

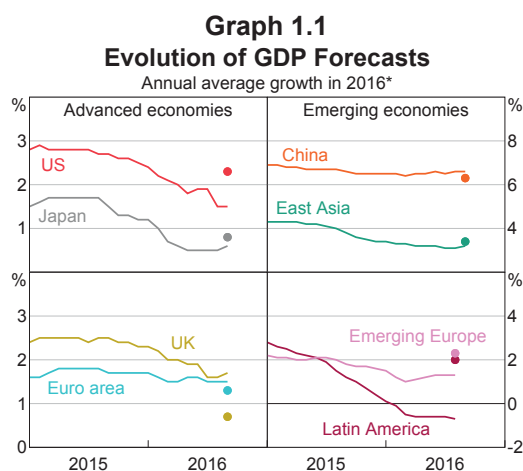
1. The Global Financial Environment

A range of risks still pose a threat to the stability of the global financial system. Among these, the potential for a disruptive adjustment in China remains pronounced, given the ongoing increase in debt at a time when the pace of economic growth has been moderating. In some other emerging markets, risks associated with the sharp decline in commodity prices and rising corporate leverage seen over recent years remain a challenge; however, these risks have receded somewhat of late as growth outlooks have stabilised, aided by some recovery in commodity prices (Graph 1.1). In the major advanced economies, banking system profitability remains under pressure given low rates of nominal growth and the low interest rate environment. For some European banking systems, these pressures are being compounded by a persistent large stock of non-performing

assets. Search for yield behaviour is still evident, including in some commercial property markets, raising the risk of a disruptive fall in prices in the event of a negative shock or a change in sentiment towards these assets. In this regard, volatility in financial markets increased significantly around the time of the UK referendum. Yet, markets generally continued to function well and the initial price movements were later largely unwound, with the notable exception of the fall in the UK pound.

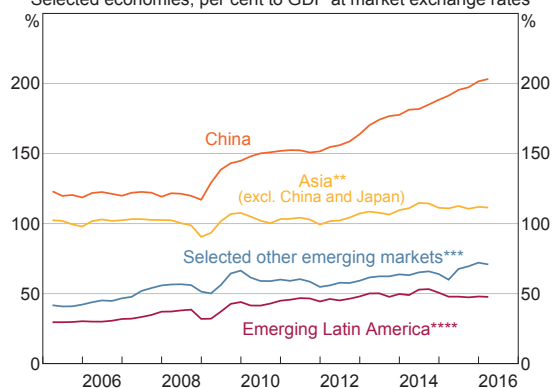
China

China remains a key locus of risk, given its increasing size in the global economy and ongoing run-up in debt (Graph 1.2). The interaction between high and



* Dots are the latest forecasts for 2017
Sources: Consensus Economics; RBA

Graph 1.2
Total Debt of the Private Non-financial Sector*
Selected economies, per cent to GDP at market exchange rates



* Loans and other debt funding provided by domestic and non-resident sources; includes publicly owned non-financial firms

** Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan and Thailand

*** Czech Republic, Hungary, Poland, Russia, Saudi Arabia, South Africa and Turkey

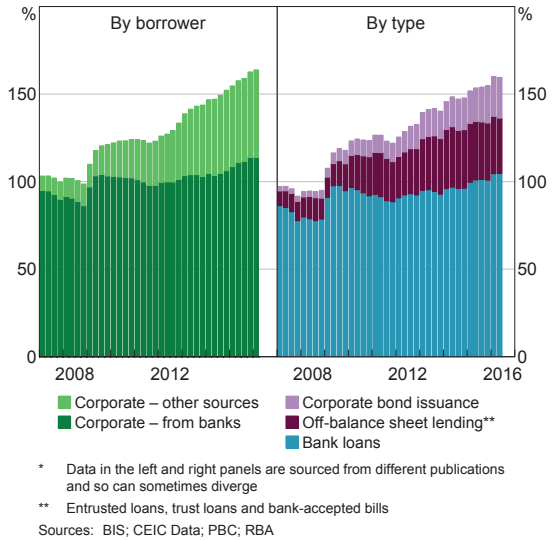
**** Argentina, Brazil and Mexico

Sources: BIS; CEIC Data; RBA; Thomson Reuters

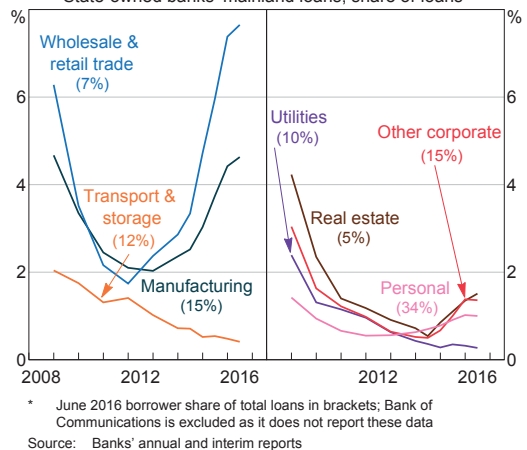
rising debt, slower economic growth and excess capacity in some areas is raising the chance of widespread loan defaults and economic disruption. Recent policy stimulus has helped stabilise parts of the economy, but has also helped to further fuel the rapid pace of credit growth. At the same time, the financial system has become increasingly large, opaque and interconnected. This has raised further concerns about asset quality and the funding positions of some of the fast-growing parts of the system, and increased the risk of financial contagion. However, there are few signs of broad financial distress so far, despite a gradual worsening in banks' reported loan performance, an increase in missed payments on corporate bonds and periodic bouts of financial market volatility. The Chinese authorities also retain many levers to support near-term growth and financial stability, but using many of them would likely entail a further increase in debt that could increase the risks to longer-term reform and stability.

The debt in China is concentrated in the non-financial corporate sector (which includes state-owned enterprises and various local government investment companies), and has been largely financed by the domestic banks (Graph 1.3). The high and rising level of corporate debt is a concern for three reasons. First, the faster the pace of credit growth, the more likely some of the lending is to be of poor quality – extended to marginal borrowers or unprofitable projects. Second, much of the rapid growth in recent years has been from the less regulated shadow banking sector. Third, as economic growth slows the most leveraged firms will find it harder to service their debts, particularly as investment growth has slowed sharply and many of these firms are in sectors exposed to investment demand. There is some evidence that this process has already begun with banks' loan write-offs increasing and reported non-performing loan (NPL) ratios rising (Graph 1.4). While Chinese banks remain profitable, their reported rate of return on equity has been declining

Graph 1.3
China's Non-financial Corporate Debt*
 Per cent to GDP



Graph 1.4
Chinese Banks' Non-performing Loans
 State-owned banks' mainland loans, share of loans*



for several years. Looking ahead, bank profitability is likely to remain under pressure. The economy is going through a period of adjustment and forward-looking indicators, such as the recent large rise in 'special mention loans' (where repayment is at risk), point to a further increase in NPLs. It is possible that NPLs could reach levels that require extensive banking sector balance sheet repair.

To date, the Chinese banking system has remained adequately capitalised. In keeping with regulatory requirements, the Common Equity Tier 1 (CET1) capital ratios for the large state-owned banks, and indeed for most commercial banks, were above 9 per cent in the first half of 2016. The latest data also show that the large state-owned banks meet the Liquidity Coverage Ratio requirement on a fully phased-in basis. But the aggregate measures mask vulnerabilities among individual banks. In particular, some small and medium-sized banks have thin capital buffers and are therefore less well placed to absorb losses.

While traditional bank loans account for most of the debt in China, much of the recent increase has come from the bond market and through the shadow banking activities of banks and other financial institutions. Growth of some types of shadow lending has slowed over recent years in response to government policy, but other types of shadow lending have emerged and grown quickly, often facilitated by banks (see 'Box A: Recent Growth of Small and Medium-sized Chinese Banks'). Shadow lending is significant in China, accounting for at least one-fifth of total debt and possibly substantially more. It is also likely to be comparatively risky, for several reasons. First, some of this lending will be to marginal borrowers that lack access to credit from the traditional bank channels. In this regard, some shadow lenders have less incentive to lend prudently, because they onsell loans to investors and so do not bear the credit risk themselves. Perceptions of implicit guarantees from sponsoring banks or the government could also foster lax lending practices. Second, shadow lending is subject to fewer prudential and other safeguards. Capital and provisioning requirements are reportedly less stringent than for bank lending, and shadow lenders lack formal access to liquidity support. Third, the growth of shadow lending has increased the links between banks, non-bank financial institutions and opaque investment products, making exposures less transparent and raising the risk of contagion.

Along with the increase in shadow lending, banks – especially small and medium-sized banks – have also sourced more funding from the short-term interbank market over recent years. This has increased their liquidity risks and made them even more interconnected and systemic. If corporate defaults were to rise, investors and creditor banks may be reluctant to roll over such short-term funding, and so the interbank market could exacerbate financial problems at the banks bearing loan losses. It could also transmit distress to other institutions that investors consider to have a similar vulnerability.

Chinese authorities have taken steps to address the growth of shadow lending and risks in the financial system more broadly. In particular, they have increased scrutiny of banks' provisions and capital held against shadow credit products. Regulations on asset managers are also being tightened, including by restricting the type of investments that can be put into certain shadow credit products. The authorities are requiring greater transparency on NPLs and have launched pilot programs of NPL securitisations and debt-to-equity swaps, although substantial structural barriers to banks recognising and selling NPLs are likely to remain. The authorities also retain the ability to inject liquidity into the banking system should stress emerge.

As noted in previous *Reviews*, the policy trade-offs facing the Chinese authorities are central to the evolution of the risks in China. Policymakers have both a strong incentive and scope to support growth and maintain financial stability in the near term. But continued reliance on debt-financed growth and bank forbearance, along with official actions that reinforce perceptions of implicit government guarantees, add to existing vulnerabilities. Chinese authorities recognise these risks and have often expressed concern about the build-up in leverage. But implementing the wide sweep of financial reforms and other actions needed to address the growing vulnerabilities, within an increasingly large and complex financial system, will remain a key policy challenge.

The main connections between China and other economies that would be relevant in a negative scenario are trade volumes and commodity prices, as well as sentiment in global financial markets. The direct financial linkages between China and other economies remain limited because China's capital account is relatively closed, but they have grown. Chinese banks are increasingly lending overseas, and some banks in nearby financial centres like Hong Kong and Singapore have large exposures to China, which could transmit financial stress.

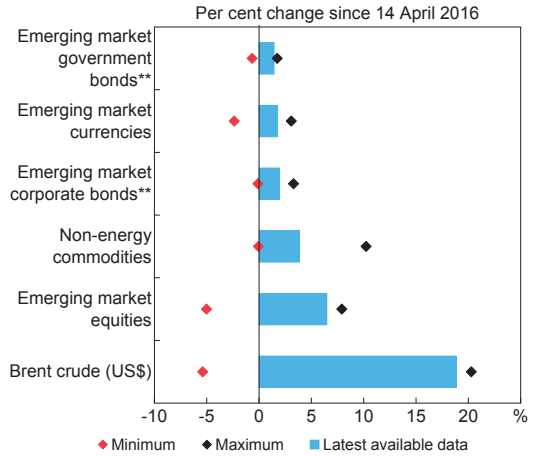
Other Emerging Market Economies

For emerging markets more broadly, growth outlooks have generally stabilised or been revised up since the previous *Review*, aided by some recovery in commodity prices. As a result, investor sentiment towards emerging markets has generally improved: capital inflows have picked up; exchange rates have stabilised or risen; corporate and sovereign bond yields have fallen; and equity prices have increased (Graph 1.5). Nonetheless, the increase in debt-servicing burdens over recent years remains a significant vulnerability (Graph 1.6). The rise has been driven by a sharp increase in debt, slower economic growth, lower commodity prices and some large currency depreciations (which raise the local currency cost of foreign currency-denominated debt). The risk of financial distress in some emerging market economies – particularly for commodity exporters – has therefore increased, and could be triggered if commodity prices fall further or US interest rates increase at a faster pace than currently expected. Political developments could also cause instability in some emerging markets.

The increase in emerging market private debt has been concentrated in the corporate sector, and has been particularly rapid in Turkey and the commodity-exporting economies of Brazil and Russia. There are several financial risks associated with this run-up in debt:

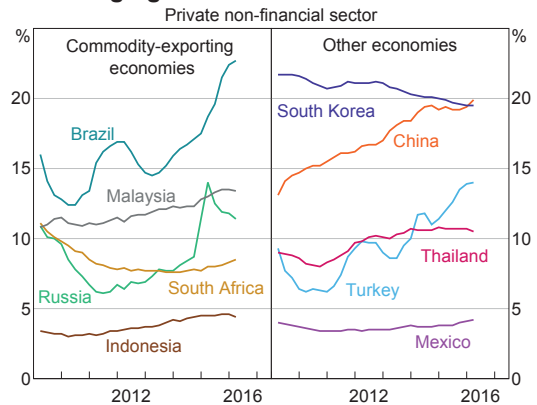
- Firms with higher leverage are likely to find it more difficult to service their debt, because

Graph 1.5
Asset Prices*



* Price movements are computed from aggregate indices
 ** Increases denote lower yields
 Sources: Bank of America Merrill Lynch; Bloomberg; RBA

Graph 1.6
Emerging Market Debt-service Ratios*



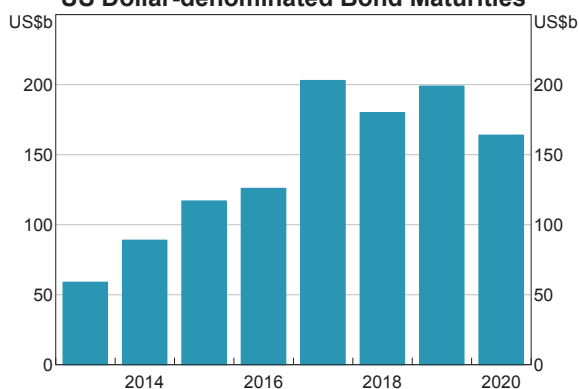
* Ratio of interest and principal payments to income
 Source: BIS

corporate profitability has declined with slower economic growth and lower commodity prices.

- Lower exchange rates will make foreign currency-denominated debt more costly to service. Although this type of corporate debt is relatively low or hedged, some firms in non-tradeable sectors – which typically do not earn significant foreign currency revenue – have increased their foreign currency-denominated borrowing.

- A large volume of emerging market US dollar-denominated corporate bonds is due to mature in the next few years (Graph 1.7). Even if borrowers roll over this debt, expected increases in US interest rates will increase interest costs on the renewed borrowing for at least some corporations.

Graph 1.7
Emerging Market Corporations’ US Dollar-denominated Bond Maturities



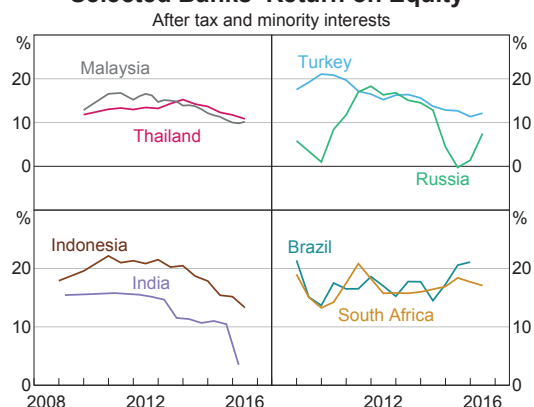
Source: Dealogic

These vulnerabilities appear to be most pronounced for commodity-exporting economies, because their terms of trade have fallen significantly and corporate leverage has increased for commodity-producing firms. These economies also face a challenging macroeconomic policy environment. Government finances have deteriorated alongside lower commodity prices. Also, some central banks have maintained high policy interest rates – despite slower economic growth – to contain inflationary pressures, which have been partly driven by lower exchange rates.

In line with these developments, corporate bond defaults have increased in 2016, including by issuers in commodity and energy-related sectors. If corporate distress became more widespread, emerging market banks would bear most of the immediate risk because they have financed the bulk of the corporate debt in their economies. However, key banking indicators suggest that most emerging market banking systems are well placed

to weather higher corporate defaults. Reported capital ratios are high by global standards and have continued to increase in recent years. Bank return on equity is commonly at or above estimates of the cost of equity, although it has been gradually declining (Graph 1.8). NPL ratios have started to rise, particularly at public sector banks in India where loan-loss provisions have also increased sharply. Elsewhere, the increase in NPLs to date has generally been modest, including in large commodity-exporting economies such as Brazil and Indonesia, and provisioning levels appear sound. Nonetheless, some of these metrics are backward looking.

Graph 1.8
Selected Banks’ Return on Equity*



* Coverage differs across jurisdictions; data are adjusted for significant mergers and acquisitions

Sources: Bloomberg; RBA; S&P Global Market Intelligence

Household sector risks have also increased in some emerging market economies. In Brazil, Malaysia, Thailand and Turkey, household indebtedness has risen over recent years alongside large increases in real housing prices. Most recently, housing prices have fallen in Brazil and Russia, where economic conditions have been particularly weak, which could add to the challenges faced by their banks.

With the increasing size and integration of emerging markets in the global economy and financial system, the potential for distress to spill over to other economies has risen. As for China, transmission channels include direct financial links, trade links and risk sentiment in international

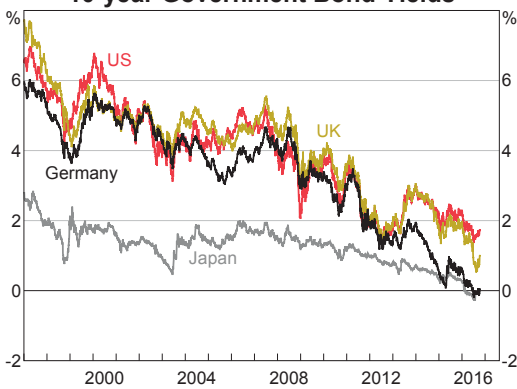
financial markets. Lending to emerging markets by advanced economy banks has increased significantly over the past decade and, while overall exposures are relatively small, some banks' exposures are significant.

Advanced Economies

Slow nominal economic growth and pressures on the profitability of banks and some other financial institutions continue to pose challenges to global financial stability. Over the past year, sovereign bond yields have generally fallen further, to reach new or be close to record low levels in a number of advanced economies, in part reflecting soft outlooks for long-run economic growth and prospects for ongoing very expansionary monetary policy (Graph 1.9). While low interest rates are supporting economic activity and assisting with debt serviceability, they can motivate excessive risk-taking and borrowing, boosting asset prices beyond fundamentals and potentially making them more sensitive to changes in risk premia.

The outcome of the United Kingdom's referendum in June surprised financial markets. As such, it initially led to large moves in bond yields, equity prices (especially banks) and exchange rates. Despite the sharp price movements, financial markets generally functioned in an orderly manner and in many financial markets much of the initial price movement was later unwound.

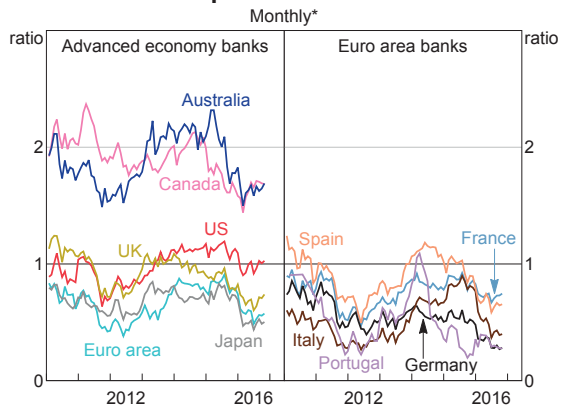
Graph 1.9
10-year Government Bond Yields



Source: Bloomberg

European banks' share prices fell sharply after the referendum. While the falls have been partly retraced in some countries, European banks' price-to-book ratios remain at very low levels (Graph 1.10). For some large banks, market concerns about their profit outlook can also be seen in the elevated cost of insuring against default on their debt and the relatively high yields on their Additional Tier 1 capital instruments.

Graph 1.10
Banks' Share-price-to-book-value Ratios

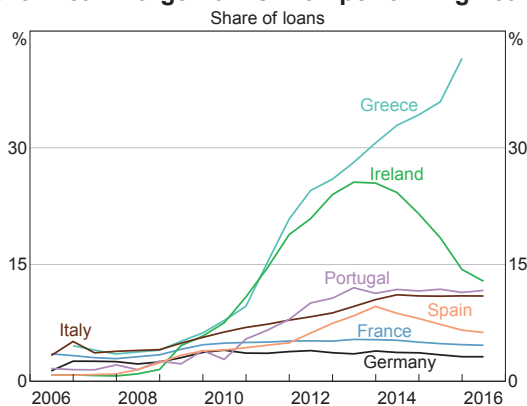


* End of month; October 2016 observation is based on latest available data
Source: Bloomberg

The profitability and resilience of European banks continue to be hampered by slow economic growth, which is restraining current revenues and making it more difficult to deal with the large legacy stock of NPLs (Graph 1.11). Managing the high level of NPLs is particularly challenging for Italian and some other southern European banks, where ineffective corporate insolvency procedures and corporate governance problems have contributed to a large stock of NPLs remaining on banks' balance sheets, typically at values that exceed their estimated market price. Although the ongoing low interest rate environment is supporting economic growth, it has weighed on banks' net interest margins and thus profitability. Some European banks, including Deutsche Bank, are also grappling with higher capital requirements, ongoing litigation costs and the need to restructure their business

Graph 1.11

Euro Area – Large Banks' Non-performing Loans*



* Definitions of 'non-performing loans' differ across jurisdictions; number of banks: France (6), Germany (9), Greece (4), Ireland (2), Italy (5), Portugal (3) and Spain (6)

Sources: Banks' annual and interim reports; RBA; S&P Global Market Intelligence

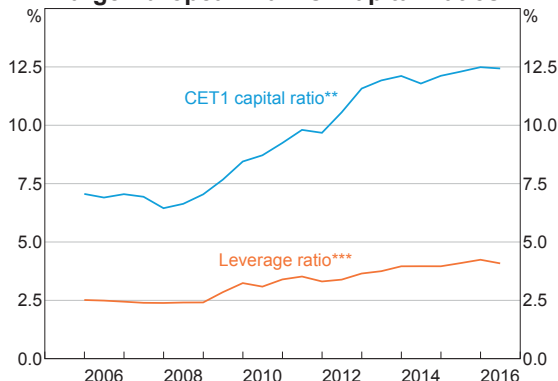
models in response to the post-crisis regulatory reforms.

Concerns about the Italian banks in particular came to the fore in the context of the European Banking Authority's (EBA) stress test results in July. These showed that Monte dei Paschi di Siena (MPS) – the fourth-largest bank in Italy – would have all of its CET1 capital wiped out under the EBA's severe stress scenario. Italian authorities have been reluctant to recapitalise banks under the European Union's (EU) new bank resolution rules because of the political and contagion risks associated with the requirement that subordinated Italian bank debt be bailed-in: much of this debt is owned by local households. A private recapitalisation of MPS has instead been proposed.

More positively, the EBA stress test highlighted the progress that many European banks have made in strengthening their regulatory capital in recent years (Graph 1.12). Projected capital ratios fell below regulatory minimums for only a small number of the 51 banks examined, even in the adverse stress scenario. But many of the smaller and weaker European banks, including those from Portugal and Greece, were not included in the stress test. Highlighting difficulties in its banking system,

Graph 1.12

Large European Banks' Capital Ratios*



* European-headquartered G-SIBs, excluding the UK

** Basel regulatory standards change throughout the sample period; data based on the contemporaneous regulatory standard; the current regulatory standard is the Basel III transitional framework

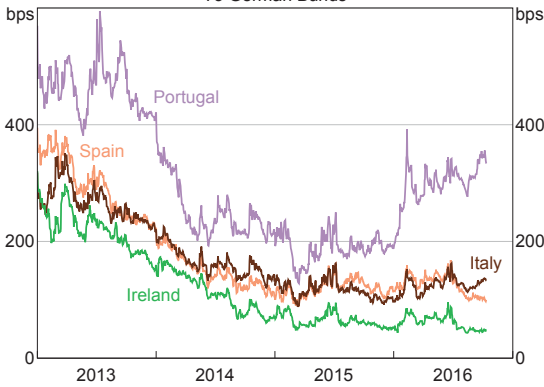
*** Tier 1 capital based on the contemporaneous Basel regulatory standard divided by total assets

Sources: RBA; S&P Global Market Intelligence

the Portuguese Government indicated in August that it will recapitalise the country's largest bank using public funds. The European Commission has reportedly given its preliminary approval, even though the plan does not include the bail-in of creditors as is usually required under state-aid rules. Instead, the plan appears to make use of an EU rule that allows public capital injections, without creditor bail-in, when they occur under 'normal market conditions'.

In addition, debt sustainability concerns persist in parts of Europe, particularly in southern European countries such as Portugal and Italy where government bond spreads have remained relatively high (Graph 1.13). As events in Greece in recent years have demonstrated, sovereign debt problems can quickly affect the local banking system, by reducing access to funding, weighing on asset values and weakening the broader economy. Political developments could also pose a risk to debt sustainability and banking sector prospects, in that growing support for Eurosceptic political parties could reduce the political will to undertake necessary reforms.

Graph 1.13
Euro Area 10-year Government Bond Spreads
 To German Bunds

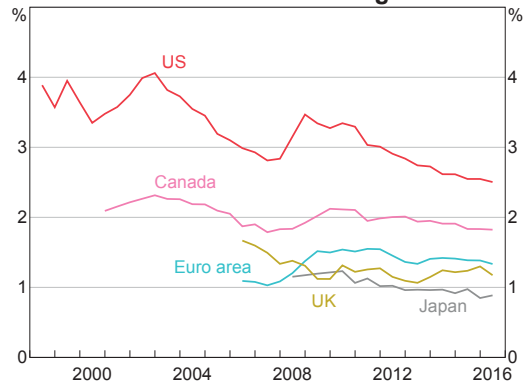


Sources: Bloomberg; RBA

Outside of Europe, banking systems in major advanced economies also face a range of profitability challenges. Low and, in some cases, negative policy interest rates, combined with relatively flat yield curves, continue to squeeze banks' net interest margins (Graph 1.14). Higher credit losses, often associated with deteriorating asset performance in the energy sector, have weighed on bank profitability in Canada, the United States and, to a lesser extent, Japan. This has been particularly pronounced for large Canadian banks. Their combined NPL ratio has increased recently, partly driven by an increase in consumer loan delinquencies in energy-producing provinces. Some advanced economy banks also have significant exposures to commodity-exporting emerging markets.

Japanese banks have significantly expanded their higher-yielding offshore activities over recent years (Graph 1.15), with a growing share of their assets denominated in foreign currency, partly funded through short-term wholesale markets. This has increased their foreign currency liquidity risks. The cost of Japanese banks' US dollar borrowing in particular has already risen noticeably over the course of 2016, both in swap markets and in short-term funding markets in the United States.

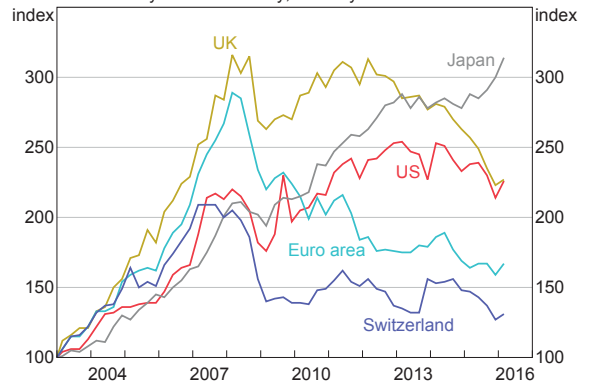
Graph 1.14
Banks' Net Interest Margins*



* Weighted average across selected large banks headquartered in each jurisdiction

Sources: RBA; S&P Global Market Intelligence

Graph 1.15
Foreign Bank Claims*
 By bank nationality, January 2003 = 100

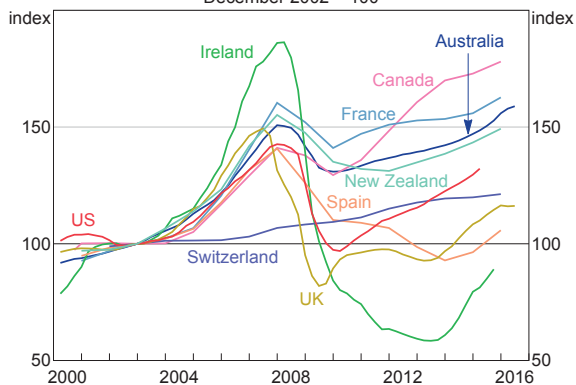


* Consolidated, immediate counterparty basis; series are approximately adjusted for breaks and exchange rate movements

Sources: BIS; RBA

As well as challenging bank profitability, low interest rates encourage investors to take on additional risk to maintain returns through 'search for yield' behaviour. This has boosted asset prices in a range of countries, raising the risk of a sharp and disruptive repricing, for example triggered by US monetary policy tightening. Commercial property prices have continued to increase strongly in many countries, including in the United States, Canada, New Zealand and parts of Europe (Graph 1.16), partly driven by robust domestic and foreign

Graph 1.16
Commercial Property Values*
 December 2002 = 100



* Series are capital returns indices, which measure changes in an asset's value net of any capital expenditure incurred in purchasing, developing or improving the property; based on an equal weighting of office and retail commercial property

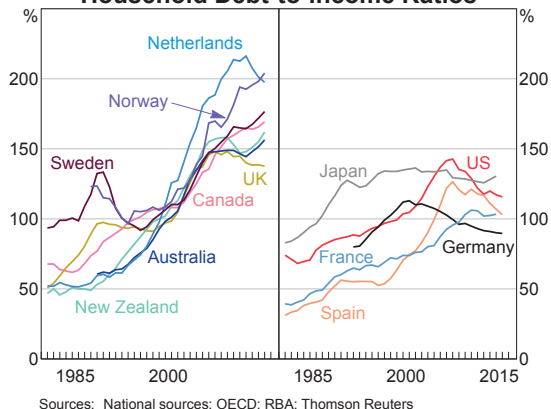
Sources: Bloomberg; IPD; RBA

investor demand. Rental yields in several markets have declined as rents have risen more slowly than prices. These developments have attracted increasing regulatory attention, consistent with commercial property markets having contributed to many past episodes of financial instability.

Low interest rates have also contributed to growth in housing prices in a range of advanced economies over recent years. This has attracted particular attention in Canada, Sweden, Norway and Hong Kong, where high household debt has increased further, implying greater household vulnerability to a negative shock (Graph 1.17). In response, the authorities in some economies have imposed macroprudential regulations, including higher countercyclical capital buffers, to try to limit the build-up of financial risks.

Low interest rates also present challenges for life insurance firms and defined benefit pension plans that have previously offered to pay guaranteed benefits to policyholders based on earlier higher interest rates and asset yields. As outlined in previous *Reviews*, these institutions rely on asset returns to meet return promises that are payable

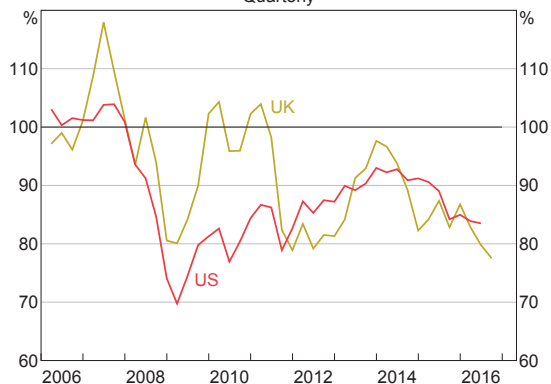
Graph 1.17
Household Debt-to-income Ratios



Sources: National sources; OECD; RBA; Thomson Reuters

long into the future, often longer than the available maturities on many financial assets.¹ The resulting maturity gap has led to a fall in funding ratios in some countries – the ratio of the present value of their assets to their liabilities – as interest rates have declined, creating significant funding shortfalls (Graph 1.18). Increasing longevity has also added to these firms' funding challenges. Although life insurance firms and defined benefit pension funds have been addressing their funding shortfalls, they

Graph 1.18
Defined Benefit Pension Plan Funding Ratios*
 Quarterly



* Aggregate ratio of funds' assets to liabilities; 'UK' includes funds eligible for entry to the Pension Protection Fund; 'US' includes private defined benefit pension funds

Sources: UK Pension Protection Fund; US Federal Reserve Board of Governors

¹ RBA (2015), 'Box A: Effects of Low Yields on Life Insurers and Pension Funds'; *Financial Stability Review*, October, pp 16–18.

remain prevalent and could have adverse effects on the finances of the corporate and sovereign sponsors. The shortfalls could also encourage compensatory saving by concerned policyholders and prompt underfunded plans to invest in riskier assets in a ‘gamble for resurrection’.

Policyholders remain concerned about the potential for low liquidity in some markets, and liquidity risks at asset managers, to exacerbate asset price falls and add to contagion. Liquidity risks are most prominent for asset managers who offer clients the ability to withdraw funds daily or even intraday despite investing in less liquid assets. Events following the UK referendum provided a timely illustration of these risks. Investor redemptions led to pronounced liquidity pressures at open-ended commercial property funds in the United Kingdom. Seven funds with around £18 billion in assets – or about half of the assets under management in this type of fund in the United Kingdom – responded by suspending redemptions; some other funds continued to allow redemptions but significantly raised the cost of doing so. These actions prevented widespread fire sales of commercial property, thereby protecting the interests of long-term fund investors and limiting contagion. However, these tools may not be available in all jurisdictions or be as effective in the event of a larger shock.

Asset managers also pose risks to financial stability if their investment strategies are procyclical and highly correlated, which increases the potential for the mispricing of risk and asset price volatility. They are also highly connected to other financial intermediaries. This includes sovereign wealth funds (SWFs), many of which experienced strong asset growth when commodity prices were high and capital inflows to their economies were strong. If commodity prices fall further, some SWFs of commodity-exporting nations could further redeem funds from external managers or sell assets that they hold directly to address government budget pressures. This could exacerbate price movements of riskier assets, especially as their investment

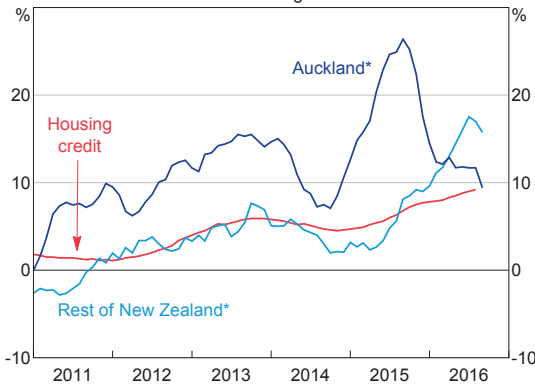
strategies are not transparent and some SWFs have large and concentrated positions in less liquid markets (because of their typically long investment horizons and low withdrawal risk).

New Zealand

Financial stability risks in New Zealand are of particular interest because the four major Australian banks all have large direct exposures to New Zealand through their subsidiaries and branches (see ‘The Australian Financial System’ chapter). There are also important similarities between Australia and New Zealand: banks have similar business models and economic and asset price cycles in the two countries are positively correlated. As a result, financial distress at a New Zealand institution could directly affect Australian banks and would likely occur at a time when Australian banks are also under stress.

Property-related risks in New Zealand bear similarities to Australia, but some appear to be increasing rather than receding. Both residential and commercial property prices have risen sharply in the global low-yield environment, with housing prices now at elevated levels relative to income and rents. New Zealand housing price growth is also being supported by large net migration inflow and constraints on housing supply. The Reserve Bank of New Zealand (RBNZ) has concluded that the sharp increase in housing prices, coupled with high household debt, increases the likelihood of – and potential losses from – rapid price falls in the future. The RBNZ has used macroprudential policies over the past four years to mitigate these risks, with a focus on lending at high loan-to-valuation ratios (LVRs) and to investors. In response, the share of all mortgage lending with an LVR greater than 80 per cent has fallen from around 20 per cent in late 2013 to around 12 per cent in mid 2016. LVR restrictions were tightened further from October 2016, due to the re-emergence of price pressures in Auckland and a marked pick-up in housing price growth elsewhere earlier in the year (Graph 1.19). The RBNZ

Graph 1.19
New Zealand Housing Credit and Prices
 Year-ended growth

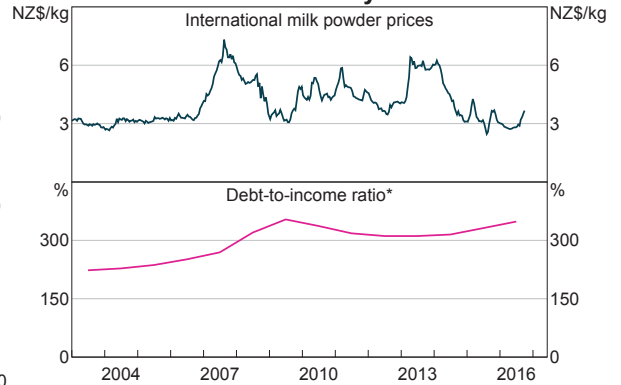


* Year to latest three months
 Sources: RBNZ; REINZ

is also considering debt-to-income ratio restrictions to improve households' resilience to income and interest rate shocks, and to further reduce the build-up of risks in the housing market.

Dairy sector risks are more idiosyncratic to New Zealand. Many dairy farmers are facing a third consecutive season of losses due to low milk powder prices (Graph 1.20). This has raised the risk of widespread defaults across the sector, although the risk has lessened of late as global prices have picked up. Dairy is New Zealand's largest export and accounts for around 7 per cent of GDP (compared with just 0.3 per cent of GDP in Australia). New Zealand banks' dairy exposures are significant, given both the importance of this sector to the local economy and higher levels of farm indebtedness. Banks' reported NPLs have increased only modestly to date, but have been held down by loan forbearance and favourable climatic

Graph 1.20
New Zealand Dairy Sector



* Income measure has been smoothed
 Sources: Bloomberg; RBA; RBNZ; USDA

conditions, as well as farmers' use of other income and assets; lower production costs (including the cost of debt service due to the current low interest rates) have also helped. Farmland prices have fallen, reducing farmers' equity buffers, but by less than in previous episodes of low dairy prices. Prices appear to have been supported by lower foreclosures, buying demand from institutional and overseas investors, and the ability to use agricultural land for alternative uses. It is not clear how long the current low dairy prices, or some of these mitigating factors, will persist.

The latest RBNZ stress test results for the major New Zealand banks suggest that the banks are resilient to a severe macroeconomic downturn, including large falls in housing and commercial property prices and a more gradual recovery in dairy prices and income. ✎