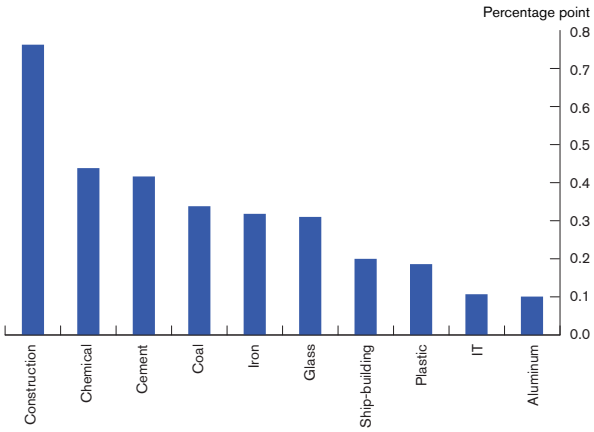
Chart B1.4
Spillover of real estate industry's credit risks



Sources: Bloomberg and HKMA staff estimates.

Real estate and machinery industries would also be most influential in terms of the magnitude of contemporaneous spillover effects. Specifically, a one percentage point increase in the real estate industry's default likelihood may lead to around 0.76 and 0.44 percentage point increases in the default probability of construction and chemical industries, followed by cement, coal, iron and glass industries (Chart B1.5).

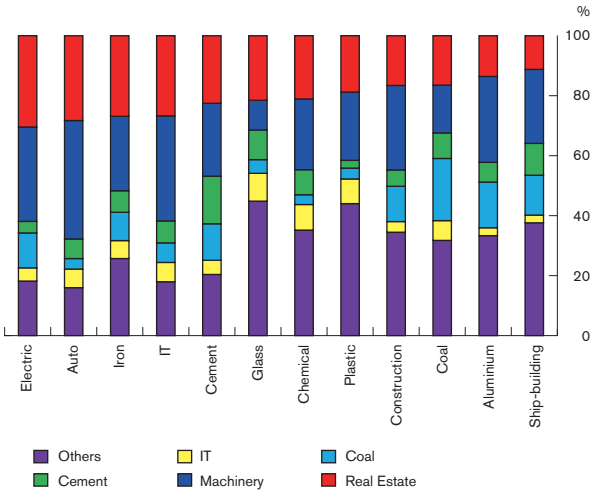
Chart B1.5
Contemporaneous impact of one percentage point increase in property sector's default likelihood



Sources: Bloomberg and HKMA staff estimates.

Real estate and machinery industries are still most influential if dynamic spillover effects are taken into account. The two industries together could explain nearly 50% of the volatility of other sectors' default likelihood on average (Chart B1.6). Specifically, credit risks of the real estate sector may have significant spillover effects on electric, auto, iron, IT, cement, glass, chemical, plastic, and construction industries when both contemporaneous and dynamic effects are considered.

Chart B1.6
Contributions to volatility of major industries' default likelihood



Sources: Bloomberg and HKMA staff estimates.

The spillover effects of credit risks from the real estate sector are not only brought about by its rising input-output linkages with other sectors, but possibly the fact that properties have been used as collateral to back loans in many sectors. Indeed, our analysis shows that construction, iron, coal, auto, IT, chemicals, cement, and electric, which would be significantly affected by credit risks in the real estate sector, have been the major borrowers in recent years. In addition, as cement, glass, construction, and coal industries are closely related to infrastructure investment, their exposure to the credit risks of the real estate sector might also reflect the importance of land sales revenue for local governments to support their debt used to finance infrastructure investment.

Concluding remarks

The main messages of this Box are summarised as follows:

- Input-output analysis shows that the linkages between real estate and other sectors have strengthened through real channels. Accordingly, the real estate sector has been much more important to the Mainland economy's output than suggested by the share of its value added in the economy's total value added.

- The real estate industry has also been closely linked to other sectors through various financial channels. Specifically, our analysis shows that credit risks of the real estate sector could generate spillover effects on other sectors in the Mainland economy.