

# Statement on Monetary Policy

AUGUST 2016

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*Reserve Bank*

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# Overview

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Growth in economic activity in Australia's major trading partners has remained a little below average over the first half of 2016. Despite this, commodity prices overall have increased since the beginning of the year, partly because of reductions in supply by some high-cost producers of commodities, including iron ore and coal. The outlook for overall growth in Australia's major trading partners and the outlook for the terms of trade are little changed from three months ago. The terms of trade are forecast to remain close to current levels over the next couple of years. This is around 35 per cent lower than their peak in late 2011, but still well above levels that prevailed prior to the mining boom.

In China, subdued growth in private sector investment has been only partially offset by additional policy measures to support demand. Conditions in the Chinese residential property market have eased a little recently, while growth in the services sector has remained relatively strong. The effects of the gradual easing in economic growth in China have been evident in a number of east Asian economies and emerging economies in other regions that have strong trade links to China. The outlook for the Chinese economy remains an important source of uncertainty for global growth and demand for commodities. A substantial slowing in demand in the Chinese property market would pose risks for property developers and related industries, including the steel industry. There is also uncertainty related to how the Chinese authorities will respond to the difficult trade-off involved in supporting growth and avoiding financial

disruption in the near term, while achieving more financial discipline and broader reforms over the longer term.

In the major advanced economies, growth in GDP has been sufficient to drive further improvements in labour market conditions over the past year. Indeed, a number of economies are close to full employment. Despite this, wage growth remains subdued in most advanced economies.

Inflation remains below most central banks' targets. Globally, monetary policy continues to be remarkably accommodative and, for most jurisdictions, market participants generally expect it to remain so for an extended period or to become even more stimulatory. In an environment of low inflation and low inflation expectations, the Bank of Japan announced some additional stimulus measures at its July meeting. Market participants anticipate further easing by the European Central Bank and while the Bank of England left its policy rate unchanged at its July meeting, it signalled that it expects to ease policy in August. Market expectations for the US federal funds rate have declined over the past few months such that the next rate rise in the United States is not priced in until late 2017, although members of the Federal Open Market Committee have signalled that there is a reasonable likelihood of an increase before the end of 2016.

Volatility in foreign exchange and other financial markets increased significantly around the time of the UK referendum. Despite that volatility, financial markets, including those in Australia, continued to

function effectively. Volatility has since declined to more normal levels. Meanwhile, funding costs for high-quality borrowers remain low. The Australian dollar has appreciated a little since the previous *Statement on Monetary Policy*.

In Australia, low interest rates and the depreciation of the Australian dollar exchange rate since early 2013 are continuing to support the rebalancing of economic activity towards non-resource sectors. Growth in GDP was stronger than expected in the March quarter, in large part because of a substantial rise in resource exports, which were boosted by unusually favourable weather conditions. More recent data suggest that real GDP growth was more moderate in the June quarter, as expected.

The unemployment rate has remained at around 5¾ per cent over 2016, which is around ½ percentage point lower than a year or so ago. Following particularly strong growth late last year, employment growth has been slower this year. While this was largely expected, recent employment growth has been concentrated in part-time employment. Forward-looking indicators of the labour market have been mixed of late. Those indicators overall are consistent with a modest pace of employment growth in the near term and little change in the unemployment rate.

There has been very little change to the outlook for economic activity since the previous *Statement*. GDP growth is expected to be around 2½–3½ per cent over 2016, before increasing to around 3–4 per cent by 2018, which is above estimates of potential growth in the Australian economy.

Consistent with the profile for economic activity, employment growth is expected to increase gradually and the unemployment rate is expected to fall a little. This would imply spare capacity remaining in the labour market throughout the forecast period. However, there is considerable uncertainty about the outlook for the labour market. In part, this reflects the recent divergence between growth in employment and hours worked.

In addition, past relationships between growth in GDP and employment may be less useful as a guide in the coming years given the strong prospective contribution to GDP growth from liquefied natural gas production, which is less labour intensive than most other industries.

Household consumption growth is expected to be close to its long-run average over the next couple of years. Surveys suggest that households' perceptions of their own finances have been above average in recent months – notwithstanding relatively weak income growth – and expectations of unemployment are lower than in recent years. Income growth is expected to pick up gradually, but it is likely to remain a bit lower than consumption growth for a time. This implies that the household saving ratio will decline gradually, extending the downward trend of the past few years.

Dwelling investment has continued to grow strongly. While building approvals have declined over the past year, they remain elevated and the pipeline of dwelling construction is at very high levels. This is expected to support dwelling investment for some time, but also raises the risk of oversupply in some markets.

Conditions in the established housing market appear to have eased since last year. While one source of data recorded strong growth in housing prices in April and May, that growth appears to have been overstated and other sources suggest that housing price growth was modest over those and more recent months. Moreover, a range of other indicators are consistent with an easing in conditions. In particular, housing credit growth remains lower than a year ago, consistent with the tightening in lending standards towards the end of 2015 and the decline in turnover in the housing market to low levels this year. Also, the rental vacancy rate has drifted higher, to be close to its long-run average, and inflation in rents has eased to multi-decade lows.

Trade data indicate that net exports made a much smaller contribution to GDP growth in the June quarter than in the March quarter. Even so, net exports are expected to continue making a positive contribution to growth over the period ahead, supported by the earlier exchange rate depreciation and the ramp-up in liquefied natural gas production. Mining investment still has further to fall as projects are progressively completed, although the effect of this on GDP growth should diminish noticeably over the next year or so. While there are signs that non-mining business investment is rising in some parts of the economy, most indicators of business investment intentions and non-residential construction activity suggest that overall non-mining business investment will remain subdued in the near term. At the same time, survey measures of business conditions and capacity utilisation are noticeably above their long-run averages. Non-mining business investment is expected to pick up in the latter part of the forecast period as demand strengthens.

The latest data on inflation and labour costs confirm that domestic cost pressures remain subdued. Measures of underlying inflation picked up to ½ per cent in the June quarter, to be around 1½ per cent over the year. This outcome was in line with the forecasts in the May *Statement*. Subdued domestic cost pressures reflect a number of factors, including the effect of the decline in the terms of trade and mining investment over recent years, and spare capacity in labour and a number of product markets. Low wage growth and a decline in margins contributed to non-tradables inflation remaining around its lowest level since the late 1990s in year-ended terms, and have largely offset the significant upward pressure on the prices of tradable items arising from the depreciation of the exchange rate over the past few years.

Underlying inflation is expected to remain around current rates in the near term, before picking up gradually to around 2 per cent by the end of the

forecast period. The substantial depreciation of the exchange rate over recent years is expected to continue exerting upward pressure on the prices of tradable items for some time. Wage growth is expected to remain low in the near term, before rising modestly over the forecast period as labour market conditions improve and the adverse effects of the decline in the terms of trade and mining investment wane. There is, however, considerable uncertainty about the timing and the size of these effects. The outlook for the balance of supply and demand in the housing market is also an important source of uncertainty. Among other things, this will have a bearing on inflation given that housing costs make up a significant share of the CPI basket. While the exchange rate is assumed to remain around current levels over the forecast period, it may respond to any unanticipated changes to the outlook for growth in Australia or offshore, commodity prices or monetary policy decisions in Australia or elsewhere. It therefore represents a significant source of uncertainty for the forecasts of inflation, as well as for the outlook for growth in activity.

In May, with the outlook for economic activity and the unemployment rate little changed but the inflation outlook lower than previously anticipated, the Board decided to reduce the cash rate by 25 basis points. At the same time, the Board had taken careful account of developments in the housing market, noting the effects of supervisory measures to strengthen lending standards, the easing in housing credit growth and the abatement of strong price pressures.

The data coming to hand since then have not altered the outlook for output and unemployment, and confirm that inflation is likely to remain below 2 per cent over most of the forecast period. While the prospects for growth in economic activity are positive, there is room for even stronger growth. Also, recent information implies that dwelling prices have been rising modestly over the course

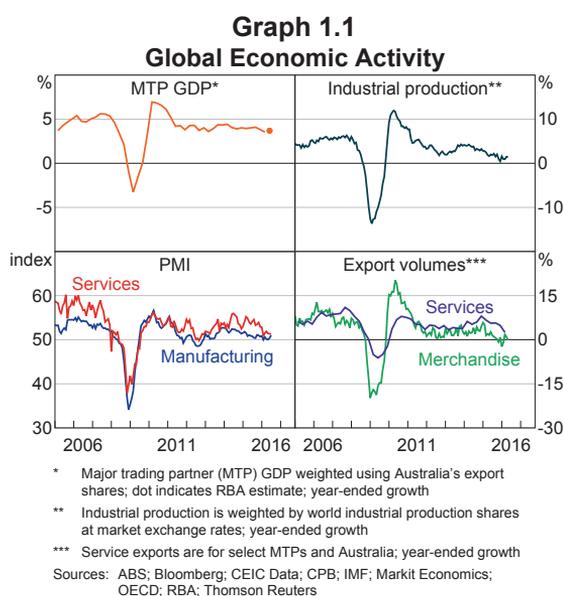
of this year and confirms that growth in lending for housing purposes has slowed since last year. All this suggests that the risks associated with high and rising household sector leverage and rapid gains in housing prices have diminished.

Given this background, the Board judged that prospects for sustainable growth in the economy, with inflation returning to target over time, would be improved by a further easing of monetary policy. Accordingly, the cash rate was reduced by 25 basis points at the August meeting. ✎

# 1. International Economic Developments

GDP growth in Australia's major trading partners was a little below its decade average over the first half of 2016 (Graph 1.1). Growth in China continued to ease, while GDP growth rates in the major advanced economies have been around or above their decade averages over the past year. Expansionary monetary policy is continuing to support growth in most economies and fiscal policies have become less contractionary. The outcome of the United Kingdom's referendum to leave the European Union led to heightened uncertainty and is expected to lead to lower growth in the United Kingdom. The impact on the rest of the world is likely to be limited, absent any financial market dislocation or wider political instability in the European Union.<sup>1</sup>

Growth in global industrial production, manufacturing activity and trade has been below average for much of the period since the global financial crisis. Among other things, this has reflected the effects of heightened uncertainty and the slow recovery in economic activity on investment, particularly in the advanced economies.<sup>2</sup> Since mid 2014, weaker demand from commodity-exporting emerging market economies (where imports have declined over the past two years) and China has also restrained trade growth (Graph 1.2). The decline in export growth over the past couple of years has been pronounced for the



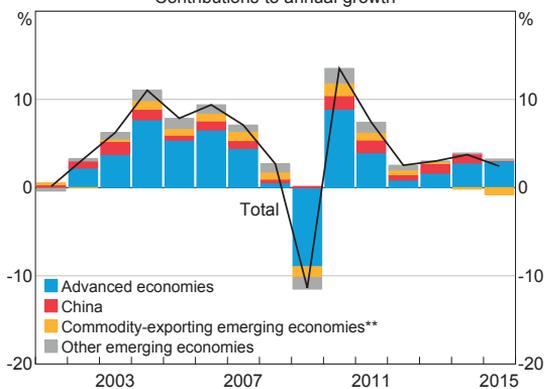
high-income east Asian economies, which have a high trade exposure to China and to other emerging market economies. While commodity prices remain low relative to recent years, they have increased over 2016 and are still well above the levels of a decade ago. Low oil prices should continue to support growth in Australia's major trading partners, which are generally net oil importers.

Labour market conditions in most advanced economies continue to improve and a number of these economies are close to full employment. Despite this, global inflation remains low and below most central banks' targets and longer-run averages (Graph 1.3). Year-ended headline inflation in advanced economies has picked up a little since late 2015, as the effect of earlier declines in oil prices

1 See, for example, Council of Financial Regulators (2016), 'Report on the Implications of Brexit', July, available at <<http://www.cfr.gov.au/publications/cfr-publications/2016/report-on-the-implications-of-brexit/>>.

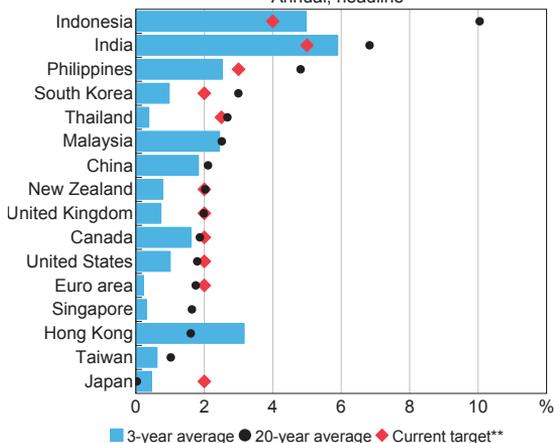
2 See, for example, Jääskelä J and T Mathews (2015), 'Explaining the Slowdown in Global Trade', RBA Bulletin, September, pp 39–46.

**Graph 1.2**  
**Global Import Volumes\***  
Contributions to annual growth



\* Covers 87 per cent of global economies by PPP-weighted GDP, includes goods and services imports  
 \*\* Economies for which gross commodity exports represent more than 35 per cent of total exports and net commodity exports represent more than 5 per cent of total trade, on average, between 1962 and 2014  
 Sources: OECD; RBA; Thomson Reuters

**Graph 1.3**  
**Major Trading Partners – Inflation**  
Annual, headline\*



\* The US measure is the personal consumption expenditure deflator. For Japan, the estimated effect of the 2014 consumption tax increase is excluded  
 \*\* The mid-point is used for those economies with a target band  
 Sources: CEIC Data; central banks; IMF; RBA; Thomson Reuters

has moved out of the year-ended calculations. Core inflation has also increased in advanced economies over the past year, most notably in the United States, but has declined a little in emerging economies.

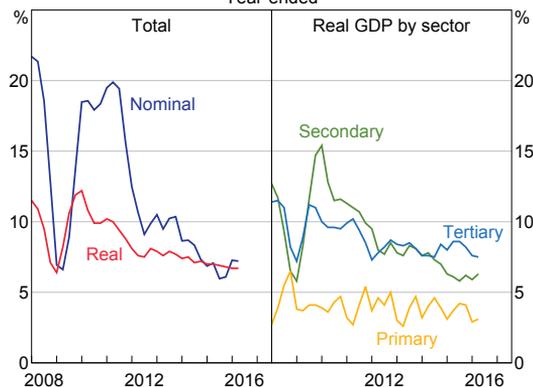
## Asia-Pacific

In China, economic growth eased a little further in the first half of 2016 (Graph 1.4). Growth in the industrial (secondary) sector has declined considerably in recent years and subdued conditions in that sector have been associated with declining growth in private investment. Activity in the mining and manufacturing industries remains weak, although stronger conditions in the residential property sector in the first half of the year have supported the output of construction-related products, including steel.

Growth in Chinese private fixed asset investment has fallen sharply, although this has been partly offset by rapid growth in public investment spending over the past year, including on infrastructure (Graph 1.5). The Chinese Government has instructed relevant government agencies and local authorities to reduce impediments to private investment and facilitate increased bank lending to private sector firms.

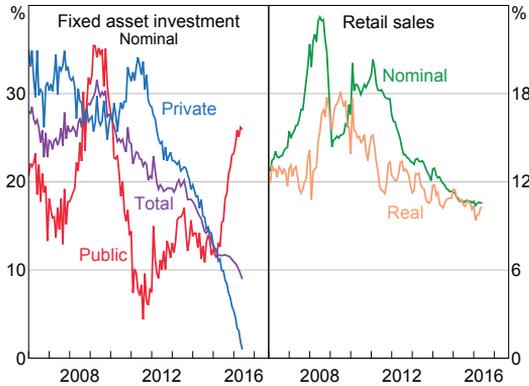
Overall growth in the Chinese economy has been supported by relatively strong growth in the services (tertiary) sector, notwithstanding slower growth in financial services of late. Indicators of consumption growth (including growth in retail sales) have been little changed in recent months.

**Graph 1.4**  
**China – GDP Growth**  
Year-ended



Sources: CEIC Data; RBA

**Graph 1.5**  
**China – Expenditure Indicators**  
Year-ended growth



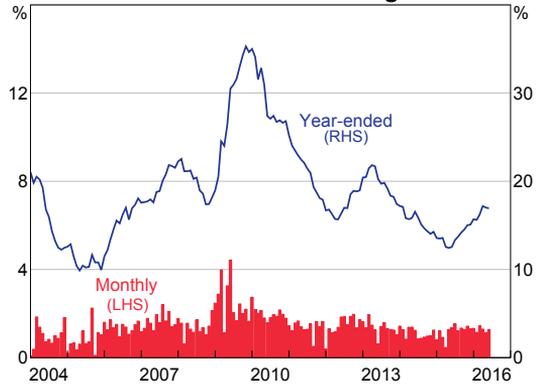
Sources: CEIC Data; RBA

Conditions in Chinese housing markets had strengthened since late 2015, in part reflecting earlier policy measures to support the market. More recently, however, conditions have moderated a little, including in some of the large and mid-sized cities where measures were recently introduced to restrain demand in response to very strong property price growth. In most cities, housing price growth has eased or remained little changed in recent months, while the volume of floor space sold and real estate investment have declined a little (see 'Box A: The Pick-up in the Chinese Housing Market').

Financial conditions in China remain relatively accommodative. Growth in total social financing has stabilised in recent months (after adjusting for the impact of the local government debt restructuring program) (Graph 1.6). The pace of corporate bond issuance has moderated, however, and growth in off-balance sheet lending has been low by historical standards.

Excess supply in the global industrial sector has contributed to weak global investment growth. Consistent with this, Chinese trade volumes have fallen over recent years (Graph 1.7). However, imports of iron ore, including from Australia, have risen in recent months, as Chinese iron ore production has declined further.

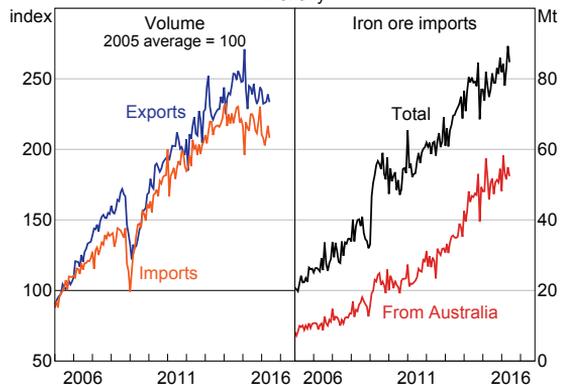
**Graph 1.6**  
**China – Total Social Financing Growth\***



\* Seasonally adjusted by RBA; upper bound estimate adjusting for impact of local government bond issuance to pay off debt previously included in TSF

Sources: CEIC Data; People's Bank of China; RBA

**Graph 1.7**  
**China – Merchandise Trade\***  
Monthly



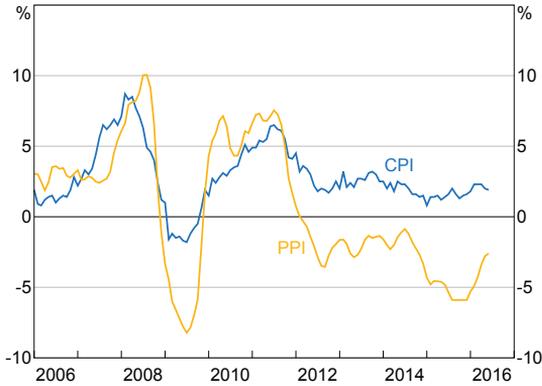
\* Seasonally adjusted by RBA

Sources: CEIC Data; RBA

Inflationary pressures remain subdued in China. CPI inflation has been little changed in recent months as earlier increases in food prices have been unwound. Deflation in producer prices has continued to ease, consistent with increases in commodity prices (Graph 1.8).

In east Asia (excluding China and Japan), economic growth has slowed since late 2014, driven almost entirely by developments in the high-income economies. As these economies are quite reliant on trade, softer demand from China and other emerging economies has led to stagnant

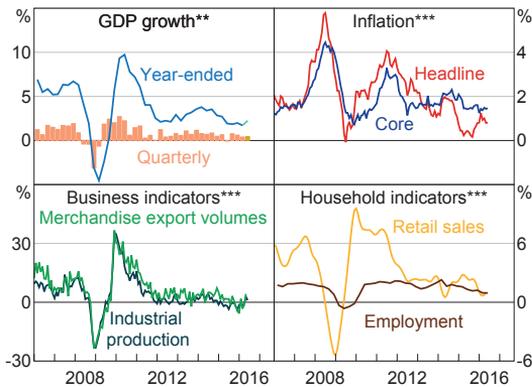
**Graph 1.8**  
**China – Inflation**  
Year-ended



Sources: CEIC Data; RBA

merchandise export volumes and industrial production (Graph 1.9).<sup>3</sup> Business investment has also been subdued over the past year. The exchange rate depreciations in the region over the past 1½ years should support net export volumes and economic activity more generally in the period ahead. Consumption growth in the high-income east Asian economies was resilient in 2015, but

**Graph 1.9**  
**High-income East Asia – Economic Indicators\***



\* Hong Kong, Singapore, South Korea and Taiwan

\*\* June 2016 data are estimates

\*\*\* Year-ended growth; retail sales is a 13-term Henderson trend; employment is a quarter average

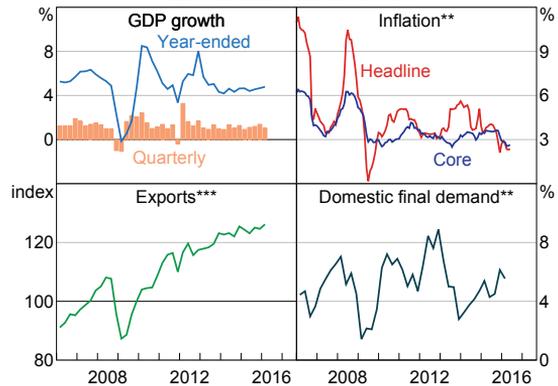
Sources: CEIC Data; IMF; RBA; Thomson Reuters; United Nations

3 The ratio of exports to GDP in the high-income east Asian economies is around 80 per cent, compared with around 40 per cent in the middle-income east Asian economies.

looks to have moderated in 2016. This has coincided with a decline in employment growth and a slight increase in unemployment rates. Core inflation has eased since late 2014 and headline inflation remains low. A number of central banks in the region have eased monetary policy in the past year and several governments have increased spending and implemented temporary tax reductions. This includes the Korean Government, which is planning the third package of stimulus measures since 2015 (equivalent to around 1 per cent of GDP) aimed at supporting domestic consumption.

In contrast, GDP growth in the middle-income east Asian economies has been more resilient and remains around its decade-average (Graph 1.10). While these economies are also facing subdued external demand, they are less exposed to international trade than their high-income counterparts in the region. Domestic final demand in the middle-income economies has continued to be driven by moderate consumption growth and a marked increase in investment growth over the second half of 2015. Both headline and core inflation remain relatively low and have eased in recent months.

**Graph 1.10**  
**Middle-income East Asia – Economic Indicators\***



\* Indonesia, Malaysia, Philippines and Thailand

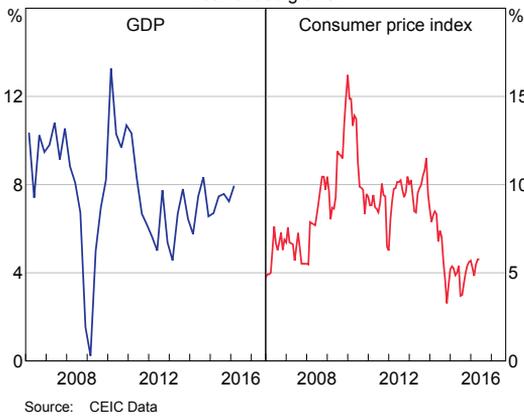
\*\* Year-ended growth

\*\*\* 2007 average = 100; exports are the national accounts measure

Sources: CEIC Data; IMF; RBA; Thomson Reuters

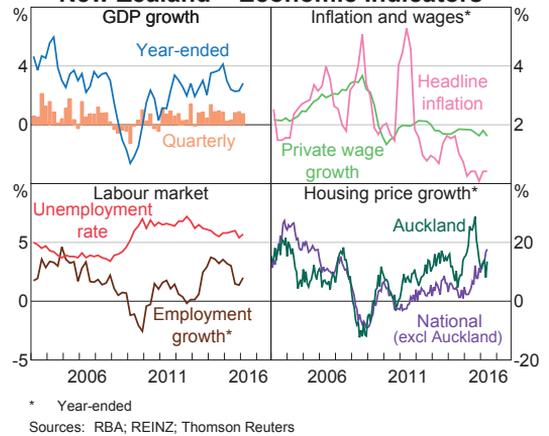
In India, economic growth has continued to edge higher, as relatively strong consumption growth has more than offset weaker growth in investment (Graph 1.11). CPI inflation is currently a little above the Reserve Bank of India's interim goal of 5 per cent by March 2017. Rising food price inflation has contributed to the recent pick-up, although above-average monsoon rainfall has been forecast for 2016, which would support agricultural production and mitigate upward pressure on food prices.

**Graph 1.11**  
**India – GDP Growth and Inflation**  
Year-ended growth



The New Zealand economy has grown at around its long-term average pace since mid 2015, supported by accommodative monetary policy and the earlier exchange rate depreciation (Graph 1.12). The unemployment rate is around its lowest level since 2009, as employment growth has been sufficient to absorb the record-high level of net immigration. Tax and regulatory changes aimed at curtailing investor activity in the housing market, particularly in Auckland, have seen housing price growth in Auckland moderate since October last year, although housing price growth has continued to increase in the rest of the country. The Reserve Bank of New Zealand has proposed new nationwide restrictions that will further limit high loan-to-valuation ratio lending and these are likely to come into effect in September this year. Headline consumer price inflation remains around historically

**Graph 1.12**  
**New Zealand – Economic Indicators**

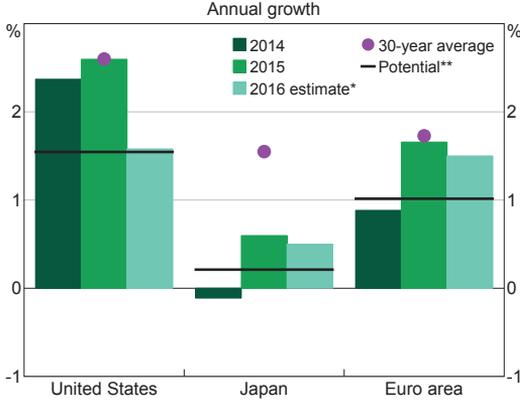


low levels, reflecting downward pressure from energy prices and subdued underlying inflationary pressures. Nominal wage growth has been low, although modest productivity growth implies that unit labour costs are growing at around their average rate of 2 per cent in year-ended terms.

## Major Advanced Economies

GDP growth in the major advanced economies is around or a little above estimates of potential growth, which are generally lower than long-term average growth rates due to declining working-age population growth, weaker productivity growth and, in some cases, lingering effects from the global financial crisis (Graph 1.13). Growth in the United States picked up a little in the June quarter, but has declined in year-ended terms, while Japanese GDP was little changed over the past year. The euro area economy grew at an above-trend rate in the first half of 2016, although heightened uncertainty following the outcome of the United Kingdom's referendum could dampen output growth a little in the period ahead. At this stage, the referendum outcome seems to have had relatively little economic impact outside the United Kingdom. Consumer confidence and survey measures of business conditions remain at or above average levels in the three largest advanced economies (Graph 1.14).

**Graph 1.13**  
Major Advanced Economies – GDP

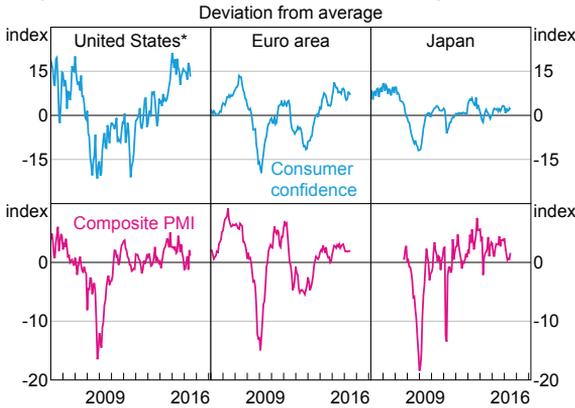


\* US based on IMF forecast as at July 2016, adjusted for the June quarter GDP outcome; Japan and euro area based on Consensus Economics forecasts as at July 2016

\*\* US and euro area estimates are for 2016; Japan estimate is for the six months ending March 2016

Sources: Bank of Japan; Congressional Budget Office; Consensus Economics; European Commission; IMF; RBA; Thomson Reuters

**Graph 1.14**  
Major Advanced Economies – Survey Indicators

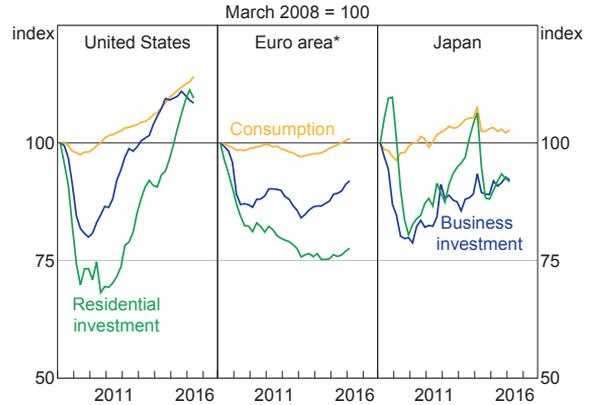


\* ISM surveys used to construct a composite survey index

Sources: RBA; Thomson Reuters

Over the past two years, private consumption has been the key driver of growth in the United States and the euro area (Graph 1.15). In contrast, consumption in Japan has remained subdued since the increase in the consumption tax in early 2014. This led the Japanese Government to postpone the next scheduled increase in the consumption tax from April 2017 to October 2019 and to pursue further fiscal stimulus measures. Consumption growth in the major advanced economies continues to be supported by: low borrowing rates

**Graph 1.15**  
Major Advanced Economies – GDP Expenditure Components



\* Business investment in the euro area includes both public and private investment

Source: Thomson Reuters

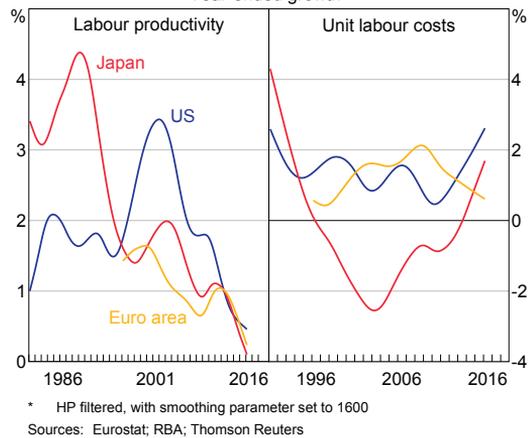
owing to accommodative monetary policies; the boost to real incomes from low fuel prices; and increases in household wealth, including from rising housing prices. Working in the other direction, nominal wage growth remains low.

In the United States, the strength in business investment has waned since late 2014. Investment has declined in the oil & gas and manufacturing sectors, reflecting the fall in oil prices, weaker external demand and the appreciation of the US dollar. In contrast, residential dwelling investment has grown strongly over the past year and a half, supported by an increase in demand for higher-density dwellings and low residential mortgage rates, although there are some signs that it has eased of late. In the euro area and Japan, residential and business investment remain well below their pre-crisis levels. Nonetheless, euro area investment has grown at an above-average rate since early 2015. Business investment in Japan appears to have declined in the first half of 2016, which may, in part, reflect the effects of the appreciation of the yen since late 2015 and weaker external demand; however, survey measures of business investment intentions have held up and corporations still expect to increase investment over the year to March 2017.

Labour markets have improved considerably in recent years across the major advanced economies. Employment growth has been robust in all three economies, resulting in declining rates of unemployment and underemployment (Graph 1.16). Unemployment rates in the United States and Japan are now at or below their long-run averages and estimates of equilibrium levels, indicating that there is little spare capacity in the labour market. Consistent with this tightening, some labour compensation measures suggest a slight pick-up in wage pressures in these economies. Even though nominal wage growth remains low, productivity growth has been weak, such that unit labour costs in the US and Japanese economies have been growing at above-average rates (Graph 1.17). The unemployment rate in the euro area remains well above its long-run average level. Consistent with this, growth in compensation per employee in the euro area remains close to its historic low and unit labour cost growth has declined.

Inflation in the major advanced economies remains below the respective central banks' targets. While core inflation is above its 2015 lows, it has declined in the euro area and Japan over the past six months or so (Graph 1.18). Most measures of inflation expectations in the major advanced economies

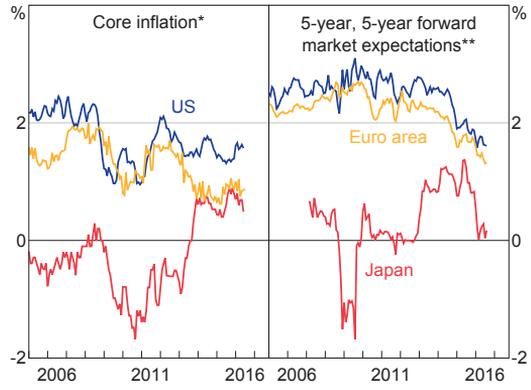
**Graph 1.17**  
**Major Advanced Economies – Productivity and Unit Labour Costs**  
 Year-ended growth\*



\* HP filtered, with smoothing parameter set to 1600  
 Sources: Eurostat; RBA; Thomson Reuters

have declined in recent years to historically low levels. Much of the decline in longer-term market-based inflation expectations in the United States and the euro area has coincided with the decline in oil prices that has also contributed to low headline inflation. Japanese long-term inflation expectations have fallen sharply since late 2015 and have returned to where they were before the Bank of Japan renewed its quantitative easing program in early 2013.

**Graph 1.18**  
**Major Advanced Economies – Inflation**  
 Year-ended



\* Personal consumption expenditures (PCE) inflation for the US; Japan data exclude the effects of the consumption tax increase in April 2014  
 \*\* US expectations adjusted to be comparable to PCE inflation  
 Sources: Bloomberg; RBA; Thomson Reuters

**Graph 1.16**

**Major Advanced Economies – Labour Market**



\* Employment cost index for the US; compensation per employee for the euro area; average scheduled cash earnings for Japan  
 Sources: Eurostat; RBA; Thomson Reuters

## United Kingdom

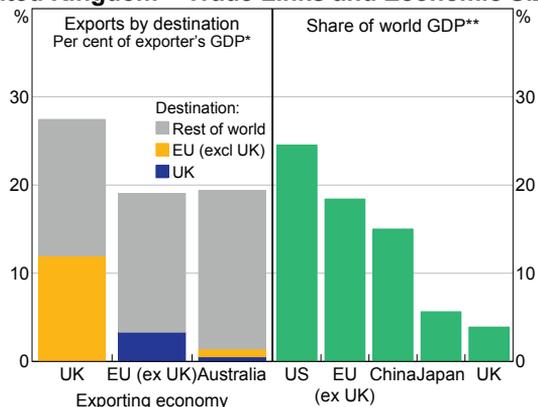
The United Kingdom voted to leave the European Union in a referendum held on 23 June. The formal notification of the decision will trigger a two-year period during which the terms of the United Kingdom's withdrawal from the European Union need to be negotiated.

Prior to the referendum, the UK economy had been growing at a moderate rate (Graph 1.19). Inflation had been below the Bank of England's target for some time, despite very stimulatory monetary policy and a tightening labour market. UK business investment had undergone a recovery, leading to the level of investment surpassing pre-global financial crisis levels in 2014. However, the increase in uncertainty in the lead up to the referendum may have dampened business investment more recently. Surveys of UK consumer confidence and business activity declined sharply after the referendum.

Leaving the European Union is likely to make it more costly and difficult for the United Kingdom to export goods and services to the region. This is important because the United Kingdom's international investment and trade flows, particularly with the European Union, are large. The United Kingdom's combined foreign assets and liabilities are equivalent to around 10 times its GDP;

UK exports equate to around 27 per cent of GDP, nearly half of which are to the rest of the European Union (Graph 1.20). IMF and OECD estimates suggest that UK GDP could be between 1 and 5 per cent lower by the end of 2018, in the absence of any policy response.<sup>4</sup>

**Graph 1.20**  
**United Kingdom – Trade Links and Economic Size**



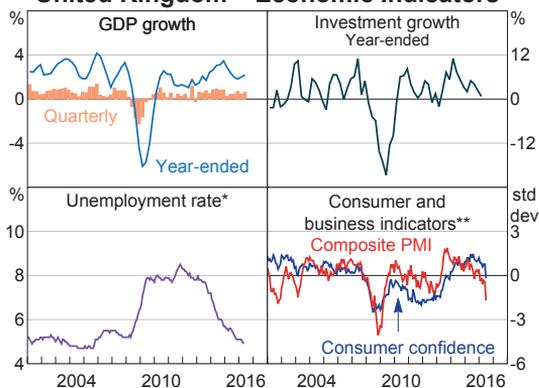
\* 2015 exports; excludes intra-European Union exports

\*\* 2015 GDP at market exchange rates

Sources: IMF; Thomson Reuters

**Graph 1.19**

### United Kingdom – Economic Indicators



\* Three-month moving average

\*\* Standard deviation from long-run average

Sources: Markit; RBA; Thomson Reuters

## Commodity Prices

Commodity prices overall are above the lows reached around the turn of the year, but are about 50 per cent below their 2011 peak (Table 1.1; Graph 1.21). Those declines reflect both substantial increases in supply as resource projects have started production as well as weaker global demand, especially from Asia.

The spot price of iron ore has risen sharply in recent weeks, following declines over the previous couple of months (Graph 1.22). The spot price is now around 65 per cent below its 2011 peak, although it remains well above its mid-2000s level. The prices of iron ore and steel had been supported by the

<sup>4</sup> See IMF (2016), 'United Kingdom Selected Issues: Macroeconomic Implications of the United Kingdom Leaving the European Union', Staff Report on the 2016 Article IV Consultation, April, available at <<http://www.imf.org/external/pubs/ft/scr/2016/cr16169.pdf>> and OECD (2016), 'Box 1.1. Financial Market Shocks from Brexit', OECD Economic Outlook, 2016(1), available at <<http://www.oecd.org/eo/outlook/OECD-Economic-Outlook-June-2016-general-assessment-of-the-macroeconomic-situation.pdf>>.

**Table 1.1: Commodity Price Growth<sup>(a)</sup>**  
SDR, three-month-average prices, per cent

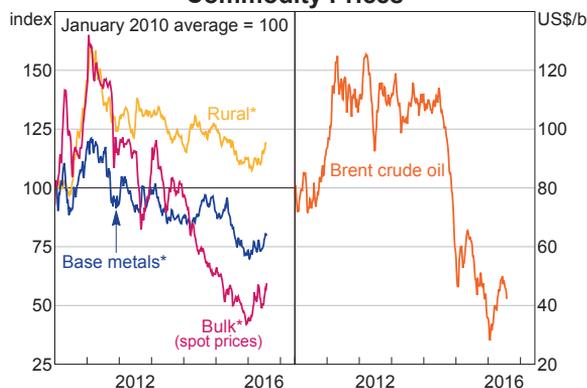
	Since previous Statement	Over the past year
Bulk commodities	2	-2
– Iron ore	-4	-5
– Coking coal	9	7
– Thermal coal	9	-5
Rural	4	-3
Base metals	2	-11
Gold	4	11
Brent crude oil <sup>(b)</sup>	20	-22
RBA ICP	4	-7
– using spot prices for bulk commodities	2	-5

(a) Prices from the RBA ICP; bulk commodities prices are spot prices

(b) In US dollars

Sources: Bloomberg; IHS; RBA

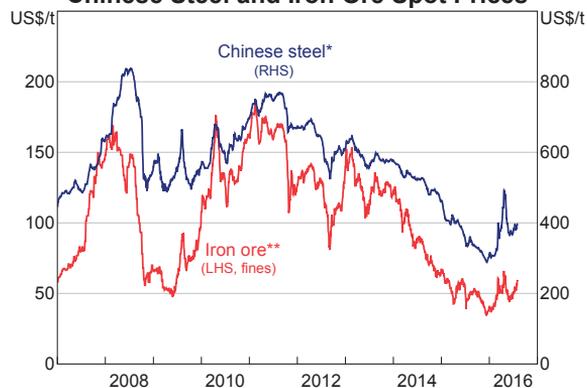
**Graph 1.21**  
**Commodity Prices**



\* RBA Index of Commodity Prices sub-indices, SDR

Sources: Bloomberg; RBA

**Graph 1.22**  
**Chinese Steel and Iron Ore Spot Prices**



\* Average of hot rolled steel sheet and steel rebar prices

\*\* Free on board basis

Sources: Bloomberg; RBA

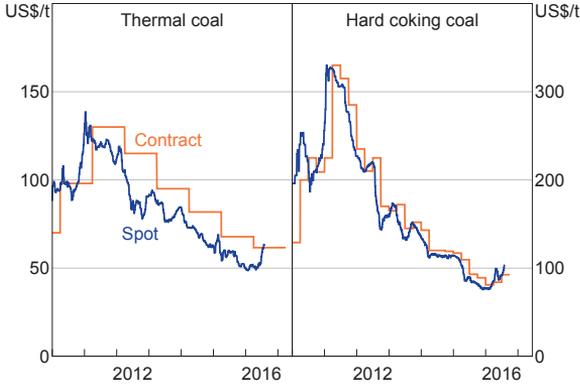
Chinese Government's announcement of its 2016 growth targets in early March, which improved the near-term outlook for steel demand. Speculative activity in derivative markets and restocking of iron ore inventories were also likely to have played a role in pushing prices higher for a time, but the prices of steel and iron ore declined following actions by the Chinese authorities to curb speculative activity. Chinese steel production is expected to moderate over the year ahead. At the same time, global supply of iron ore is expected to rise as increased supply from Australia and Brazil more than offsets

the recent cuts to Chinese iron ore production. The combination of these factors is expected to exert downward pressure on prices.

After declining for much of the past five years, prices of thermal and coking coal have increased in recent months, and are now over 30 per cent above their lows earlier in the year (Graph 1.23). While thermal coal prices remain under pressure from weaker global demand, both thermal and coking coal prices have been supported by ongoing reductions in global supply, including from Chinese

**Graph 1.23**  
**Coal Prices**

Free on board basis



Sources: Department of Industry, Innovation and Science; IHS; RBA

and Indonesian producers. Notwithstanding recent increases, at current prices a substantial share of global coal production, including in Australia, is estimated to be unprofitable.

Concerns about global demand, particularly subdued growth of global industrial production, have led to declines in the prices of base metals over the past year, although declines in the production of some of these commodities have supported prices in recent months.

The Brent crude oil price has been higher in the past three months, following supply disruptions in several countries, including Canada and Nigeria (Graph 1.21). Prices have declined more recently, reflecting an increase in global supply and no indication that global production will be lowered. Regional liquefied natural gas (LNG) prices have been weak of late. This reflects the earlier decline in oil prices around the turn of the year, as changes in oil prices tend to affect LNG prices with a lag of a few quarters. The overall increase in the price of oil since then will flow through to the export price of contracted LNG volumes in coming quarters, but increased supply from Australian exporters is likely to place downward pressure on the regional LNG spot price over the next couple of years. ✖

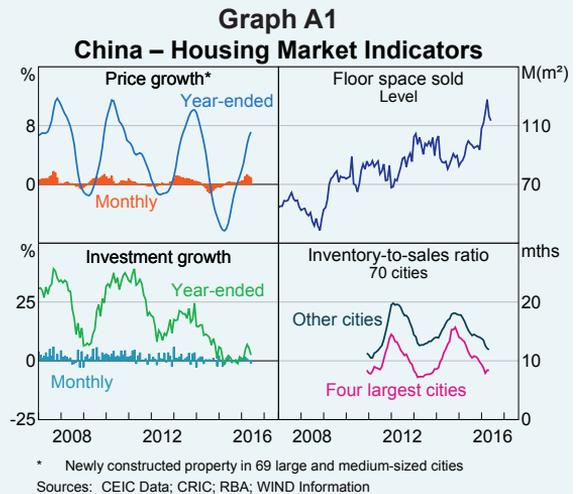
## Box A

# The Pick-up in the Chinese Housing Market

Dwelling investment has made a significant contribution to GDP growth in China over recent history. Developments in the Chinese housing market affect demand for Australia's exports of iron ore and coking coal owing to the steel-intensive nature of residential construction. Conditions in the Chinese housing market have picked up since the start of 2016 (Graph A1). Housing price inflation has risen, sales (measured as residential floor space sold) have grown rapidly and housing investment has strengthened after a period of weakness. The ratio of unsold inventory of developers to sales has declined, although the stock of unsold property remains high.

Government policy has played an important role in Chinese housing market cycles and a range of stimulus measures implemented since 2014 has contributed to the latest strengthening of conditions.<sup>1</sup> These policies have encouraged purchases of housing with the goal of reducing inventory levels, which have been high in many parts of the country (Graph A1). In September 2015, the minimum down payment for first-home buyers was lowered from 30 per cent to 25 per cent in most cities and a further discretionary 5 percentage point cut was authorised in February 2016. Minimum down payments on second properties were reduced from 60–70 per cent to 30 per cent over the same period. Benchmark lending rates have been cut by around 165 basis points since late 2014, and the estimated national average mortgage rate (a measure of rates actually paid) has fallen by an additional 70 basis points relative to these benchmarks. Property transaction taxes

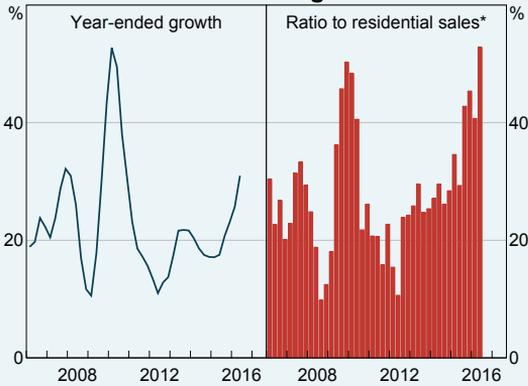
<sup>1</sup> For further discussion of the Chinese housing market, see Cooper A and A Cowling (2015), 'China's Property Sector', RBA *Bulletin*, March, pp 45–54.



have been reduced and there have been targeted easing measures in some areas, such as subsidies for certain types of home buyers. However, local authorities in some areas have more recently introduced measures to temper strong housing price increases, as discussed in more detail below.

Following these earlier stimulatory measures, housing credit has grown rapidly, rising by more than 30 per cent over the year to June 2016 (Graph A2). Housing credit has also increased sharply relative to the value of property sales, suggesting that buyers are using more leverage to purchase property. Investor demand for housing appears to have contributed to the recent strength in many local housing markets. One likely reason for this is the perceived lack of alternative high-yielding investments, particularly given the unwinding of the equity market boom and declines in yields on wealth management products since mid 2015. While there are no reliable publicly available data that decompose housing purchases by investors

**Graph A2**  
**China – Housing Credit**



\* Seasonally adjusted; ratio of quarterly change in the stock of credit to quarterly residential sales

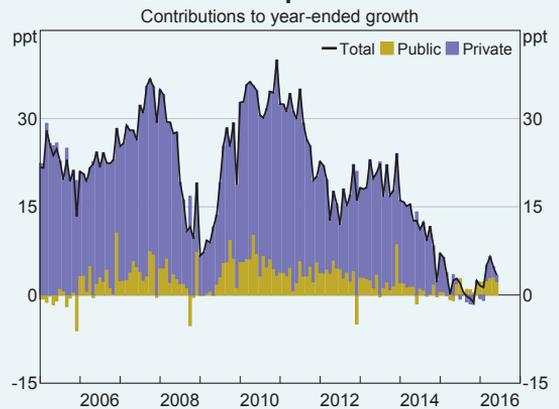
Sources: CEIC Data; RBA

and owner-occupiers, recent media reports suggest that investor demand for housing has accounted for an increasing share of purchases in housing markets that have experienced very strong demand, such as Shenzhen.

The pick-up in investment and sales is also likely to have been supported by policies targeted at property developers, including greater flexibility to alter project plans to satisfy evolving market demand more effectively (for example, allowing developers to change the configuration of rooms in a planned property). State-owned firms have contributed noticeably to the recent pick-up in real estate investment and there have been reports of some state-owned developers purchasing inventory from troubled private developers (Graph A3).

Despite the overall pick-up in housing market conditions, considerable differences across regions have persisted, reflecting differences in local economic conditions. Housing price growth has been weaker and inventory remains highest in smaller cities, reflecting more limited employment opportunities and high levels of dwelling construction relative to demand. In contrast, price growth has been stronger in larger cities, which

**Graph A3**  
**Real Estate Development Investment**



Sources: CEIC Data; RBA

are characterised by resilient labour markets and a relatively tight supply of housing and land. Many of those mid-sized or smaller cities experiencing rapid price increases, including Foshan, Huizhou, Langfang, Suzhou, Zhongshan and Zhuhai, are located close to one of China's four largest cities (commonly referred to as the 'Tier 1' cities), suggesting that demand may have spilled over from the larger city to the smaller neighbour.<sup>2</sup>

In some housing markets, price growth has been so substantial that the local authorities have responded with tightening measures. In March 2016, the Shanghai and Shenzhen municipal governments announced an increase in minimum down payment requirements for individuals with prior mortgages or existing property ownership and stricter regulations around property purchase for persons without local residency permits. Authorities in the mid-sized cities of Nanjing and Suzhou announced in May that price ceilings would be imposed on certain land purchases.

Given the large stock of unsold properties nationally, any slowing in demand from current levels would pose potential risks for property developers and upstream suppliers of raw materials to residential

2 China's 'Tier 1' cities are Beijing, Guangzhou, Shanghai and Shenzhen.

construction. The recent pick-up in sales has facilitated some reduction in developers' inventories. Yet land prices have been rising relative to housing prices in a number of cities, potentially squeezing developer margins, and the degree of gearing has continued to rise for mainland-listed developers. Developers have diversified their funding sources in recent years, decreasing their direct reliance on bank lending. Given the dominance of banks in China's financial system, it is likely that they are still indirectly exposed to much of this lending.<sup>3</sup> A downturn in market conditions, brought about either by a reduction in the degree of policy stimulus or a loss of confidence among home buyers, could therefore increase credit default risks for financial institutions.

The growth of credit and property prices in some cities has also prompted concerns about financial stability risks arising from the household sector directly. Chinese household indebtedness remains relatively low by international standards, and household mortgages account for only 17 per cent of bank lending. However, housing credit has been rising rapidly, and the recent upswing has been accompanied by reports of less creditworthy borrowers entering the housing market by obtaining credit through informal channels (such as peer-to-peer lending) to finance down payments. This raises both the risk of loan defaults and the potential size of any financial losses in the event that prices fall significantly. While it is difficult to quantify the extent of such practices, recent measures to reduce the incidence of borrowing for down payments indicates that the practice has been viewed with concern by the authorities. In March, the People's Bank of China announced that borrowing to finance down payments was not permitted and local authorities have subsequently increased efforts to rein in related activity.

In summary, despite the pick-up in housing market conditions since the start of 2016, there remains a significant stock of unsold housing in many cities and there may not be sufficient fundamental (owner-occupier) demand to support a reduction in that unsold stock. The apparent contribution of government stimulus measures to the recent strength in the Chinese housing market raises doubts about the sustainability of the recovery, particularly for investment. While there is a concern that the current strength in China's housing markets will not be sustained, the ability of municipal governments to introduce policies targeted to local conditions could help mitigate the risk of extreme fluctuations in regional housing markets. ❖

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<sup>3</sup> Lending to developers amounts to around 7 per cent of total bank credit in China. Domestic bank loans account for around 15 per cent of developer funding for real estate investment; most funding is drawn from advance payments and self-raised funds.



## 2. International and Foreign Exchange Markets

Current and expected policies of the major central banks continue to be an important driver of developments in global financial markets. Financial markets had been volatile, both in the lead-up to and, in particular, in the period just after the United Kingdom’s referendum on 23 June where a majority voted to exit the European Union (EU). The outcome surprised financial markets, resulting in large moves in bond yields, equity prices (especially those of banks) and exchange rates. The UK pound depreciated sharply following the referendum and reached a 31-year low against the US dollar. Despite considerable price movements, financial markets generally functioned in an orderly manner. Sovereign bond yields have subsequently fallen further and reached the lowest level on record in many countries. The Japanese yen has experienced sizeable swings in recent months and reached its highest level against the US dollar in several years.

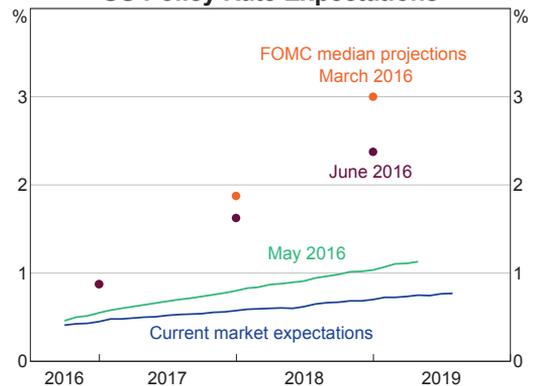
### Central Bank Policy

The US Federal Open Market Committee (FOMC) left the target range for the federal funds rate at 0.25–0.50 per cent at both its June and July meetings. At the July meeting, the FOMC noted that household spending and the labour market had strengthened and the near-term risks to the outlook had diminished. Market-implied expectations for the next increase in the federal funds rate have been scaled back since May, with the next policy tightening currently not priced in until late 2017 (Graph 2.1).

The European Central Bank (ECB) has left policy unchanged since it announced additional stimulus measures at its March meeting. It commenced the second round of targeted longer-term refinancing operations (TLTRO II) as well as its purchases of corporate bonds in June. At the first TLTRO II allotment in late June, euro area banks obtained close to €400 billion in four-year term funding, which represents about a quarter of the amount they were eligible to draw from the facility. These banks used most of this funding to repay existing ECB long-term loans (that had less favourable interest rates), such that the net increase in term funding to banks was only €30 billion.

The ECB balance sheet now exceeds its previous peak in 2012. The ECB’s outright purchases of public and private sector debt securities account for most of the €1.3 trillion increase in the ECB’s balance sheet since mid 2014, which now stands

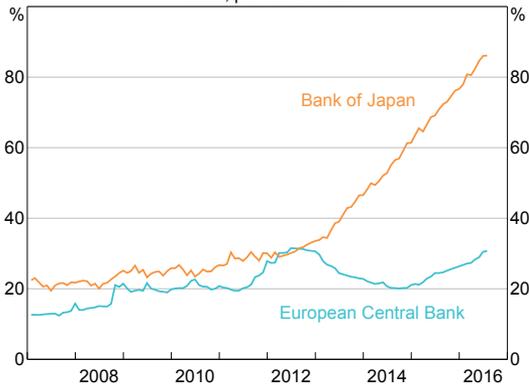
**Graph 2.1**  
**US Policy Rate Expectations**



Sources: Bloomberg; Board of Governors of the Federal Reserve System; RBA

at €3.3 trillion (or about 30 per cent of GDP; Graph 2.2). The UK vote to exit the EU raised expectations for further ECB stimulus, with markets now pricing in an additional reduction in the deposit rate over the coming year.

**Graph 2.2**  
**Central Bank Balance Sheets**  
Assets, per cent of GDP



Sources: Bank of Japan; European Central Bank; Thomson Reuters

The Bank of England (BoE) left its policy rate unchanged at 0.5 per cent at its July meeting but signalled that it expects to ease monetary policy at its August meeting. At the time of writing, markets had priced in a 25 basis point reduction of the policy rate at the BoE's meeting on 4 August with some expectations of a resumption of asset purchases.

Following the introduction of a negative interest rate on certain deposits in late January, the Bank of Japan (BoJ) has left monetary policy largely unchanged. At its July meeting, it increased the pace of annual purchases of exchange-traded funds from ¥3.3 trillion to ¥6 trillion, but maintained the overall pace of its balance sheet expansion at around ¥80 trillion annually. The BoJ announced that it will conduct a comprehensive assessment of its current policy measures, which will be deliberated at its next policy meeting in September.

The People's Bank of China (PBC) has held benchmark interest rates steady so far this year and left system-wide reserve requirement ratios unchanged since a 50 basis point reduction in February. Interbank interest rates have remained broadly stable over

recent months, with the PBC actively managing liquidity conditions through open market operations and the use of its lending facilities.

A number of other central banks have eased policy in recent months (Table 2.1). The Bank of Korea lowered its policy rate by 25 basis points to 1.25 per cent, noting that while it expects a modest recovery in economic activity, the risks to growth have increased. Malaysia's central bank lowered its policy rate by 25 basis points to 3 per cent due to concerns that slower growth in major trading partners could weigh on growth. Bank Indonesia also reduced its policy rate by 25 basis points in

**Table 2.1: Monetary Policy**

	Policy rate Per cent		Most recent change
Euro area <sup>(a)</sup>	-0.40	↓	Mar 16
Japan <sup>(a)</sup>	-0.10	↓	Jan 16
United States <sup>(b)</sup>	0.375	↑	Dec 15
Australia	1.50	↓	Aug 16
Brazil	14.25	↑	Jul 15
Canada	0.50	↓	Jul 15
Chile	3.50	↑	Dec 15
India	6.50	↓	Apr 16
Indonesia	5.25	↓	Jun 16
Israel	0.10	↓	Feb 15
Malaysia	3.00	↓	Jul 16
Mexico	4.25	↑	Jun 16
New Zealand	2.25	↓	Mar 16
Norway	0.50	↓	Mar 16
Russia	10.50	↓	Jun 16
South Africa	7.00	↑	Mar 16
South Korea	1.25	↓	Jun 16
Sweden	-0.50	↓	Feb 16
Switzerland <sup>(b)</sup>	-0.75	↓	Jan 15
Thailand	1.50	↓	Apr 15
Turkey	7.50	↓	Feb 15
United Kingdom	0.50	↓	Mar 09

(a) Marginal rate paid on deposits at the central bank

(b) Midpoint of target range

Sources: Central banks; RBA; Thomson Reuters

an effort to boost economic growth and domestic credit, while Russia's central bank lowered its policy rate by 50 basis points in response to easing concerns about high inflation and a further decline in inflation expectations. Following the attempted coup in Turkey, the central bank announced a number of measures to ensure the functioning of financial markets, including providing banks with unlimited liquidity. Mexico's central bank raised its policy rate by 50 basis points to 4.25 per cent, to counter the effects of the recent depreciation of the peso on inflation and inflation expectations.

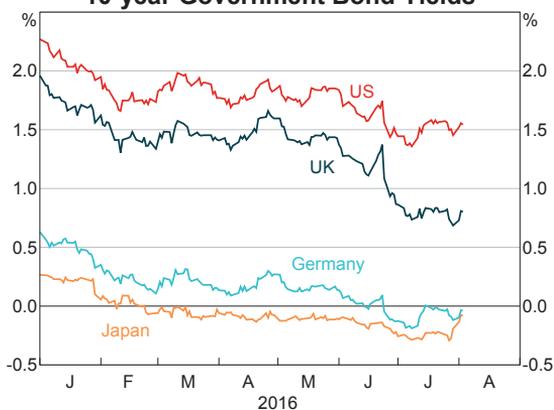
### Sovereign Debt Markets

Yields on major market sovereign bonds have been volatile in recent months. Major market sovereign bond yields fell sharply immediately following the UK referendum, with yields on 10-year UK, US and German government bonds declining by around 25–35 basis points intraday. Sovereign bond yields in major markets continued to decline over the following days to reach historical lows, including for Australia (Graph 2.3). Yields on UK sovereign bonds declined despite a ratings downgrade (by two ratings agencies) following the referendum.

Bond yields have at least partly reversed these falls over the past month, following generally stronger-than-expected US economic data and some reduction in UK political uncertainty, with

the appointment of a new prime minister and the announcement that the UK government would not trigger the start of the formal process to exit the EU this year (Graph 2.4).

**Graph 2.4**  
**10-year Government Bond Yields**



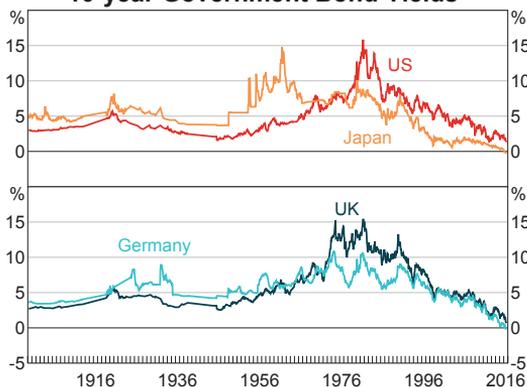
Source: Bloomberg

Japanese government bond yields have been particularly volatile over the past few months. Yields declined, in part owing to expectations of additional fiscal and monetary stimulus, but then rose significantly after the BoJ left its policy largely unchanged at its July meeting. Overall, since the previous *Statement* Japanese government bond yields have increased a little.

Looking through the volatility in recent months, most major market sovereign bond yields have declined markedly since the start of the year – with 10-year US, German and Japanese sovereign bond yields around 35–75 basis points lower. There has also been a material flattening of yield curves since the beginning of the year. German and Japanese government bonds with tenors up to 10 years are currently trading at negative yields, while Swiss government bonds trade at negative yields up to 30 years maturity (Graph 2.5).

Yields on 10-year bonds issued by governments in the euro area periphery have generally declined since the start of the year. Spreads of these bonds over German Bunds have generally narrowed slightly since early May, as the initial widening

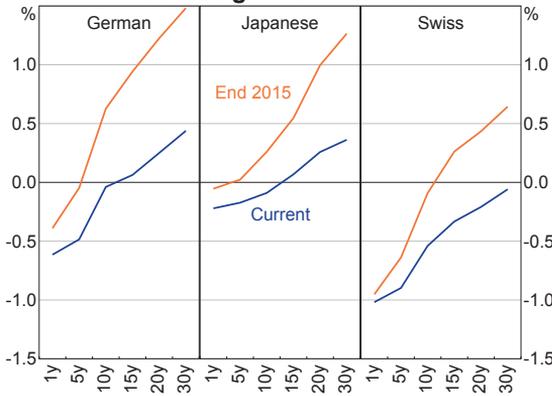
**Graph 2.3**  
**10-year Government Bond Yields\***



\* Data interpolated during World War I and World War II; German data also interpolated between 1921 and 1924

Sources: Bloomberg; Global Financial Data; RBA

**Graph 2.5**  
**Sovereign Yield Curves**

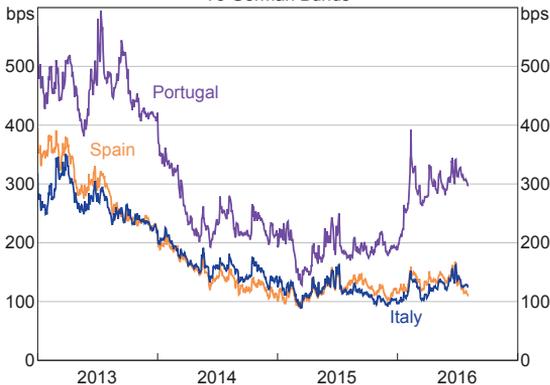


Source: Bloomberg

of spreads directly after the UK referendum was subsequently more than unwound (Graph 2.6). Since the start of the year, spreads on 10-year Italian sovereign bonds have widened amid investor concerns about the broader risks arising from non-performing loans of Italian banks and the upcoming Italian constitutional referendum in October.

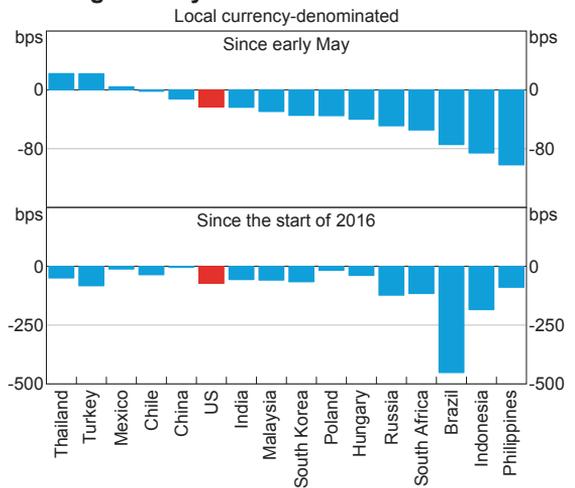
Yields on emerging market sovereign bonds denominated in local currency have generally declined in recent months, alongside falls in US Treasury yields (Graph 2.7). Local currency-denominated sovereign bond yields of a number of commodity exporters declined by up to 85 basis points, as commodity prices rose. The

**Graph 2.6**  
**Euro Area 10-year Government Bond Spreads To German Bunds**



Source: Bloomberg

**Graph 2.7**  
**Change in 10-year Government Bond Yields**



Sources: Bloomberg; Thomson Reuters

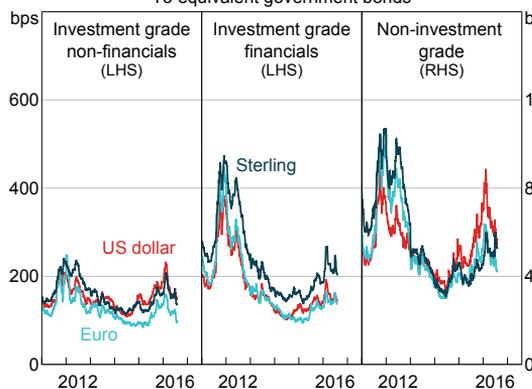
suspension of Brazilian President Rousseff's powers and duties and the appointment of an interim president as well as a recovery in commodity prices have contributed to a very large fall in 10-year Brazilian government bond yields since the start of the year. In contrast, yields on 10-year Turkish government bonds rose following the attempted military coup in mid July and have increased since early May.

## Credit Markets

Yields on both investment grade and non-investment grade corporate bonds in US and euro area markets have fallen in recent months, as spreads have narrowed in combination with declines in sovereign yields. Spreads on non-investment grade bonds in the United States narrowed by as much as 100 basis points, before widening following a decline in oil prices (Graph 2.8). The fall in US investment grade bond spreads was relatively muted. Similar to other financial markets, conditions in corporate bond markets were volatile around the time of the UK referendum.

Moves in sterling markets were particularly pronounced following the referendum and in some

**Graph 2.8**  
**Corporate Bond Spreads**  
 To equivalent government bonds



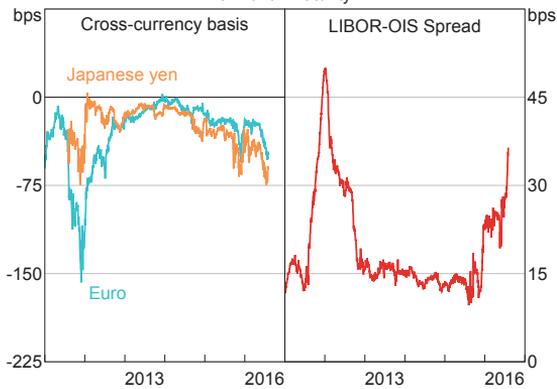
Sources: Bank of America Merrill Lynch; Bloomberg; RBA

cases have been only partially unwound. Spreads on sterling non-investment grade bonds, which are primarily issued by UK corporations, rose by around 110 basis points after the referendum and have subsequently reversed only two-thirds of that. Spreads on bonds issued by financial corporations in the sterling market also rose by more than those in non-sterling markets; spreads on these bonds have since returned to around their pre-referendum levels, but these bonds have underperformed other sterling investment grade bonds. Spreads on short-term bank funding in the sterling unsecured market widened significantly after the UK referendum result, reaching their highest levels since 2012. These spreads remain elevated, but banks' borrowing costs have fallen in absolute terms due to a lower expected path of UK policy rates.

The cost of borrowing US dollars in exchange for yen and euros in short-term foreign exchange swap markets has increased; in late July, the cost of borrowing in exchange for yen reached its highest level in almost five years (Graph 2.9). This reflects an increase in demand from Japanese investors to reallocate to (hedged) US dollar-denominated assets where bond yields are higher.

Spreads on short-term bank funding in US dollar markets have risen to their highest levels since 2012. Some part of this reflects the fact that the increased cost of borrowing US dollars in short-term

**Graph 2.9**  
**US Dollar Funding Costs**  
 3-month maturity



Source: Bloomberg

foreign exchange swap markets has led to Japanese banks raising more funds in US short-term funding markets. The upcoming implementation of reforms to US money market funds (MMFs) in October is also reducing the number of such funds that lend to banks. Partly as a result of these reforms, prime MMFs' (that is, those MMFs that lend to banks) assets under management have fallen by over US\$400 billion over the past year, as some prime funds switched their classification to government-only (which invest only in US government securities) and investors have begun to reallocate away from prime funds. Moreover, remaining prime funds have lowered the weighted-average maturity of their assets to increase their liquidity buffers ahead of the implementation date in October.

Bond issuance from US and euro area firms fell back to low levels in June and July amid uncertainty and volatility around the time of the UK referendum, after strong issuance from US firms in May. Issuance from firms incorporated in the euro area had previously increased following the ECB's announcement in March that its asset purchase program would be extended to include bonds issued by non-bank investment grade corporations. The ECB commenced purchases of these bonds in early June and currently holds a total of €13.2 billion.

Gross bond issuance by Chinese corporations slowed in the June quarter, following record high issuance in the March quarter (Graph 2.10). As a result, net corporate bond issuance in the June quarter was weak. Issuance of short-term corporate debt securities also declined in the quarter, and was less than the value of maturities during the period. The weaker corporate bond issuance coincided with a period of heightened investor caution towards the corporate bond market and an increase in the number of cancellations of planned bond issues, after a number of missed bond payments by some corporations over March and April. The increase in missed bond payments also contributed to an increase in local currency-denominated corporate bond spreads. Since May, these increases have been reversed, with spreads on highly rated bonds returning to around historical lows. Cancellations of bond issues have returned to normal levels, following a decline in the number of missed bond payments and the payment of bond obligations by some corporations that were expected to default (including a central government-owned enterprise). Local government bond issuance remained strong in the June quarter, supported by the ongoing local government debt swap program.

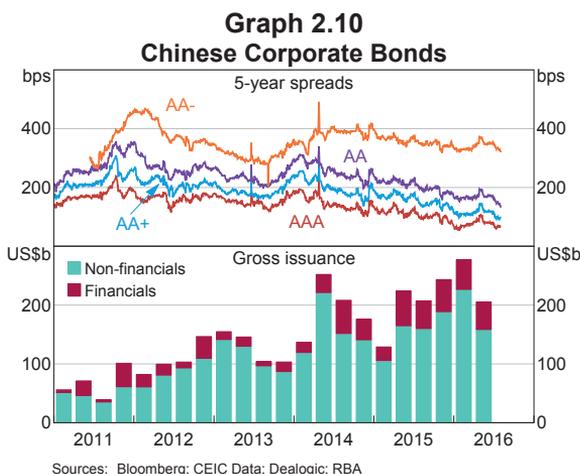
Since May, the first four issues of asset-backed securities with non-performing loans as underlying assets were sold as part of a pilot program involving the six largest Chinese banks. The program attempts

to improve the quality of assets on banks' balance sheets in response to an increase in the proportion of non-performing loans.

Spreads on US dollar-denominated bonds issued by other emerging market corporations mostly continued to narrow, consistent with developments in non-investment grade bonds in the United States. The narrowing in spreads was particularly pronounced for Brazilian corporations, consistent with falls in Brazilian sovereign yields. In contrast, spreads on bonds issued by Turkish corporates have widened sharply following the attempted coup. New issuance remains subdued, with cumulative gross issuance by emerging market corporations in the year to date continuing at its slowest pace since 2009.

## Equities

Global equity prices fell following the UK referendum but have since retraced most of these falls and, in some cases, exceed their pre-referendum levels (Table 2.2). The share price falls were particularly pronounced in Japan and the euro area (especially in the periphery countries) (Graph 2.11). While an appreciation of the Japanese yen (see Foreign Exchange) had contributed to



**Table 2.2 Changes in International Share Prices**  
Per cent

	Over 2015	2016 to date
United States – S&P 500	-1	6
Euro area – STOXX	8	-9
United Kingdom – FTSE	-5	6
Japan – Nikkei	9	-16
Canada – TSE 300	-11	12
Australia – ASX 200	-2	3
China – MSCI All China	2	-12
MSCI indices		
– Emerging Asia	-8	3
– Latin America	-11	20
– Emerging Europe	-4	2
<b>– World</b>	<b>-1</b>	<b>1</b>

Source: Bloomberg

**Graph 2.11**  
Major Share Price Indices  
1 January 2016 = 100



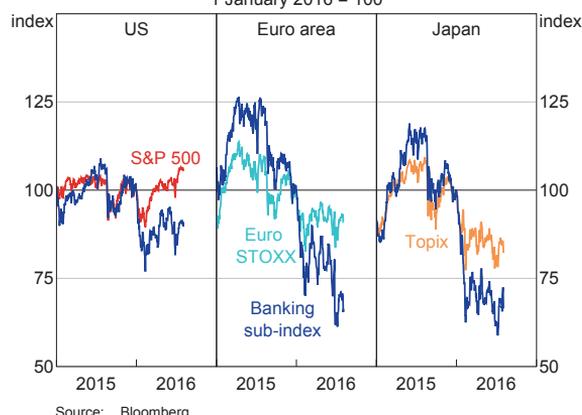
Source: Bloomberg

the fall in Japanese stock prices, expectations of increased fiscal stimulus have since provided some support. In the United Kingdom, share prices of domestically focused firms fell significantly following the referendum and remain slightly below their pre-referendum levels. In contrast, share prices of more internationally focused UK firms fell by less than many other major markets immediately following the referendum and have since increased significantly, as the depreciation of the UK pound was seen as supporting these firms' earnings (see Foreign Exchange).

The US S&P 500 index has significantly outperformed the MSCI World index so far this year and has reached a record high. The UK referendum outcome had a less pronounced effect on US share prices, which were supported by expectations of a delay in policy tightening by the Federal Reserve, stronger-than-expected US payrolls data and better-than-expected corporate earnings.

Share prices of banks in the major markets fell following the UK referendum result (by around 10 per cent) and have underperformed the broader indices to be significantly lower over the year so far (Graph 2.12). A number of factors have contributed to the weakness in bank share prices: a general decline in bank earnings expectations, predominantly attributed to concerns about

**Graph 2.12**  
Major Market Bank Share Prices  
1 January 2016 = 100



Source: Bloomberg

growing pressure on net interest margins resulting from lower risk-free rates and a flatter yield curve; ongoing concerns about Italian banks' non-performing loans; and the upcoming Italian constitutional referendum in October.

Reported net income of European banks has declined compared with the same period in 2015, but was generally above consensus expectations. Net interest income tended to be lower, while higher revenues from trading provided some support for the income of a number of banks. Headline profits of the major US banks declined in the June quarter compared with the same period last year, largely as a consequence of idiosyncratic factors (such as restructuring costs), most of which are not likely to be recurring. US banks benefited from a decline in expenses (largely a result of cost-cutting efforts), lower loan loss provisions and an increase in fixed income trading revenues amid higher client activity. However, net interest margins declined in the quarter.

The stress tests by the European Banking Authority published in late July highlighted the progress of 51 of the largest European banks (covering around 70 per cent of banking assets in the European Union) in strengthening their capital. Only a small number of banks had their projected capital ratio fall below their respective regulatory minimums in the 'adverse' stress

test scenario, although the sample was smaller than at the previous stress test in 2014.

Share prices of UK banks also fell immediately following the referendum, though there has been a large variance in outcomes (similar to the wide spectrum of outcomes for UK companies discussed above). The share prices of large UK banks with a more domestic focus (such as Lloyds and Royal Bank of Scotland) have fallen by around 25 per cent, reflecting concerns that weaker macroeconomic fundamentals could expose these banks to a decline in revenues and deteriorating asset quality (including in relation to the commercial property market). The BoE reduced the countercyclical capital buffer (which was scheduled to become effective from March 2017) from 0.5 per cent to 0 per cent in an effort to ease financial conditions for UK banks. In contrast to their domestically focused counterparts, share prices of more internationally focused UK banks have risen significantly (Graph 2.13).

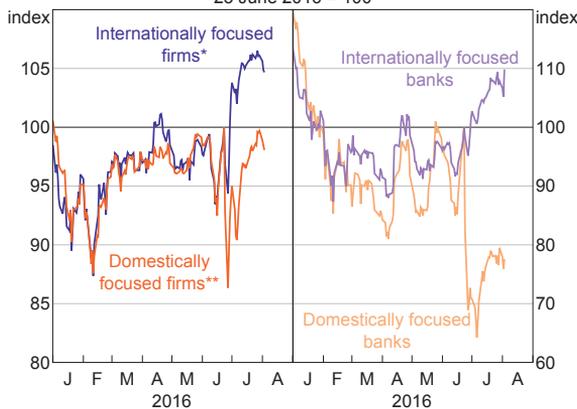
Share prices of asset managers and insurance firms in the United Kingdom also fell immediately after the referendum. Six UK commercial property funds, representing a large proportion of the property fund market, have suspended redemptions temporarily due to exceptional liquidity pressures. Redemption requests had risen after the UK referendum as

investors became concerned about a fall in UK commercial property prices. Other commercial property funds continued to allow redemptions but had significantly lowered the unit prices at which investor holdings could be redeemed.

Share prices in emerging market economies have generally outperformed advanced economy equity prices since the beginning of the year, although performance has been mixed in recent months. Chinese equity prices, while still significantly lower than at the start of the year, have been little changed in recent months (Graph 2.14). Investments in Hong Kong-listed (and Hong Kong dollar-denominated) shares via the Stock Connect program have increased by around 50 per cent since early May (equivalent to an increase in the aggregate quota usage by 25 percentage points), alongside a decline in the renminbi's exchange rate against the US dollar. Equity prices in the Philippines rose by around 10 per cent following the presidential election in the beginning of May. Brazilian equity prices performed strongly alongside capital inflows and improved sentiment under the government led by the interim president. In contrast, Turkish equity prices fell sharply following the attempted military coup and announcement of a three-month state of emergency, reversing most of their gains since the start of the year.

**Graph 2.13**  
**UK Share Prices**

23 June 2016 = 100



\* FTSE 100

\*\* FTSE 250

Sources: Bloomberg; RBA

**Graph 2.14**

**Chinese Equity Prices and Stock Connect**



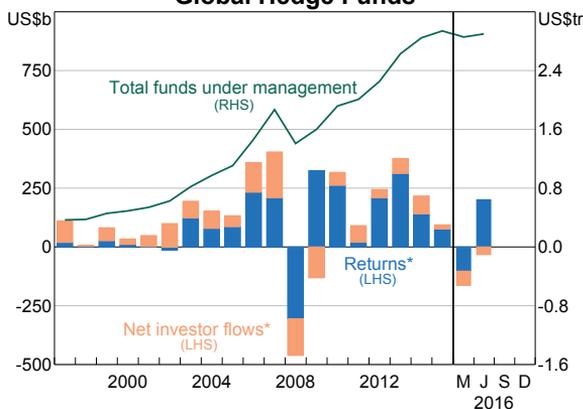
\* Aggregate balance used as a share of total aggregate quota. Calculated on a 'net buy' basis after adjustments

Source: Bloomberg

## Hedge Funds

Global hedge funds recorded an asset-weighted return on investment of 1.1 per cent over the June quarter. The return underperformed a balanced portfolio of global bonds and equities. The strongest performance came from funds that invest in emerging markets, particularly Latin America. Fixed income relative value funds also experienced strong gains amid declining interest rates (and rising bond prices) in the United States, Europe and Japan. Investors have made net withdrawals from hedge funds for the third consecutive quarter, but positive investment returns saw funds under management increase by over US\$40 billion over the June quarter to US\$2.9 trillion (Graph 2.15).

**Graph 2.15**  
Global Hedge Funds

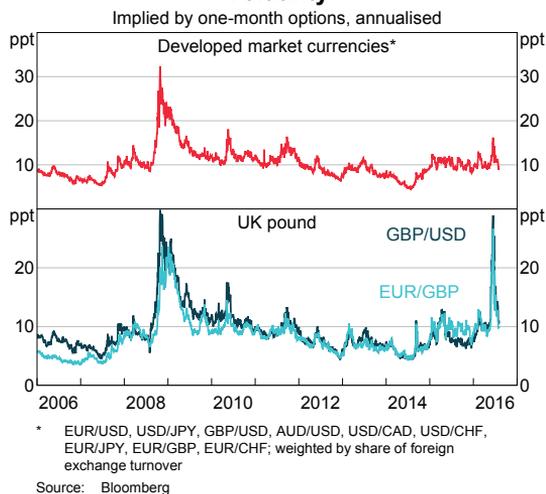


\* Annualised for 2016 data  
Sources: Hedge Fund Research, Inc.; RBA

## Foreign Exchange

Foreign exchange markets have been primarily influenced by the UK referendum and evolving expectations about monetary policy in the major economies. Heightened uncertainty in the lead-up to the referendum contributed to a sharp increase in forward-looking measures of volatility in the main developed market currency pairs, particularly for the UK pound (Graph 2.16). Immediately following the referendum, the UK pound depreciated sharply, while the US dollar and yen appreciated

**Graph 2.16**  
Volatility

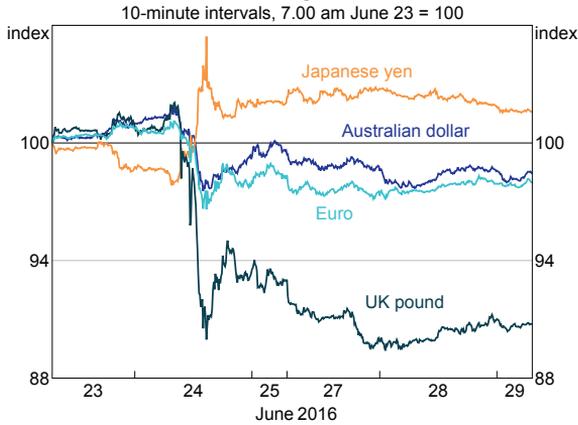


\* EUR/USD, USD/JPY, GBP/USD, AUD/USD, USD/CAD, USD/CHF, EUR/JPY, EUR/GBP, EUR/CHF; weighted by share of foreign exchange turnover  
Source: Bloomberg

markedly. Volatility eased in the days following the referendum and is currently around its long-run average.

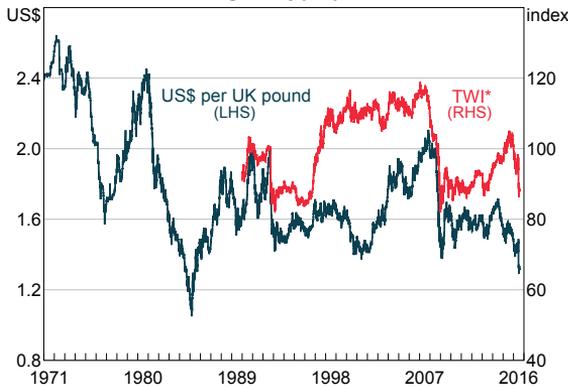
Prior to the referendum, the UK pound moved within a relatively wide range alongside changes in the expected probability of the United Kingdom voting to exit the EU. The UK pound reached a high of US\$1.50 per pound shortly after UK polls closed as markets expected a 'Remain' vote, but then depreciated by over 10 per cent to reach a low of US\$1.32 per pound as it became likely that the referendum outcome would be a 'Leave' vote (Graph 2.17). Throughout this period, transaction volumes in foreign exchange markets were higher than usual and markets generally functioned well. The UK pound recovered slightly to US\$1.37 by the close of the trading session on 24 June to finish the day 8 per cent lower; this was the largest daily move in the GBP/USD currency pair since the currency floated in 1971. Overall, the UK pound has depreciated by around 10 per cent against the US dollar from its level immediately prior to the referendum and is around its lowest level since 1985 (Graph 2.18). On the day of the referendum outcome, heightened risk aversion contributed to appreciation pressures on the Japanese yen, US dollar and Swiss franc. The euro also depreciated markedly against

**Graph 2.17**  
Selected Currencies against the US Dollar\*



\* Australian Eastern Standard Time (AEST)  
Sources: EBS; Thomson Reuters

**Graph 2.18**  
UK Pound



\* 1990–2016 average = 100  
Source: Bloomberg

the US dollar on the day of the referendum outcome, but recovered to settle around 2½ per cent lower over the day. Over the year to date, the euro has appreciated by around 2 per cent against the US dollar and on a trade-weighted (TWI) basis.

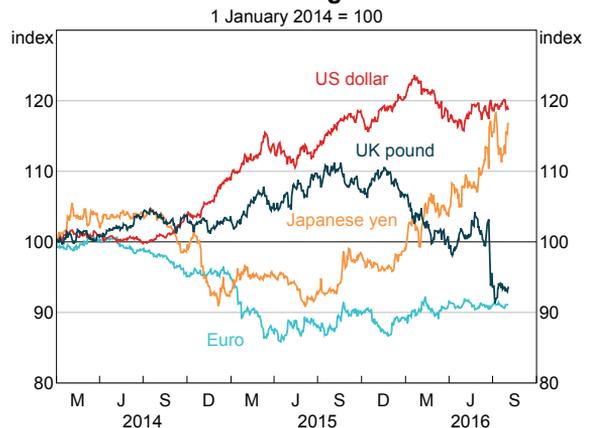
Since early May, the US dollar has appreciated by 3 per cent on a trade-weighted basis, despite market participants pushing back their expectations for the timing of the next policy rate increase by the FOMC (Table 2.3; Graph 2.19). The appreciation has been most pronounced against the currencies of European countries,

**Table 2.3: Changes in the US Dollar against Selected Currencies**  
Per cent

	Over 2015	2016 to date
UK pound sterling	6	11
Mexican peso	17	10
Chinese renminbi	5	2
Swedish krona	8	1
Indian rupee	5	1
Philippine peso	5	0
European euro	11	-3
Thai baht	10	-3
Swiss franc	1	-3
New Taiwan dollar	4	-3
Australian dollar	12	-4
New Zealand dollar	14	-5
Indonesian rupiah	11	-5
South Korean won	8	-5
Singapore dollar	7	-5
Canadian dollar	19	-6
Malaysian ringgit	22	-6
Russian rouble	24	-8
Japanese yen	0	-16
Brazilian real	50	-18
<b>TWI</b>	<b>10</b>	<b>-1</b>

Sources: Bloomberg; Board of Governors of the Federal Reserve System

**Graph 2.19**  
Nominal Trade-weighted Indices

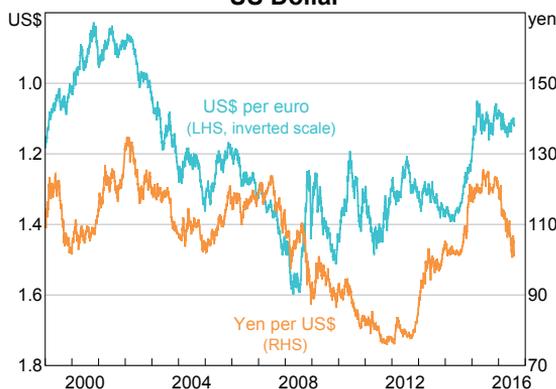


Sources: BIS; Bloomberg; Board of Governors of the Federal Reserve System

particularly the United Kingdom. Notwithstanding the recent appreciation, the US dollar remains around 4 per cent below its peak in late January on a trade-weighted basis.

The Japanese yen has traded in a wide range against the US dollar amid speculation of further macroeconomic policy stimulus in Japan (Graph 2.20). The Japanese yen experienced bouts of appreciation alongside the BoJ's decision to leave monetary policy largely unchanged at its June and July meetings and increased risk aversion associated with uncertainty around the UK referendum, but also depreciated significantly ahead of the BoJ's July meeting. Overall, the yen has appreciated by around 6 per cent against the US dollar and around 8 per cent in trade-weighted terms since the previous *Statement*. It reached its highest level against the US dollar in three years.

**Graph 2.20  
US Dollar**



Source: Bloomberg

In the month leading up to the UK referendum, the Swiss franc appreciated by 3 per cent against the US dollar and by 2 per cent against the euro, reflecting safe-haven flows. Since the referendum, the Swiss franc has been little changed against the US dollar and the euro. The Swiss National Bank (SNB) intervened in the foreign exchange market following the UK referendum to mitigate appreciation pressure on the franc. Over the month of June, SNB's foreign currency reserves rose by

6.7 billion francs to 608.8 billion francs (equivalent to 95 per cent of GDP).

The Chinese renminbi (RMB) has continued to depreciate against a broad range of currencies, to be 6 per cent lower on a trade-weighted basis since the start of the year and 9 per cent lower since its early August 2015 peak (Graph 2.21). Against the US dollar, the RMB has depreciated by 2 per cent over the year to date and reached its lowest level since 2010. The RMB continues to trade in the offshore market at a discount to the onshore market; however, the level of the discount has remained small relative to that seen in December 2015.

**Graph 2.21  
Chinese Exchange Rates**

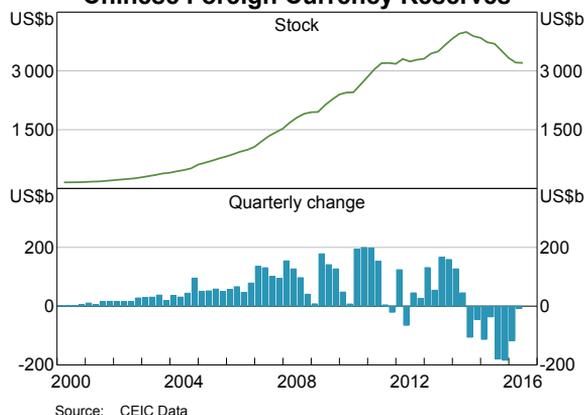


\* Indexed to 2007 average = 100  
Sources: BIS; Bloomberg; RBA

The PBC's foreign currency reserves decreased by only US\$7 billion in the June quarter, which is likely to have reflected valuation effects (Graph 2.22). Overall, the value of reserves has been broadly stable since February, at around US\$3.2 trillion (29 per cent of GDP). This suggests that net capital outflows have declined, following the large capital outflows in the year to the March quarter 2016.

In mid June, the Chinese authorities granted the United States a RMB250 billion quota under the RMB Qualified Foreign Institutional Investor scheme and committed to establish two RMB clearing banks in the United States. A commitment to establishing a clearing bank in Russia was also announced. The

**Graph 2.22**  
**Chinese Foreign Currency Reserves**



PBC also allowed the Korean won and the South African rand to trade directly with the RMB in the onshore foreign exchange market. There are now 14 currencies that trade directly with the RMB in the onshore market.

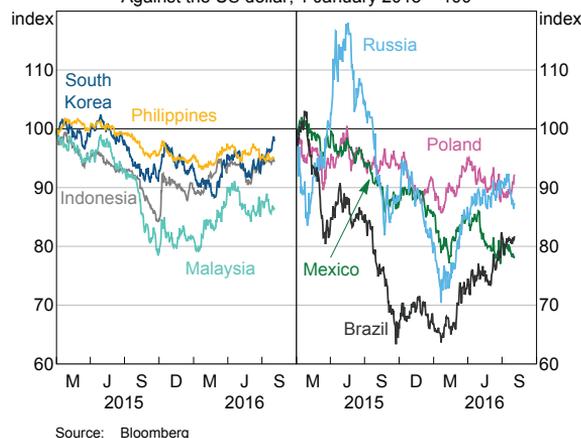
Over the past few months, most other Asian currencies have been little changed against the US dollar, while most other emerging market currencies have depreciated against the US dollar (Graph 2.23). In the lead-up to the UK referendum, most emerging market currencies appreciated against the US dollar but depreciated following the outcome – particularly the currencies of emerging European economies. Over the past few months,

volatility in emerging market currencies has remained above its average level since 2010.

The Brazilian real has continued to appreciate against the US dollar over recent months alongside domestic political developments and increases in commodity prices, to be around 28 per cent above its trough in late January. In July, Brazil's central bank recommenced auctioning reverse foreign exchange swaps, which helped to curb appreciation pressure on the currency from late March through to mid May this year. In contrast, the Mexican peso has depreciated by 9 per cent since its peak in late April. Over recent months, the peso has depreciated by more than most other emerging market currencies; according to market participants, this is partly due to the peso being traded as a general proxy for risk in emerging market economies. Given the depreciation of the peso and concerns about its effect on inflation and inflation expectations, the Bank of Mexico increased its policy rate by 50 basis points at its June meeting.

The gross foreign currency reserves of most emerging market economies have been little changed or have increased slightly since the end of March (Table 2.4). The increase in Argentina's gross foreign currency reserves since the end of March has largely reflected the proceeds of bond sales.

**Graph 2.23**  
**Asian and Emerging Market Currencies**  
Against the US dollar, 1 January 2015 = 100



## Australian Dollar

The Australian dollar has appreciated a little against the US dollar and on a trade-weighted basis since the previous *Statement*, and appreciated by 11 per cent against the UK pound (Table 2.5; Graph 2.24). Throughout this period, the Australian dollar has been affected by changes in expectations for monetary policy in Australia and the United States, as well as the uncertainty surrounding the UK referendum. The Australian dollar was volatile on the day of the UK referendum outcome and bid-ask spreads in the AUD/USD currency pair increased for a time (see 'Box C: Australian Financial Markets and the UK Referendum'). The Australian dollar is

**Table 2.4: Gross Foreign Currency Reserves<sup>(a)</sup>**

	Percentage change since:		Level US\$ equivalent (billions)
	End June 2015	End March 2016	
China	-13	0	3 205
Saudi Arabia	-15	-3	560
Taiwan <sup>(b)</sup>	3	0	434
South Korea	-2	0	360
Brazil	-1	3	357
Hong Kong	7	1	351
India	2	1	338
Russia	5	0	318
Singapore	-2	1	246
Mexico	-8	-1	169
Thailand	12	2	169
Indonesia	1	2	103
Turkey	1	6	100
Malaysia	-8	0	89
Argentina	-8	10	26

(a) Data to end June for China, Hong Kong, Indonesia, Mexico, Saudi Arabia, Singapore, South Korea, Taiwan and Thailand; to 15 July for Malaysia; to 22 July for India, Russia and Turkey; to end July for Argentina and Brazil.

(b) Foreign exchange reserves (includes foreign currency and other reserve assets).

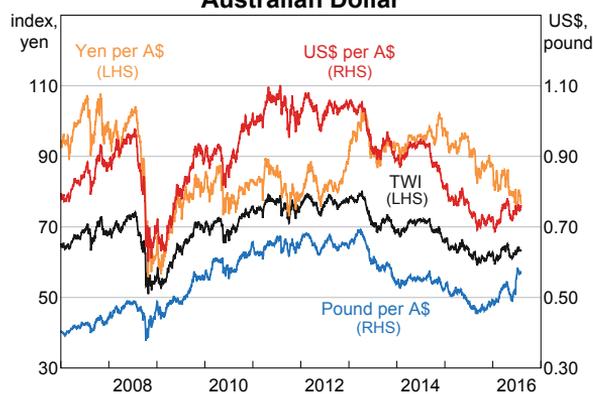
Sources: Bloomberg; CEIC Data; central banks; IMF; RBA

**Table 2.5: Changes in the Australian Dollar against Selected Currencies**  
Per cent

	Over 2015	2016 to date
UK pound sterling	-6	15
Chinese renminbi	-7	6
Indian rupee	-7	5
US dollar	-11	4
European euro	-1	1
Thai baht	-2	1
Swiss franc	-10	1
New Zealand dollar	2	-1
Indonesian rupiah	-1	-1
South Korean won	-4	-1
Singapore dollar	-5	-1
Canadian dollar	6	-2
Malaysian ringgit	9	-2
South African rand	19	-6
Japanese yen	-11	-12
<b>TWI</b>	<b>-6</b>	<b>1</b>

Sources: Bloomberg; RBA

**Graph 2.24**  
**Australian Dollar**



Sources: Bloomberg; RBA

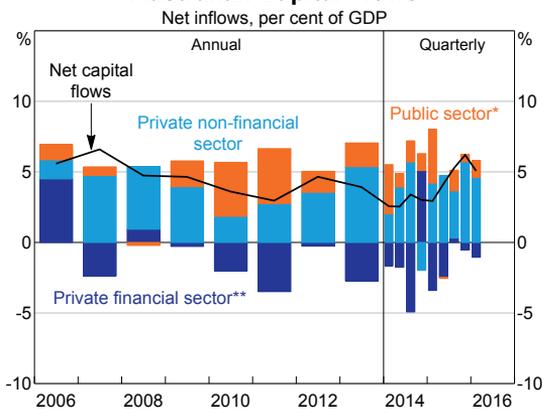
currently around 10 per cent higher against the US dollar and 8 per cent higher on a TWI basis than the low it reached in September 2015. However, the Australian dollar is still around 20 per cent lower against the US dollar and around 12 per cent lower on a TWI basis than its peak in mid 2014.

## Capital Flows

Net capital inflows to the Australian economy were equivalent to 5.1 per cent of GDP in the March quarter, around ½ percentage point higher than the average of net capital inflows over the past 10 years (Graph 2.25). Net capital inflows in the quarter largely reflected flows to the private non-financial sector, most of which were directed to the mining sector, while there were net outflows from the financial sector. There were modest net inflows to the general government and state and local government sectors in the March quarter. Notwithstanding this, the foreign ownership share of Australian Government Securities fell by 3 percentage points to 60 per cent as net issuance was larger than foreign purchases, while the foreign ownership share of state government debt increased slightly.

Australia's net foreign liability position increased to a little over 60 per cent of GDP at the end of the March quarter, in part because of exchange rate valuation effects. The net income deficit, which largely comprises payments made on Australia's net foreign liabilities, widened to 3.1 per cent of GDP in the March quarter, primarily reflecting operating losses on Australia's foreign direct equity assets. ↘

**Graph 2.25**  
**Australian Capital Flows**



\* Excludes official reserves and other RBA flows

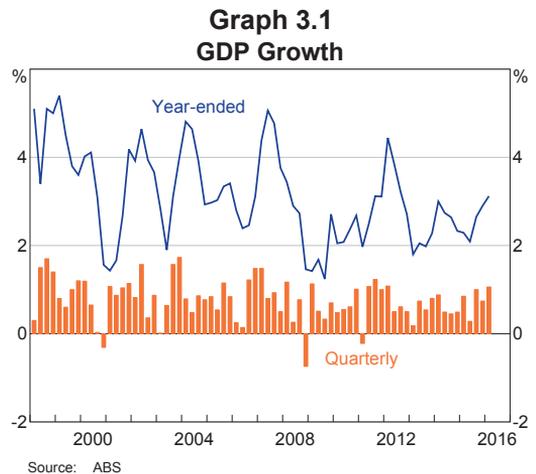
\*\* Adjusted for US dollar swap facility in 2008 and 2009

Sources: ABS; RBA

### 3. Domestic Economic Conditions

Activity in the Australian economy grew by more than 3 per cent over the year to the March quarter, above estimates of the economy’s potential rate of growth (Graph 3.1). GDP growth in the March quarter was stronger than expected, largely as a result of a significant expansion in the volume of resource exports, which benefited from unusually favourable weather conditions (Table 3.1). Indications are that growth in the June quarter was moderate. National income has been growing at a modest pace, owing to the decline in the terms of trade and low inflation.

The strong contribution of resource exports to GDP growth over the past year was offset by a further large fall in mining investment, such that mining



**Table 3.1: Demand and Output Growth**  
Per cent

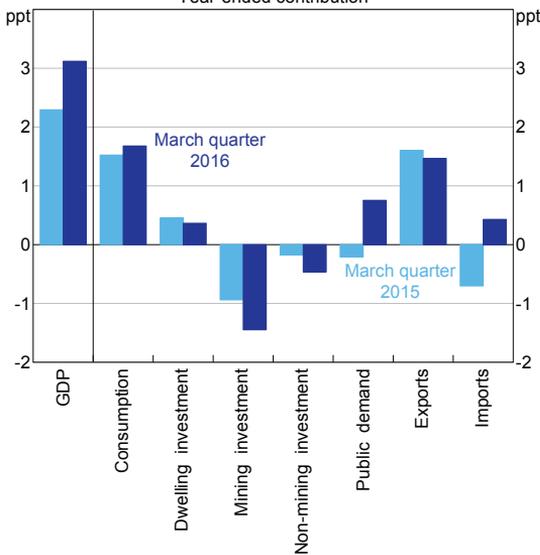
	March quarter 2016	December quarter 2015	Year to March quarter 2016
GDP	1.1	0.7	3.1
Consumption	0.7	0.8	3.0
Dwelling investment	1.4	2.8	7.0
Mining investment <sup>(a)</sup>	-2.5	-9.6	-26.7
Non-mining investment <sup>(a)</sup>	-3.7	1.0	-4.7
Public demand	0.6	1.4	3.5
Exports	4.4	0.4	6.6
Imports	-0.8	0.5	-2.0
Mining activity <sup>(a)</sup>	4.8	-3.7	0.7
Non-mining activity <sup>(a)</sup>	0.4	1.5	3.6
Nominal GDP	0.5	0.4	2.1
Real gross domestic income	0.5	0.1	0.6
<i>Memo:</i> Terms of trade	-1.9	-3.4	-11.5

(a) RBA estimates  
Sources: ABS; RBA

activity was little changed (Graph 3.2). Meanwhile, non-mining activity has been growing at or above a trend pace for some time. Low interest rates and the depreciation of the exchange rate since early 2013 have supported this rebalancing, with solid growth evident in consumption, dwelling investment and most export categories. Public demand has also grown at a solid pace. However, non-mining business investment has declined, subtracting a little from growth.

**Graph 3.2  
GDP Growth**

Year-ended contribution



Sources: ABS; RBA

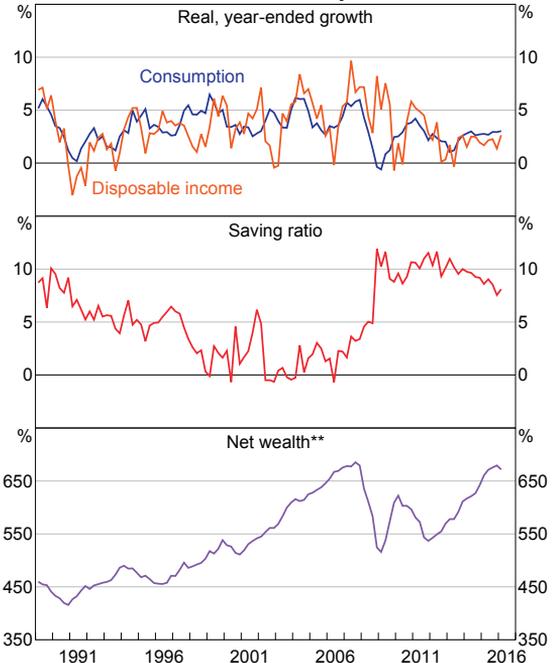
The unemployment rate has been steady at around 5¾ per cent. Employment growth has moderated somewhat since the start of 2016, following strong outcomes late last year. Average hours worked has declined a little and employment growth over recent months has been concentrated in part-time jobs. Indicators of future employment growth have been mixed of late. There is still evidence of spare capacity in the labour market, including low wage growth. While the protracted period of low wage growth has allowed for more employment than otherwise, it has also constrained growth in nominal household income in recent years.

## Household Sector

Household consumption continued to grow at around its decade-average pace in early 2016. Low interest rates, employment gains and growth in household wealth have supported consumption in a period of below-average income growth. The saving ratio has declined further in line with the gradual trend of recent years (Graph 3.3). Consumption growth has remained strong in states with relatively little exposure to the resources sector, such as New South Wales and Victoria, but has been comparatively weak in the resource-rich states of Queensland and Western Australia.

Timely indicators of household consumption growth were mixed in the June quarter. Households' perceptions of their own finances have been above average in recent months, despite relatively weak income growth, and consumers' unemployment

**Graph 3.3  
Household Income, Consumption and Wealth\***



\* Household sector includes unincorporated enterprises; disposable income is after tax and interest payments; income level smoothed with a two-quarter moving average between March quarter 2000 and March quarter 2002; saving ratio is net of depreciation

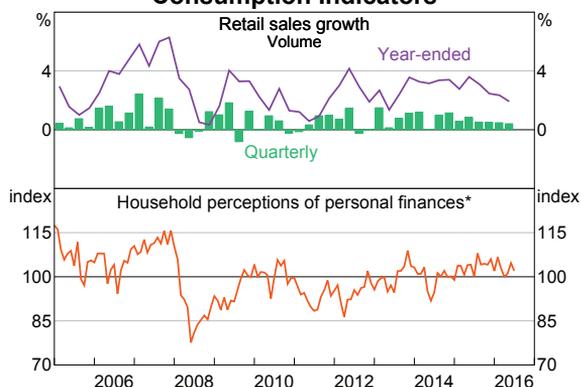
\*\* Per cent of annual household disposable income, before the deduction of interest payments

Sources: ABS; RBA

expectations are lower than in recent years. However, retail sales volumes increased at a slightly slower pace than in the March quarter (Graph 3.4).

A range of indicators suggest that conditions in the established housing market have eased this year from very strong conditions over recent years. Housing prices were little changed in the June quarter according to most published measures (Table 3.2; Graph 3.5). In contrast, the headline CoreLogic measure of housing prices recorded very strong growth in April and May in a number

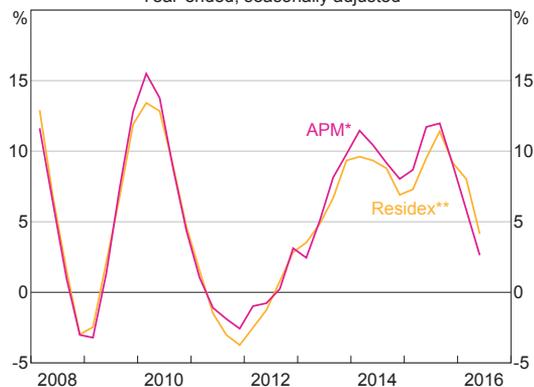
**Graph 3.4**  
**Consumption Indicators**



\* Average of the ANZ-Roy Morgan and Westpac-Melbourne Institute consumer sentiment measures of respondents' perceptions of their personal finances relative to the previous year; average since 1980 = 100

Sources: ABS; ANZ-Roy Morgan; RBA; Westpac and Melbourne Institute

**Graph 3.5**  
**Growth in National Housing Prices**  
Year-ended, seasonally adjusted



\* APM is a quarterly stratified median price index  
\*\* Residex is a quarterly repeat sales price index

Sources: APM; RBA; Residex

of cities, to be more than 5 per cent higher over the June quarter. Recent information suggests that the strong increases reported by CoreLogic were overstated as a result of methodological changes affecting growth rates for the June quarter. The most recent data suggest that housing prices declined in most capital cities in July.

Other timely indicators of conditions in the established housing market continue to point to weaker conditions than last year. Auction clearance rates and the number of scheduled auctions

**Table 3.2: Housing Prices**  
Percentage change, seasonally adjusted

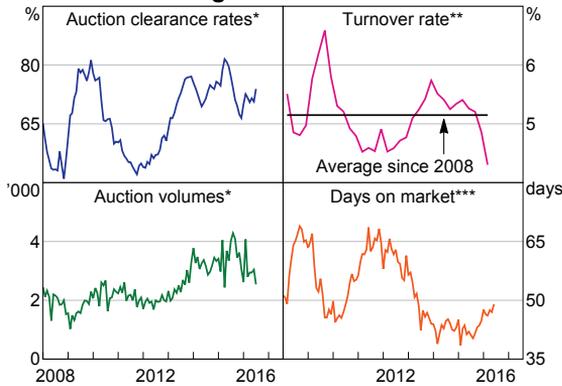
	APM <i>Stratified median</i>		Residex <i>Repeat sales</i>	
	June quarter 2016	Year to June quarter 2016	June quarter 2016	Year to June quarter 2016
Sydney	0.0	1.0	-0.1	3.7
Melbourne	3.2	8.6	-1.3	9.2
Brisbane	1.7	2.0	0.9	3.5
Adelaide	-2.2	2.2	0.5	2.1
Perth	0.3	-3.4	-0.2	-3.8
Canberra	2.0	2.6	0.5	4.3
Hobart	1.4	4.6	-1.5	2.1
Darwin	-	-	-0.5	-4.5
<b>Australia<sup>(a)</sup></b>	<b>0.8</b>	<b>2.6</b>	<b>-0.1</b>	<b>4.1</b>

(a) Capital cities only

Sources: APM; RBA; Residex

are lower than a year ago and there has been a large decline in the number of transactions in the housing market, which is reflected in the turnover rate (Graph 3.6). In the private treaty market, the discount on vendor asking prices has been little changed of late, but the average number of days that a property is on the market has increased from the lows of last year.

**Graph 3.6  
Housing Market Indicators**

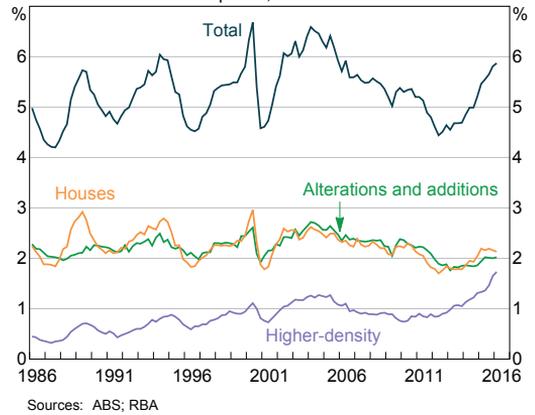


\* Average of Melbourne and Sydney  
 \*\* Share of dwelling stock, annualised  
 \*\*\* Capital city dwelling stock weighted median for private treaty sales only  
 Sources: ABS; APM; CoreLogic; RBA; Real Estate Institute of Victoria

Total housing loan approvals have been little changed in recent months. Meanwhile, housing credit growth has been steady in the first six months of the year but slower than in 2015, consistent with a relatively low level of turnover and the tightening of lending standards towards the end of 2015 (see 'Domestic Financial Markets' chapter for further details on the developments in housing finance).

The upswing in dwelling investment, particularly the construction of high-density dwellings, has continued, supported by low interest rates and earlier increases in housing prices (Graph 3.7). Residential building approvals are lower than their peak of mid 2015 but remain at high levels. Indeed, building approvals have continued to exceed completions, resulting in the number of dwellings under construction or yet to be completed reaching historically high levels. The work in the pipeline is

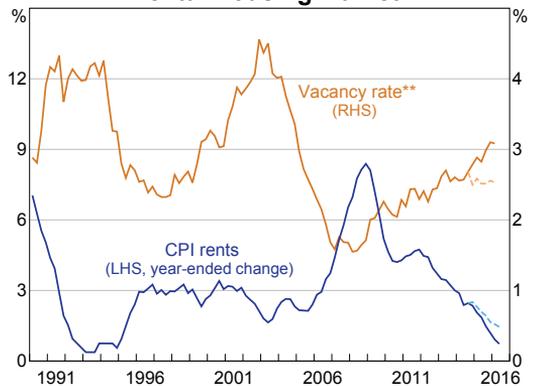
**Graph 3.7  
Dwelling Investment**  
Current prices, share of GDP



sufficient to underpin dwelling investment activity for the next couple of years (see 'Box B: The Housing Market').

Conditions in the rental market have continued to soften over the past year. The aggregate rental vacancy rate has drifted higher to be close to its longer-run average of around 3 per cent and rental inflation is around multi-decade lows, having eased across most capital cities (Graph 3.8). The Perth rental market is particularly weak, reflecting the slowing in population growth combined with ongoing additions to the housing supply.

**Graph 3.8  
Rental Housing Market\***

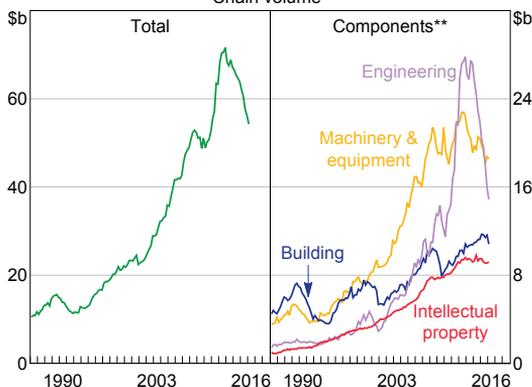


\* Dotted lines exclude Perth  
 \*\* Excludes Adelaide from March quarter 2015  
 Sources: ABS; RBA; Real Estate Institute of Australia

## Business Sector

As expected, private business investment declined further in the March quarter and fell by 13 per cent over the year (Graph 3.9). The decline in the quarter was led by falls in engineering (which was largely related to the decline in mining investment) and building construction.

**Graph 3.9**  
**Private Business Investment**  
Chain volume\*



\* Adjusted for second-hand asset transfers between the private and other sectors; reference year is 2013/14

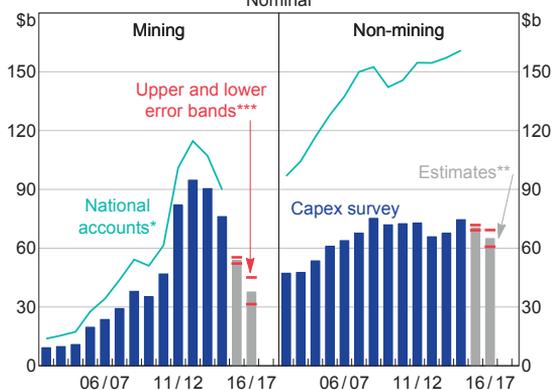
\*\* Excluding cultivated biological resources

Sources: ABS; RBA

Mining investment has fallen by around 45 per cent since its 2012 peak and is expected to fall further over the next couple of years as few new projects are expected to commence. The ABS capital expenditure (Capex) survey of investment intentions and Bank liaison suggest there will be a further large fall in mining investment in 2016/17, although the largest subtraction from GDP growth is likely to have occurred in 2015/16 (Graph 3.10).

In real terms, non-mining investment has been subdued for several years and indicators, such as the Capex survey, suggest that it will remain so for at least the next few quarters. The estimates from the Capex survey are, however, subject to considerable uncertainty. Moreover, the survey does not cover a large share of non-mining investment that is captured by the national accounts data, including investment in agriculture, education or healthcare, as well as intangible items, such as software

**Graph 3.10**  
**Measures of Private Business Investment**  
Nominal



\* Adjusted for second-hand asset transfers between the private and other sectors; excluding cultivated biological resources

\*\* Estimates are firms' expected capital expenditure, adjusted for the past average difference between expected and realised spending

\*\*\* Error bands are based on the root mean square error of each adjusted estimate compared with the final outcome for investment in each year

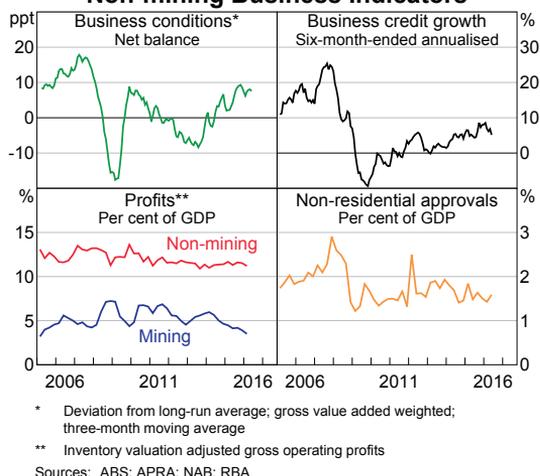
Sources: ABS; RBA

development. Non-mining investment has been particularly weak in resource-rich states. In part, this is because many non-mining firms provide inputs and support to firms involved in either mining investment or resource extraction. More broadly, investment by non-mining firms is being adversely affected by weak demand growth overall in those states. In contrast, in New South Wales and Victoria, which are less resource intensive, the recovery in non-mining business investment appears to have begun, supported by very low interest rates and the depreciation of the Australian dollar over the past few years.

Although non-mining investment has been weak for some time, business surveys suggest that non-mining business conditions and capacity utilisation have been on an upward trend since 2013 and these survey measures are currently well above their long-term averages (Graph 3.11). Business credit growth has eased a little of late. At the same time, non-mining company profits have been little changed as a share of nominal GDP. While non-residential building approvals persist at relatively low levels, reflecting weak underlying conditions in the commercial property market, the Bank's liaison

**Graph 3.11**

**Non-mining Business Indicators**



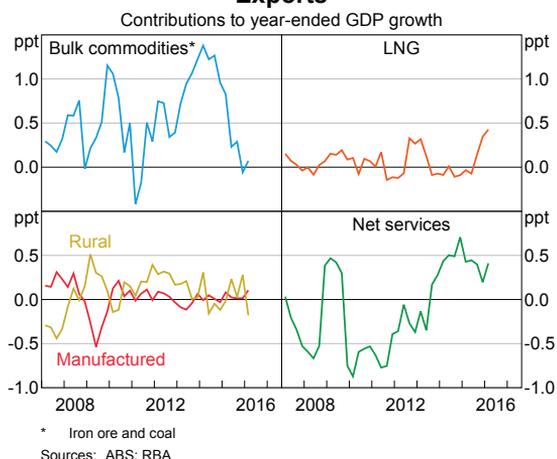
has suggested that the outlook for investment is relatively favourable in some commercial property sectors, including retail, hotels, student accommodation and aged care.

**External Sector**

Export volumes rose by 7 per cent over the year to the March quarter, largely driven by strength in resource and service exports (Graph 3.12). The ramp-up in liquefied natural gas (LNG) production has begun and LNG exports are expected to continue to grow rapidly over the next few years as further projects are completed. Both iron ore and coal exports grew strongly in the March quarter, supported by unusually favourable weather conditions. Looking ahead, iron ore export volumes are expected to be supported by increased production from Australia's large low-cost producers, while coal exports face headwinds from the relatively high cost of some Australian production and weak global demand. Net service exports have increased over the past year, although at a slower pace more recently, assisted by the improvement in competitiveness associated with the depreciation of the Australian dollar and relatively low labour cost growth; tourism, education and business service exports have all expanded.

**Graph 3.12**

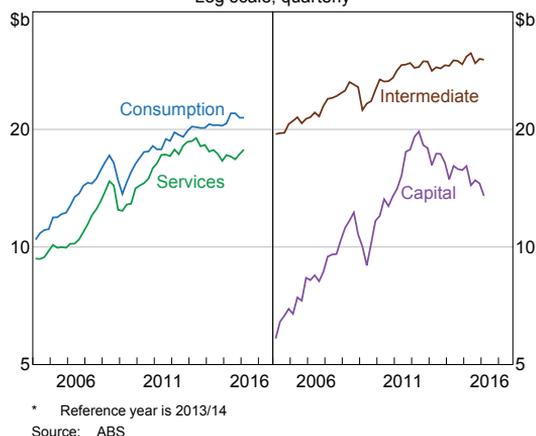
**Exports**



Import volumes decreased modestly over the year to the March quarter, reflecting declines in capital and intermediate imports (Graph 3.13). Imports of capital goods have been declining since 2012 when mining investment peaked.

**Graph 3.13**  
**Import Volumes\***

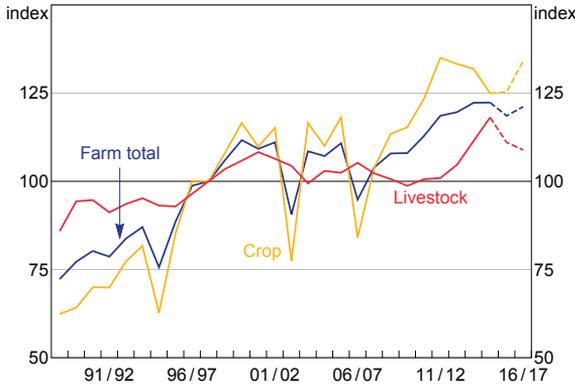
Log scale, quarterly



**Farm Sector**

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) estimates that the volume of farm production declined modestly in 2015/16 (Graph 3.14). In recent years, farm production has been supported by strong growth

**Graph 3.14**  
**Farm Production Volumes\***  
1997/98 = 100



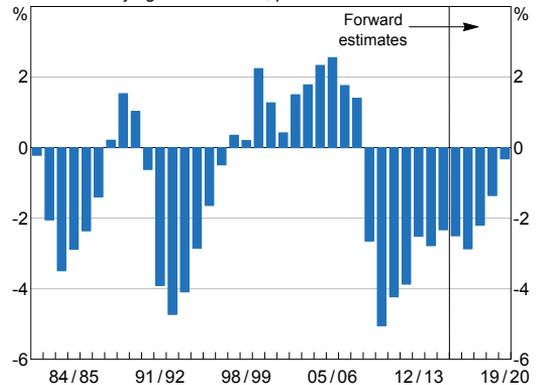
\* Dotted lines represents 2015/16 and 2016/17 forecasts  
Source: ABARES

in livestock production, but this is expected to have moderated in 2015/16 as herds were being rebuilt. Farm production volumes are forecast by ABARES to increase in 2016/17 as the ongoing decline in livestock production is expected to be more than offset by strong growth in crop production, given above-average rainfall at the start of the winter crop-planting season.

## Government Sector

Recent federal and state government budgets suggest that the consolidated deficit will increase a little in 2016/17 to around 3 per cent of GDP, owing largely to lower revenue growth in the federal budget and higher capital expenditure by the New South Wales Government (Graph 3.15). Deficits are expected to be progressively lower over subsequent years; overall these deficits are slightly larger than previous budget estimates. The consolidated budget is expected to return to a balanced position by around 2019/20.

**Graph 3.15**  
**Consolidated Budget Balance\***  
Underlying cash balance, per cent of nominal GDP

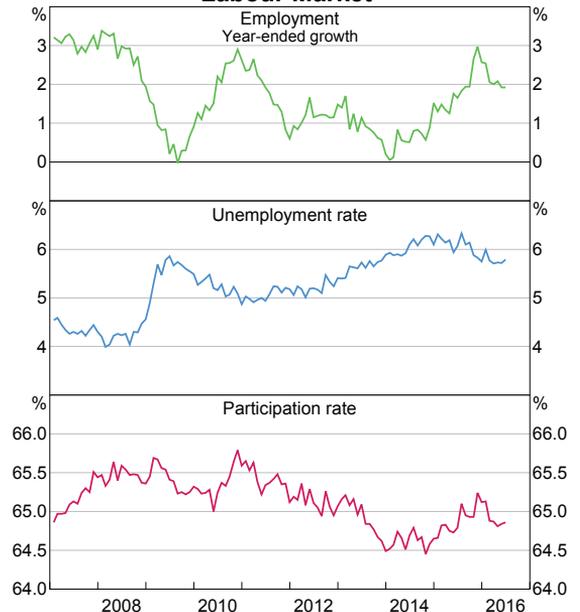


\* Federal, state and territory governments, based on 2016/17 budgets; excludes the effect of the federal grant to the RBA in 2013/14  
Sources: ABS; Australian Treasury; RBA; State and Territory Treasuries

## Labour Market

Employment growth has moderated, following strong growth late last year (Graph 3.16). The unemployment rate has been steady at around 5¾ per cent, having fallen by around ½ percentage point over 2015. The participation rate has also been little changed in recent months, although it is lower than it was late last year.

**Graph 3.16**  
**Labour Market**

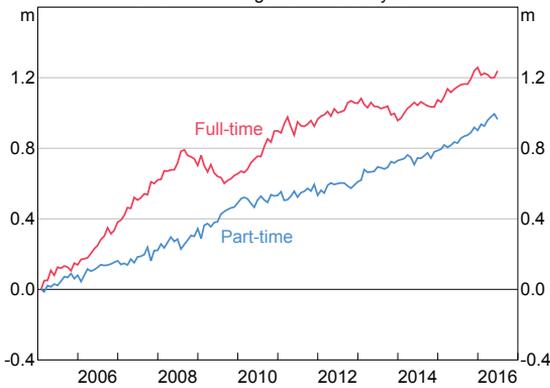


Source: ABS

Over the course of 2016, employment growth has been concentrated in part-time jobs, while full-time employment has been little changed until very recently (Graph 3.17). The share of part-time employment has trended higher over a number of decades to be close to one-third of total employment. This reflects increased participation by females, as well as labour market reforms that have provided firms with greater flexibility to adjust working hours rather than headcount in response to changes in demand.<sup>1</sup>

**Graph 3.17  
Employment**

Cumulative change since January 2005

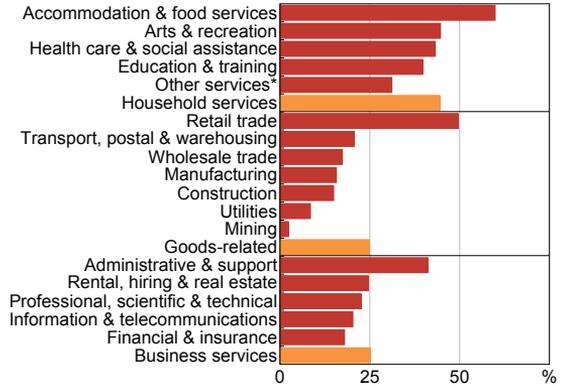


Sources: ABS; RBA

More recently, the shift in the composition of employment growth towards part-time employment appears to reflect two factors. First, employment growth has been stronger in industries that tend to have a higher proportion of part-time jobs, such as household services (Graph 3.18). In part, this reflects solid growth in household consumption and a pick-up in tourism, but also longer-run trends, such as increasing demand for aged and home-based care services as the population ages. Second, the recent growth in part-time employment may reflect a cautious approach by firms to hiring and/or a means for them to increase their use of labour in a way that contains

**Graph 3.18  
Part-time Share of Employment**

2015/16 average



\* Includes personal services; religious, civic, professional and other interest group services; repair and maintenance activities; and private households employing staff

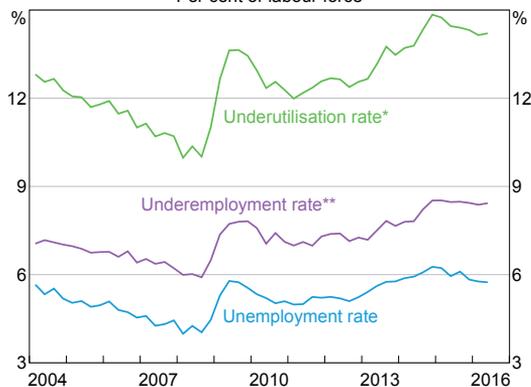
Sources: ABS; RBA

costs. In particular, the Bank's liaison suggests that a broad range of businesses are seeking greater flexibility from employees through the use of part-time or casual work or temporary contracts, to improve productivity and minimise their labour costs. This might help to also explain the increase in part-time employment relative to full-time employment in a range of industries in the business service and goods-related sectors. Meanwhile, both full-time and part-time construction employment have grown strongly, underpinned by elevated levels of residential construction activity.

The unemployment rate remains at a level consistent with there being spare capacity in the labour market. Furthermore, the share of workers who would like to work more hours has been little changed over the past two years and is at a high level. That is, the underemployment rate (which captures the number of workers who would like more hours, as a share of the labour force) has not fallen by as much as the unemployment rate over the past year (Graph 3.19). Low growth in a range of wage measures is also consistent with a degree of spare capacity in the labour market. At the same time, low wage growth may enable firms to employ

1 Bishop J and M Plumb (2016), 'Cyclical Labour Market Adjustment in Australia', RBA *Bulletin*, March, pp 11–20.

**Graph 3.19**  
**Labour Underutilisation Rates**  
Per cent of labour force



\* Underutilisation rate is the sum of the underemployment and unemployment rates

\*\* Full-time workers on reduced hours for economic reasons and part-time workers who would like, and are available, to work more hours

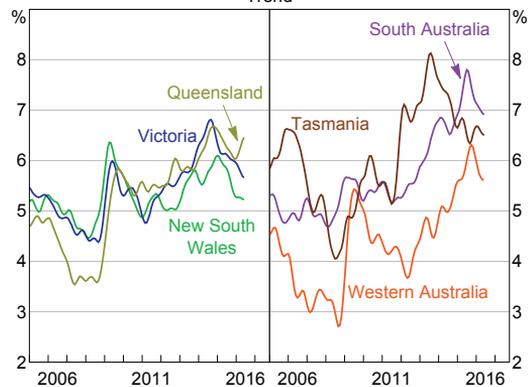
Source: ABS

more workers than would otherwise be the case (see 'Price and Wage Developments' chapter).

There appears to be somewhat less spare capacity in New South Wales and Victoria, where unemployment rates have declined noticeably over the past year and growth in full-time employment has been strongest (Graph 3.20). In contrast, Queensland's unemployment rate has ticked up recently and Western Australia's unemployment rate is much higher than it was a few years ago, although it is still a little below the national average. At the same time, population growth has moderated noticeably in the resource-rich states relative to the rest of the country, which has helped to limit the increase in their unemployment rates. Looking ahead, further mining-related job losses are expected as LNG-related construction projects reach completion.

Indicators of future employment growth have been mixed over recent months, following strong gains over the preceding year. Job advertisements as a share of the labour force had been little changed for some time, but increased slightly over the past couple of months (Graph 3.21). In contrast, the job vacancy rate declined a little over the three months

**Graph 3.20**  
**Unemployment Rates by State**  
Trend



Source: ABS

**Graph 3.21**  
**Labour Market Indicators**



\* This survey was suspended between May 2008 and November 2009

\*\* Net balance of employment intentions for the following period; deviation from average; 12-months-ahead measure seasonally adjusted by the RBA

Sources: ABS; ANZ; NAB; RBA

to May. This appears to be consistent with weaker employment growth in the business service and goods-related sectors compared with household services, for which vacancies have continued to increase. The NAB survey measure of firms' hiring intentions remains above average. Overall, these indicators suggest employment growth in coming months will be consistent with a stable unemployment rate. ✎

## Box B

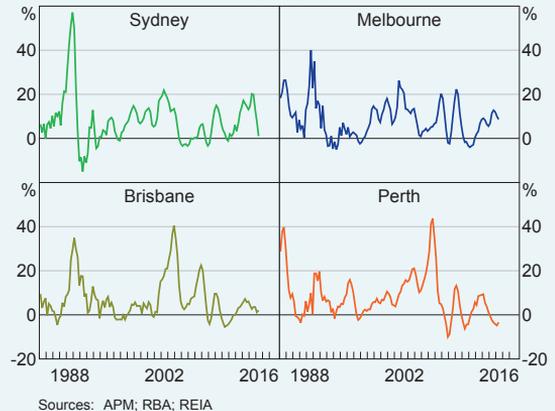
# The Housing Market

Overall conditions in the housing market have been strong in recent years and have contributed to the rebalancing of economic activity towards the non-mining sectors of the economy. As expected, housing market activity has been relatively sensitive to the reduction in interest rates over recent years.<sup>1</sup> Population growth has also been an important driver of housing market trends across the country. Housing prices have increased and the construction of new dwellings has added to economic growth and employment.

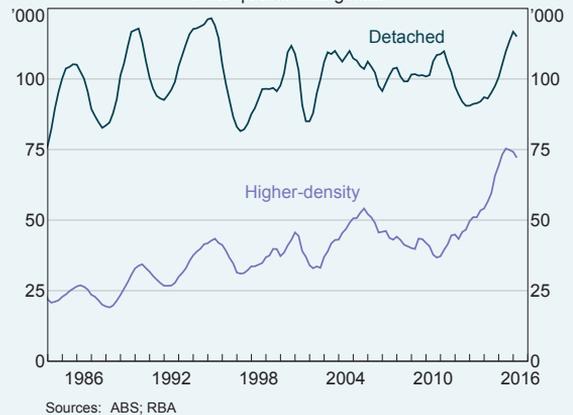
Housing prices in Australia have increased at an average rate of around 7½ per cent per annum since mid 2012. This has been largely driven by developments in Sydney and Melbourne, with more modest price growth in other capital cities over this period, especially in those cities with larger exposures to the mining sector (Graph B1).

Residential building activity has increased as a share of GDP, from about 4½ per cent on average in 2012 to almost 6 per cent in the March quarter 2016. The number of new residential building completions in Australia was around 190 000 in 2015, an increase of almost 20 per cent compared with a decade ago when it was generally judged that supply had not been keeping up with demand. Apartments have accounted for most of the increase in housing supply, although detached dwelling completions have also picked up over the past couple of years (Graph B2).<sup>2</sup>

**Graph B1**  
Housing Price Growth  
Year-ended



**Graph B2**  
Private Dwelling Completions  
Four-quarter rolling sum



Since 2012, the supply of housing has increased in all Australian states, but activity has been concentrated in the four largest states of New South Wales, Victoria, Queensland and Western Australia, which together account for more than 90 per cent of Australia's total building activity. Building

1 See RBA (2015), 'Box C: The Cycle in Dwelling Investment', RBA *Statement on Monetary Policy*, May, pp 43–45.

2 See Shoory M (2016), 'The Growth of Apartment Construction in Australia', RBA *Bulletin*, June, pp 19–26.

approvals data suggest that there will be a further expansion of supply in these states over the next year or two (Graph B3).<sup>3</sup> The number of newly approved dwellings has been above completions for some time, leading to a build-up in the pipeline of work yet to be done to historically high levels. In part, this reflects a shift in the composition of approvals towards higher-density dwellings, which typically take longer to complete than detached dwellings. This build-up in dwellings under construction or yet to be commenced is particularly apparent in New South Wales and Victoria (Graph B4).<sup>4</sup>

**Graph B3**  
**Private Dwelling Activity**  
Quarterly, seasonally adjusted



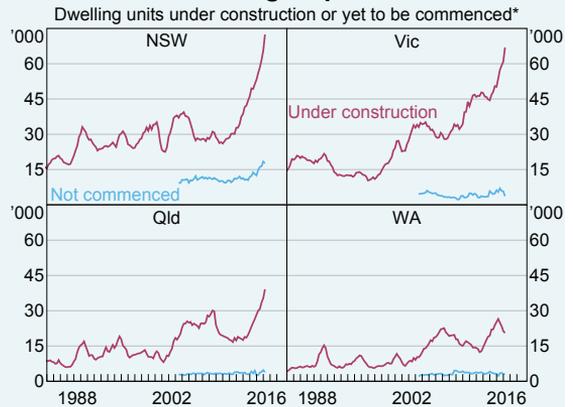
Sources: ABS; RBA

In addition to interest rates, growth in the number of households is a key determinant of housing demand. This in turn is a function of population

3 Building approvals are generally sought just prior to the commencement of construction work. These are separate from planning approvals, which can potentially precede building by many years.

4 Information from liaison suggests that residential construction activity is operating at close to capacity in those markets where demand is strong. There may be some capacity to accommodate a further pick-up in the construction of detached houses in south-east Queensland and apartments in Melbourne (outside the inner city). In markets operating close to capacity, such as Sydney and the greenfield market in Melbourne, further increases in land and dwelling sales may lead to activity remaining at high levels for longer, but are unlikely to add to the level of activity in the near term.

**Graph B4**  
**Dwellings Pipeline**



\* Dwelling units under construction are private sector projects only; work yet to be commenced includes public sector projects

Sources: ABS; RBA

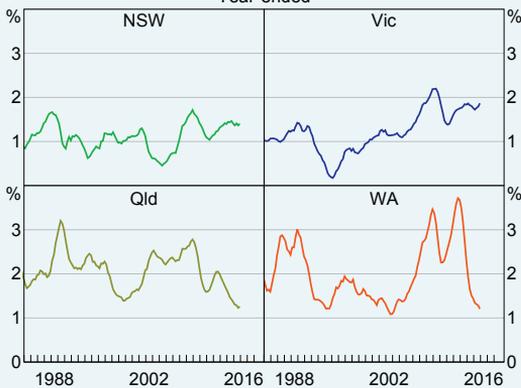
growth and changes in the average size of households.<sup>5</sup> In New South Wales and Victoria, relatively strong population growth has supported underlying demand over the past few years (Graph B5). However, in Western Australia and to a lesser extent Queensland and South Australia, population growth has slowed following the end of the mining investment boom.

The balance between supply and demand for housing is ultimately reflected in housing prices, vacancy rates and rents. In Perth, the combination of slower-than-expected population growth, weaker household income growth and a high level of dwelling completions in recent years has placed downward pressure on housing prices. Rental vacancy rates in Perth have risen sharply to be more than double the average of all other capital cities, which is around 2½ per cent (Graph B6). Consistent with this, rents in Perth declined by 5¼ per cent over the year to the June quarter 2016 (Graph B7).

Despite the substantial increase in supply in recent years, vacancy rates in Sydney, Melbourne and

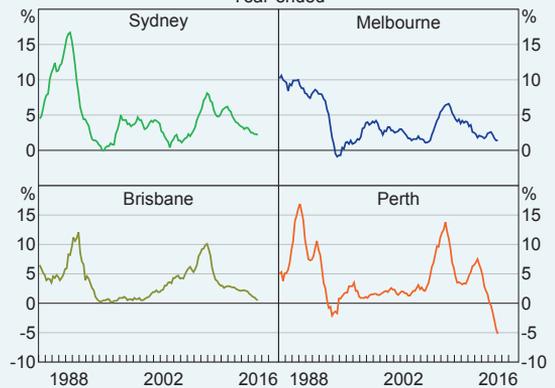
5 Average household size tends to change slowly. Between 1911 and 2001 average household size decreased by about 2 persons per household, from 4½ to 2½, but has since been little changed.

**Graph B5**  
**Population Growth**  
Year-ended



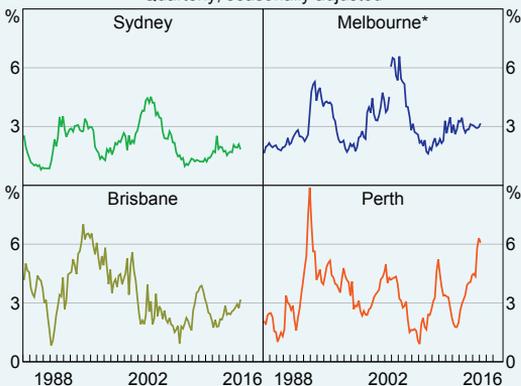
Sources: ABS; RBA

**Graph B7**  
**Capital City Rent Inflation**  
Year-ended



Source: ABS

**Graph B6**  
**Rental Vacancy Rates**  
Quarterly, seasonally adjusted



\* Series break December quarter 2002

Sources: RBA; REIA; REIV

Brisbane have only risen a little, to be around their long-run average levels. That said, rent inflation in these cities has been declining, and has also been a little weaker than suggested by its historical relationship with the vacancy rate.

There are some concerns about the concentration of new supply in areas such as some parts of inner-city Melbourne and Brisbane. Downward pressure on prices from large increases in supply relative to demand for apartments in some areas could increase the risk of off-the-plan purchases failing to settle.<sup>6</sup> More generally, a further increase in the supply of apartments is scheduled over the next couple of years. While this will continue to support economic activity over this period, it will tend to constrain growth in housing prices and rents, at least in some markets. ✖

<sup>6</sup> See RBA (2016), *Financial Stability Review*, April.

# 4. Domestic Financial Markets

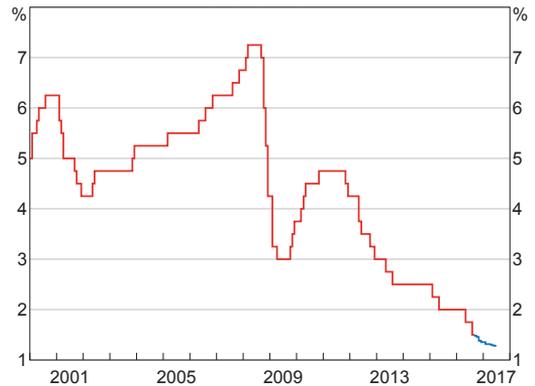
Conditions in domestic financial markets continue to support the financing of the household and business sectors. The cash rate target was reduced at the August Board meeting, and housing and business lending rates have declined. Australian government bond yields have fallen to historic lows in line with global developments. Yields on bonds issued by domestic banks and non-financial corporations have also declined, and banks have been able to raise ample funding in wholesale debt markets. In contrast, non-financial corporate bond issuance has remained subdued, particularly in the resources sector. Despite historically low interest rates, growth in credit extended to households and businesses has slowed in recent months. Equity prices have picked up from their lows earlier in the year, with resources sector share prices rising in response to higher commodity prices.

## Money Markets and Bond Yields

The Reserve Bank Board lowered its target for the cash rate to 1.50 per cent at its August meeting. Rates on overnight indexed swaps (OIS) suggest that the cash rate is expected to be reduced again in the year ahead (Graph 4.1).

Since the start of the year, 3- and 6-month bank bill rates (BBSW) have moved broadly in line with OIS rates (Graph 4.2). In contrast, the spread between 1-month bank bill rates and OIS rates has risen. However, the 1-month bank bill market has become a less significant source of bank funding since the introduction of the Liquidity Coverage Ratio in 2015, which reduces the attractiveness to banks of very short-term wholesale funding.

**Graph 4.1**  
**Cash Rate\***



\* Data from September 2016 onwards are expectations derived from interbank cash rate futures

Sources: ASX; Bloomberg

**Graph 4.2**  
**BBSW to Overnight Index Swap**



Sources: AFMA; Tullett Prebon (Australia)

Secured rates in the repurchase agreement (repo) market have also risen relative to OIS rates in recent months. This widening appears to reflect heightened demand for secured funding from market

participants responding to arbitrage opportunities in the bond futures and foreign exchange (FX) swap markets. Bond futures have been trading at higher implied prices than the basket of bonds that underlie the futures and, in response, some investors have sold the futures and bought the bonds using repo funding. In the FX swap market, Australian dollars can be lent against yen at a relatively high implied Australian dollar interest rate; in response, some investors have been borrowing Australian dollars under repo to lend against yen in the swap market at a higher interest rate.

Yields on 10-year Australian Government Securities (AGS) reached a historic low of 1.82 per cent in early August alongside the decline in global bond yields. AGS yields have continued to be largely influenced by movements in US Treasuries, although the spread between the two has narrowed in recent months (Graph 4.3). Despite large intraday movements in prices on the day of the UK referendum result, and much greater than normal volumes, market functioning was very orderly (see Box C: 'Australian Financial Markets and the UK Referendum').

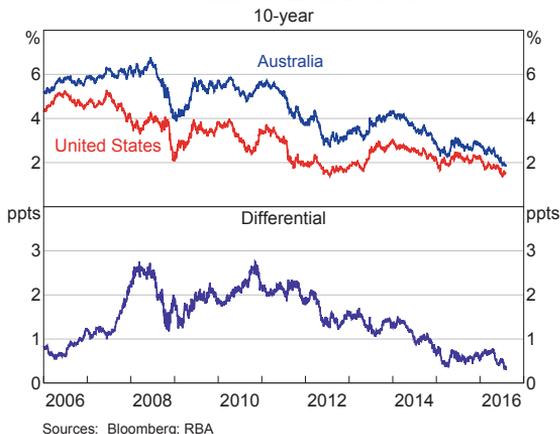
Standard & Poor's (S&P) revised its outlook on Australia's AAA sovereign credit rating from stable to negative, reflecting its view that prospects for fiscal consolidation have weakened. There was minimal market reaction to S&P's announcement.

In line with the negative outlook S&P placed on Australia's sovereign credit rating, the AAA ratings of New South Wales, Victoria and the Australian Capital Territory were revised to a negative outlook. S&P also announced that the major banks' credit ratings would be lowered by one notch in the event that Australia's sovereign rating was downgraded, since the banks benefit from S&P's assumption of implicit government support.

The Australian Office of Financial Management (AOFM) has announced plans to issue around \$60 billion of AGS in the 2016/17 financial year in net terms, which would see total AGS rise to around \$430 billion (25 per cent of GDP) at the end of June 2017. Recent AGS auctions have been well received and there appears to be considerable offshore demand for Australian bonds. State and territory governments ('semis') issued around \$35 billion in bonds in the 2015/16 financial year. Taking into account the \$40 billion in maturities over the same period, the stock of semis bonds outstanding fell to \$237 billion at the end of June. Funding requirements for the 2016/17 financial year are expected to be modest compared to recent years, although this depends on the timing and realised prices of planned asset sales.

Bond issuance by non-residents in the domestic market ('Kangaroo' issuance) has totalled \$20 billion in the year to date. In addition to ongoing issuance by supranational institutions, foreign sovereigns and agencies, US corporations have been able to issue large deals, with Apple and Coca Cola raising a combined \$2.4 billion this year. Secondary market spreads to AGS for AAA rated issuers are slightly wider than in late 2015.

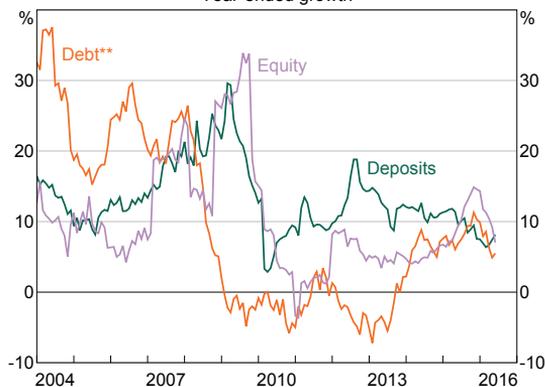
**Graph 4.3**  
**Government Bond Yields**



## Financial Intermediaries

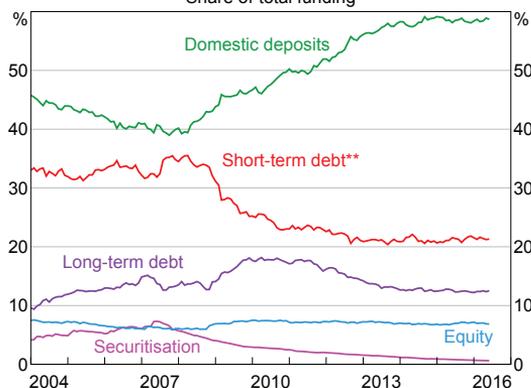
Growth in banks' balance sheets has slowed over the past 6 months, mainly reflecting a slowing in deposit growth. Growth in wholesale debt and equity also declined following a pick-up in these funding sources last year (Graph 4.4). Deposits have remained close to 60 per cent of total funding (Graph 4.5).

**Graph 4.4**  
**Banks' Funding Liabilities\***  
 Year-ended growth



\* Adjusted for movements in foreign exchange rates  
 \*\* Includes long-term debt, short-term debt and securitisation  
 Sources: APRA; RBA

**Graph 4.5**  
**Funding Composition of Banks in Australia\***  
 Share of total funding



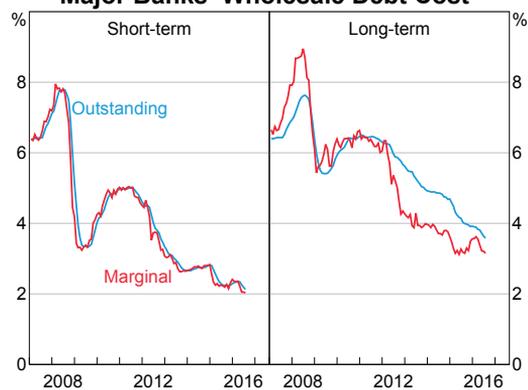
\* Adjusted for movements in foreign exchange rates; tenor of debt is estimated on a residual maturity basis  
 \*\* Includes deposits and intragroup funding from non-residents  
 Sources: APRA; RBA; Standard & Poor's

A factor that is likely to influence the composition of banks' balance sheets over the period ahead is the introduction in January 2018 of the Net Stable Funding Ratio (NSFR) as part of the Basel III liquidity reforms. The NSFR is designed to encourage banks to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities. This may encourage banks to utilise more stable sources of funding such as retail deposits and long-term debt and encourage less use of short-term wholesale debt. Consistent with this, some banks recently announced increases in term

deposit rates for terms over 12 months. The NSFR may also influence the composition of banks' assets, given that unsecured lending to businesses and households generally requires more stable funding than housing-secured lending.

Estimates of the major banks' average debt funding costs declined following the May cash rate reduction, but by a little less than the cash rate, mainly reflecting upward pressure on wholesale funding costs. There had also been some upward pressure on the cost of term deposits. Nevertheless, the cost of new issuance by banks of both short- and long-term debt has recently been below the cost of outstanding debt (Graph 4.6).

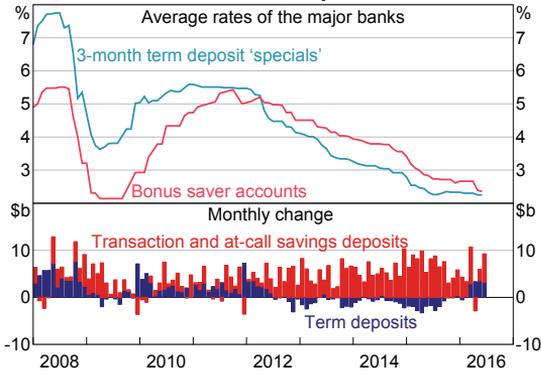
**Graph 4.6**  
**Major Banks' Wholesale Debt Cost\***



\* Funding costs model estimates; rates do not include interest rate hedges  
 Source: RBA

Competition for term deposits has increased a little in the past few months. The May cash rate reduction was largely reflected in lower advertised deposit rates, but term deposit rates remained little changed. Following the August cash rate reduction, the average interest rate banks will be offering on term deposit 'specials' for terms of 12–36 months will increase to around 3 per cent. Deposits of this maturity currently account for less than 2 per cent of total funding. With the interest rates on term deposits not declining in line with other deposit rates, strong growth has been recorded in term deposits more recently (Graph 4.7).

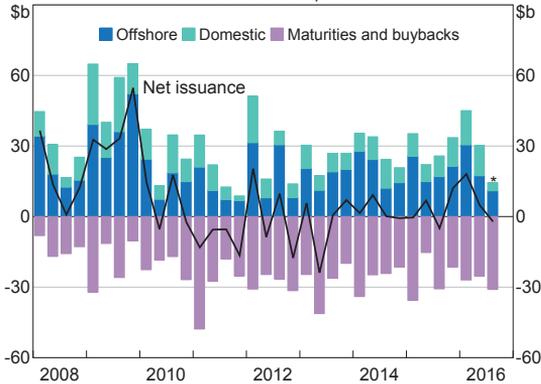
**Graph 4.7**  
**Household Deposits**



Sources: APRA; Canstar Cannex; RBA

Australian banks have issued a relatively large amount of debt this year (Graph 4.8). In the year to date, \$90 billion of bank bonds have been issued; taking bond maturities into account, net bank bond issuance has been \$21 billion. Bank bond yields in the secondary market are around historical lows, while spreads to benchmark rates are a little wider than at the start of the year (Graph 4.9).

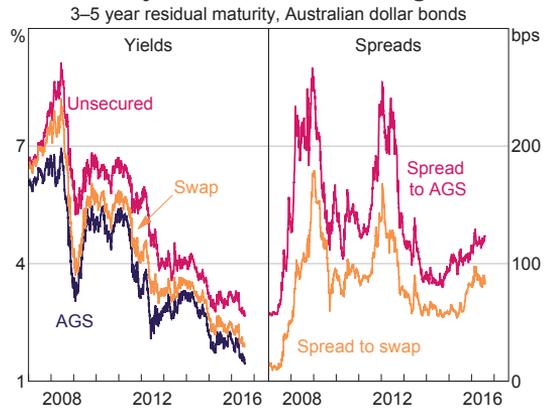
**Graph 4.8**  
**Australian Banks' Bond Issuance**  
Australian dollar equivalent



\* Latest quarter issuance to date  
Source: RBA

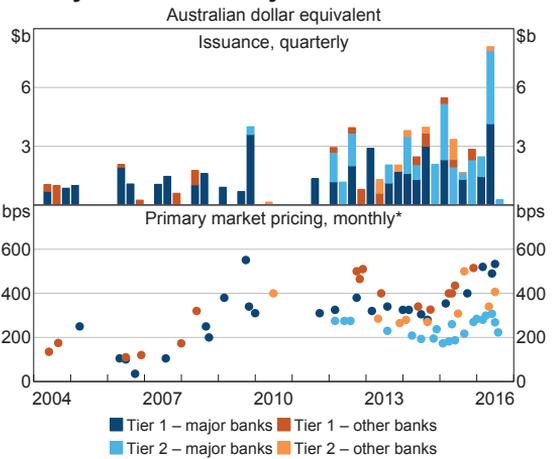
Hybrid issuance by Australian financial companies was large in the June quarter, driven by issuance by the major banks (Graph 4.10). The four major banks have each issued Basel III-compliant Additional Tier 1 (AT1) hybrids in 2016. This included the issuance by a major bank of an AT1 hybrid into the offshore market for the first time since 2009. The AT1 hybrid issuance

**Graph 4.9**  
**Major Banks' Bond Pricing**  
3–5 year residual maturity, Australian dollar bonds



Sources: Bloomberg; UBS AG, Australia Branch

**Graph 4.10**  
**Hybrid Issuance by Australian Banks**  
Australian dollar equivalent

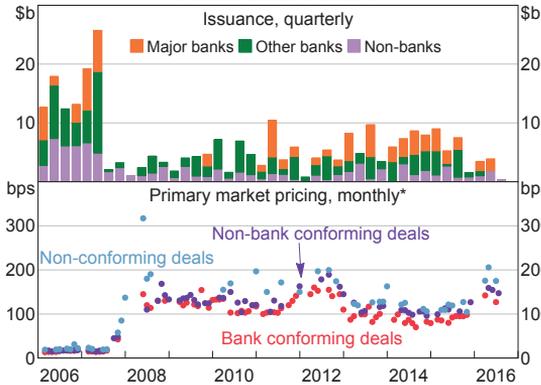


\* Face-value weighted monthly average of the primary market spread to bank bill swap rate; foreign currency hybrids hedged back to Australian dollars assuming redemption on the first call date  
Source: RBA

has been used by the major banks to replace existing hybrids. Tier 2 hybrids have been issued by a wide range of banks and insurance companies.

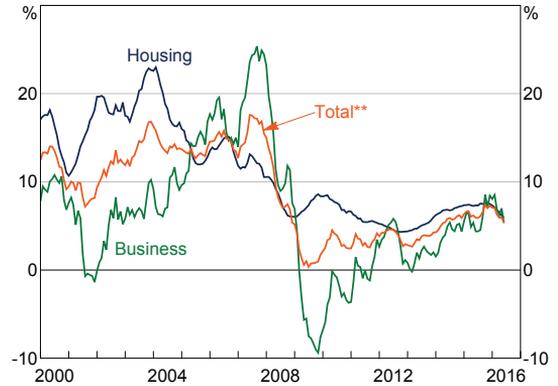
Activity in the asset-backed securities market remains low and primary market spreads to bank bills continue to be elevated (Graph 4.11). Recent issuance has included a large residential mortgage-backed securities (RMBS) deal from a major bank, and several deals from non-bank originators. There has been no issuance of other asset-backed securities since April.

**Graph 4.11**  
**Australian RMBS**



\* Face-value weighted monthly average of the primary market spread to bank bill swap rate  
Source: RBA

**Graph 4.12**  
**Credit Growth by Sector\***  
Six-month-ended annualised



\* Seasonally adjusted and break-adjusted; including securitisation  
\*\* Includes housing, personal and business credit  
Sources: ABS; APRA; RBA

## Financial Aggregates

Total credit growth has eased a little in recent months (Graph 4.12). Growth in housing credit has been below the pace seen in 2015, while business credit growth has moderated following strong growth earlier in the year. Credit has been growing at around the same pace as broad money (Table 4.1).

## Household Financing

Housing credit growth has been steady at an annualised pace of around 6 per cent over the first six months of the year, which is a little slower than in 2015. Growth in credit to investors has remained around 4 per cent, while growth in credit to owner-

occupiers has slowed a little. Net housing debt has continued to grow around 1¼ percentage points slower than housing credit due to ongoing rapid growth in deposits in mortgage offset accounts (Graph 4.13).

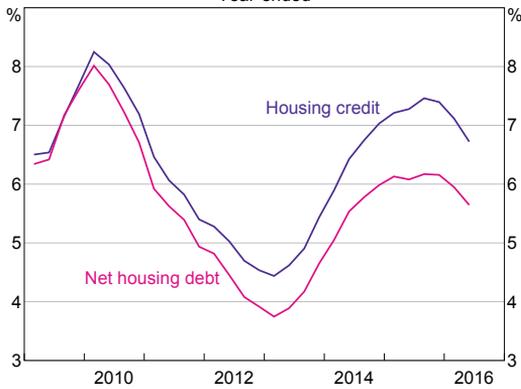
After falling through late 2015 and early 2016, the flow of new housing loan approvals has stabilised in recent months and is consistent with housing credit growth continuing at around its current pace (Graph 4.14). Some lenders have placed restrictions on lending to non-residents or borrowers reliant on foreign income, while some state governments have increased taxes and duties for foreign buyers. These changes will likely have only a small impact

**Table 4.1: Financial Aggregates**  
Percentage change<sup>(a)</sup>

	Three-month ended		Year-ended
	March 2016	June 2016	June 2016
Total credit	1.5	1.1	6.2
– Housing	1.5	1.4	6.7
– Owner-occupier	1.8	1.6	7.7
– Investor	1.1	1.1	5.0
– Personal	–0.3	–0.3	–0.8
– Business	1.7	0.8	6.6
Broad money	2.1	1.1	6.0

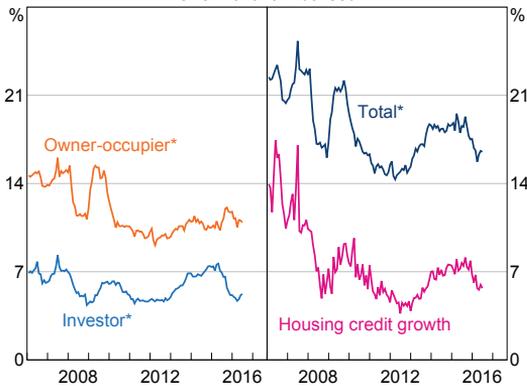
(a) Growth rates are break adjusted and seasonally adjusted  
Sources: APRA; RBA

**Graph 4.13**  
**Housing Credit Growth\***  
 Year-ended



\* Seasonally and break-adjusted  
 Sources: ABS; APRA; RBA

**Graph 4.14**  
**Housing Loan Approvals and Credit**  
 One-month annualised



\* Seasonally adjusted and break-adjusted; net of refinancing; as a share of housing credit  
 Sources: APRA; RBA

on housing credit growth, as lending to this cohort represents a small share of total housing lending.

The slowing in housing loan approvals over the past year is consistent with the decline in turnover in the housing market. It also reflects slower growth in the average size of new loans and a decrease in the average loan-to-valuation ratio. This follows various measures introduced by the Australian Prudential Regulation Authority (APRA) to strengthen lending standards.

Some of the recent decline in the value of housing loan approvals may also reflect an increase in off-the-plan purchases. These transactions do not involve a mortgage at the time the dwelling is purchased off the plan, but add to the stock of housing credit when a mortgage is taken out by the purchaser upon the completion of the dwelling. Loans for the purpose of constructing new dwellings may be taken out by both households and businesses, although loans for the purpose of constructing large apartment blocks are typically undertaken by businesses. Loans drawn down by businesses for the purpose of constructing residential dwellings have grown very rapidly in recent years, consistent with the strong growth in building approvals for apartments.

The May cash rate reduction was passed through to most advertised housing lending rates. A number of lenders reduced fixed rates by more than variable rates, and some fixed rates have been lower than variable rates since the middle of last year (Table 4.2). Consistent with this, the share of loans being taken out at fixed interest rates has been elevated. The average outstanding housing interest rate declined by around 20 basis points and will decrease further following the August cash rate reduction and as fixed rate loans roll over to lower interest rates. The major banks have announced that they will pass through around half of the August cash rate reduction to their standard variable housing lending rates.

## Business Financing

Over recent months, business credit growth has moderated and the issuance of debt securities by Australian companies has remained low, as reflected in the slowing in a broad measure of business debt growth (Graph 4.15). The easing in business credit growth is consistent with the decline in business loan approvals (Graph 4.16). This has been driven by slower growth in lending to some larger businesses and follows some lenders reporting an increase in non-performing large business loans. The reduction in business loan approvals has been apparent across

**Table 4.2: Intermediaries' Fixed and Variable Lending Rates**  
Prior to the August cash rate reduction

	Interest rate Per cent	Change since April 2016 Basis points	Change since July 2015 Basis points
<b>Housing loans</b>			
– Standard variable rate <sup>(a)(d)</sup>			
– Owner-occupier	5.39	–24	–7
– Investor	5.63	–24	17
– Package variable rate <sup>(b)(d)</sup>			
– Owner-occupier	4.59	–24	–8
– Investor	4.83	–24	16
– Fixed rate <sup>(c)(d)</sup>			
– Owner-occupier	4.27	–16	–39
– Investor	4.48	–18	–18
– Average outstanding rate <sup>(d)</sup>	4.64	–22	–6
<b>Personal loans</b>			
– Variable rate <sup>(e)</sup>	11.32	–5	0
<b>Small business</b>			
– Term loans variable rate <sup>(f)</sup>	6.50	–25	–10
– Overdraft variable rate <sup>(f)</sup>	7.38	–25	–10
– Fixed rate <sup>(c)(f)</sup>	5.38	–6	0
– Average outstanding rate <sup>(d)</sup>	5.51	–19	–20
<b>Large business</b>			
Average outstanding rate <sup>(d)</sup>	3.76	–21	–20

(a) Average of the major banks' standard variable rates

(b) Average of the major banks' discounted package rates on new, \$250 000 full-doc loans

(c) Average of the major banks' 3-year fixed rates

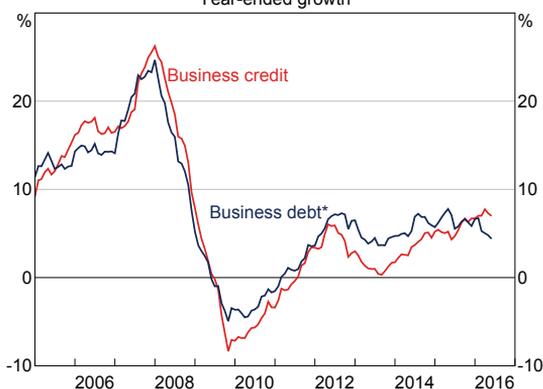
(d) RBA estimates

(e) Weighted average of variable rate products

(f) Residentially secured, average of the major banks' advertised rates

Sources: ABS; APRA; Canstar Cannex; RBA

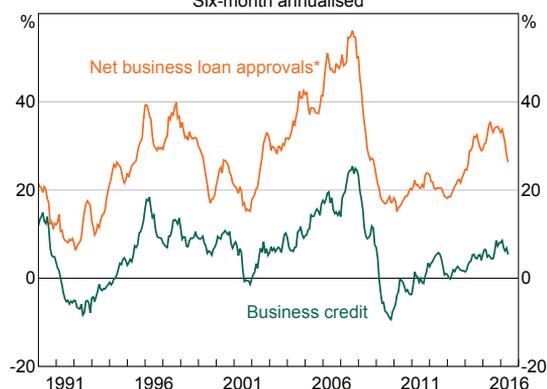
**Graph 4.15**  
**Business Debt**  
Year-ended growth



\* Non-seasonally adjusted and non-break adjusted; includes RFI business credit, non-intermediated debt and an estimate of cross-border syndicated lending

Sources: ABS; APRA; Bloomberg; RBA; Thomson Reuters

**Graph 4.16**  
**Business Credit Growth and Approvals**  
Six-month annualised



\* As a share of business credit

Sources: ABS; APRA; RBA

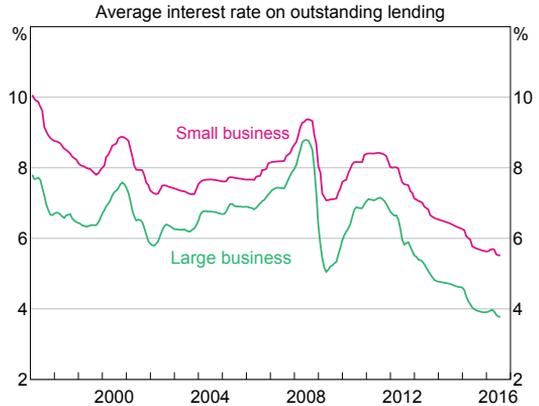
most industries, although it has been more prevalent in sectors in which lending grew more quickly in 2015, such as finance and insurance, manufacturing, and utilities and telecommunications. Some segments of lending remain strong, particularly fixed-term loan approvals for property and construction purposes. Both foreign and domestic banks have contributed to the easing in business credit growth, with the foreign bank share of business credit remaining steady in recent months.

Prior to the August cash rate reduction, business lending rates had declined by less than the cash rate. For large businesses, the pass-through of the cash rate reduction in May followed increases in business lending rates earlier in the year in response to higher spreads in non-intermediated credit markets (Graph 4.17). The average outstanding small business lending rate declined by around 15 basis points over the first half of the year; advertised small business lending rates were generally reduced by 25 basis points in May, partly offsetting increases in small business lending rates earlier in the year.

Bond issuance by Australian corporations remains relatively low with \$11 billion issued in the year to date (Graph 4.18). This mostly reflects the continued absence of issuance by resource-related corporations. Spreads to AGS for resource-related corporations increased significantly through 2015 and early 2016; while spreads have eased in recent months, they remain elevated compared to the first half of 2015, when these corporations last engaged in substantial issuance (Graph 4.19). Spreads for other non-financial corporations have reversed the widening seen earlier in the year.

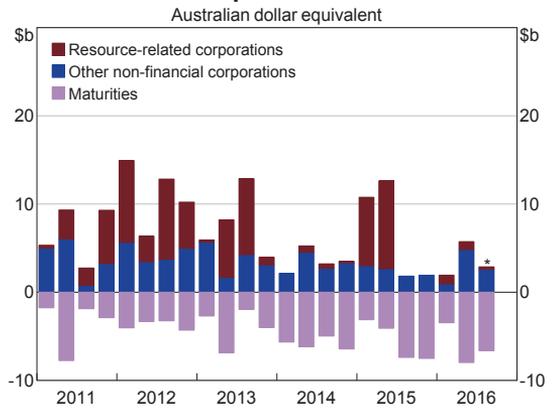
Equity raisings by non-financial corporations (including real estate companies) increased in the June quarter following limited activity earlier in the year. Mergers and acquisitions (M&A) activity has been elevated over the past 18 months, with around \$27 billion in deals announced by listed companies so far this year.

**Graph 4.17**  
**Australian Business Lending Rates\***



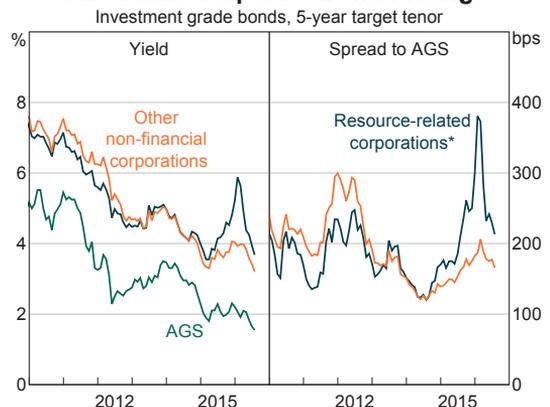
\* RBA estimates  
Sources: APRA; RBA

**Graph 4.18**  
**Australian Corporate Bond Issuance**



\* Latest quarter issuance to date  
Source: RBA

**Graph 4.19**  
**Australian Corporate Bond Pricing**



\* Includes Origin Energy  
Sources: Bloomberg; RBA; S&P Capital IQ

## Equity Markets

Australian equity prices have largely followed movements in global share prices in recent months, falling following the UK referendum vote before recovering to be 3 per cent higher than at the start of the year. The rise in equity prices was broad based across sectors, although financials continue to underperform (Graph 4.20).

**Graph 4.20**  
Australian Share Price Indices

End December 2014 = 100



Source: Bloomberg

The resources sector has outperformed throughout the year to date as commodity prices have traded at higher levels compared with late 2015 (Graph 4.21). More recently, gold miners have been buoyed by higher gold prices amid heightened demand for safe haven assets.

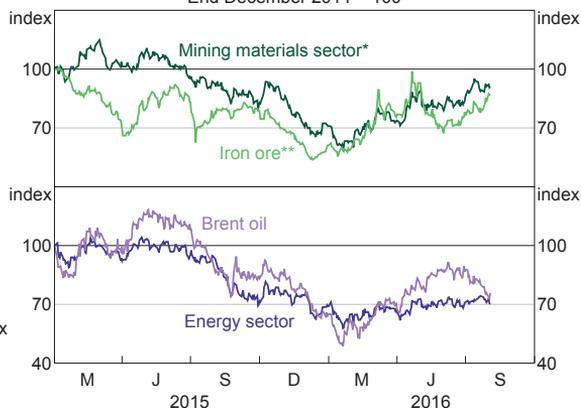
Share prices for companies outside the financial and resources sectors are generally higher; utilities, healthcare, industrials and consumer discretionary have outperformed the broader market, while consumer staples were affected by earning downgrades and impairments.

Analysts' earnings expectations for the 2016/17 financial year have generally been revised lower over the past few months. However, resources sector earnings expectations have been revised higher alongside a sustained recovery in commodity prices.

**Graph 4.21**

## Resources Share Prices and Commodity Prices

End December 2014 = 100



\* Derived from resources sector share prices

\*\* Qingdao import iron ore spot price

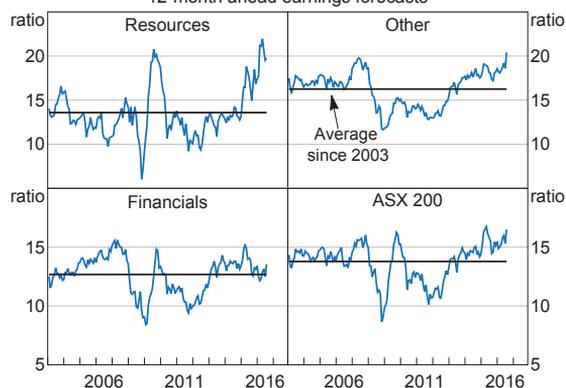
Sources: Bloomberg; RBA

Valuations of Australian equities, as measured by forward price-earnings ratios, remain at or above their long-term averages across all broad sectors (Graph 4.22). Resources sector valuations remain well above long-term averages, reflecting low analysts' earnings expectations over the next 12 months. However, analysts are expecting an improvement in resources sector earnings over the coming years. ↕

**Graph 4.22**

## ASX 200 Forward Price-earnings Ratios

12-month ahead earnings forecasts



Source: Thomson Reuters

## Box C

# Australian Financial Markets and the UK Referendum

There were large movements in financial markets on 24 June as it became apparent that the UK referendum would result in a majority voting for the option to leave the European Union. In Australia, as in other countries, there were large movements in exchange rates, government bond yields and equity prices over the trading session as results from the ballot count were announced (Graph C1). Amid the increase in market volatility, there was a substantial pick-up in market turnover and the key markets where price discovery takes place functioned well and remained highly liquid.

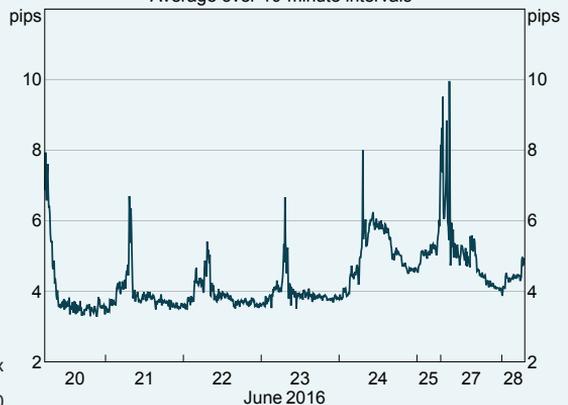
**Graph C1**  
**Australian Government Bonds and ASX 200**



For a couple of days following the referendum, transaction volumes in foreign exchange markets were higher than normal. There was no material impact on price discovery, although bid-ask spreads (the difference between the best quoted prices for buying and selling) rose in currency markets

for a short period of time.<sup>1</sup> Consistent with this, bid-ask spreads for the Australian dollar against the US dollar increased immediately after the referendum (Graph C2). However, spreads returned to their usual size over the next few days. (Spreads in early morning trades on Mondays are usually wider than those on other weekday mornings.)

**Graph C2**  
**AUD/USD Bid-ask Spreads**  
Average over 10-minute intervals\*



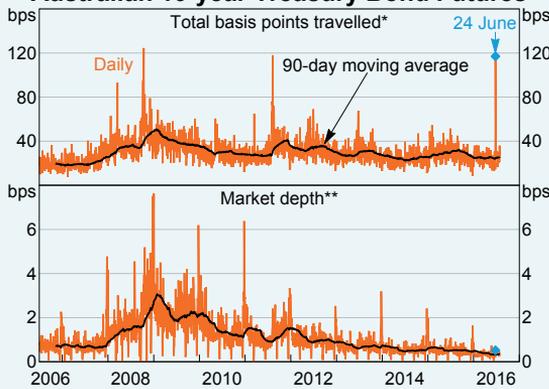
In Australia, much of the price discovery in fixed income markets occurs in the Treasury bond futures market.<sup>2</sup> On 24 June, the net fall in 10-year bond yields, as measured by the change in yield on the 10-year Treasury bond futures contract, was about 25 basis points. Over the course of the day, however, bond yields moved considerably in both directions. Aggregated over 5-minute intervals during each

<sup>1</sup> Bid-ask spreads are typically measured in 'pips' in foreign currency markets. For example, the AUD/USD bid-ask spread for a bid price of 0.7510 US dollars and an ask price of 0.7511 US dollars is 1 pip.

<sup>2</sup> For a discussion of market liquidity see Cheshire J (2016), 'Liquidity in Fixed Income Markets', RBA *Bulletin*, June, pp 49–58.

trading session (excluding after hours trading), yields moved a total of 120 basis points on the day (top panel of Graph C3). This is similar to price movements recorded during the global financial crisis in 2008 and the concerns around European sovereign debt in 2011.

**Graph C3**  
**Australian 10-year Treasury Bond Futures**



\* Aggregated basis point movement in bond yields over 5-minute intervals during the day session

\*\* Basis point movement per \$100 million of contracts at market value

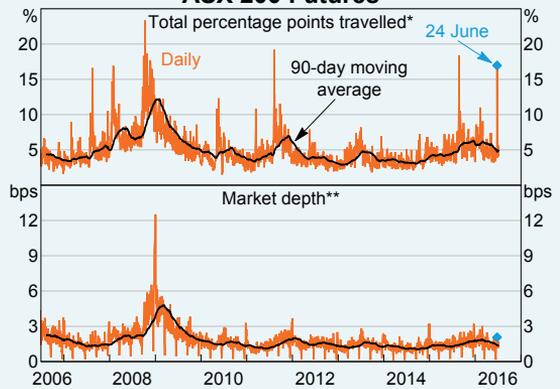
Sources: ASX; RBA; Thomson Reuters

However, in contrast to those earlier periods, liquidity in bond futures markets on 24 June did not appear to be adversely affected as it was underpinned by a substantial increase in turnover. In the Australian 3-year Treasury bond futures contract, turnover during the day session was around \$31 billion, while turnover in the 10-year bond futures contract was around \$23 billion. This compares with daily averages over the previous year of around \$11 billion and \$8 billion, respectively. Market depth, as measured by the distance yields moved per \$100 million of futures contracts transacted, remained near its recent average, suggesting that transactions were able to be executed with limited price impact despite the increased volatility (bottom panel of Graph C3).

A similar pattern was evident in equity markets. On 24 June, the ASX 200 and corresponding equity futures fell by around 3 per cent during the day

session. This was smaller than losses seen in other periods of heightened risk aversion, although in the futures market the intraday movements were as large as those observed in the global financial crisis and aggregated to over 15 per cent of the ASX 200's index value (top panel of Graph C4). Notwithstanding the intraday volatility, liquidity in the equity market did not appear to diminish during the trading session, as turnover rose and market depth remained near its recent average (bottom panel of Graph C4). Turnover in ASX 200 equity futures on 24 June was around \$8 billion, compared with a daily average of around \$4 billion over the previous year.

**Graph C4**  
**ASX 200 Futures**



\* Aggregated percentage point movement in ASX 200 index value over 5-minute intervals during the day session

\*\* Basis point movement per \$10 million market value of contracts

Sources: ASX; RBA; Thomson Reuters

It is more difficult to assess intraday liquidity in credit markets because almost all activity occurs over the counter (OTC), which doesn't have the same level of transparency as activity in exchange-traded markets. Credit markets are typically much less liquid than government bond markets, but they are an important source of finance for corporations. Over the day, there was a rise in spreads on corporate securities relative to government bonds and an increase in credit default swap (CDS) premia, which was consistent with moves in credit markets

overseas. This occurred alongside an increase in trading activity in CDS markets. There has been little lasting impact from the event, and credit spreads and yields have subsequently declined.

Primary market bond issuance by Australian resident issuers slowed ahead of the UK referendum, but, after a brief pause, has resumed. In particular, Australian banks have issued securities in the domestic and offshore markets at similar spreads to those seen prior to the UK referendum.

The infrastructure that underpins the Australian financial market operated smoothly throughout this period. For example, the central clearing counterparties (CCPs) that are responsible for the clearing of exchange-traded products (such as bond and equity futures) and OTC derivative instruments in Australia had established plans to ensure uninterrupted operation and adequate financial cover in the event that market volatility increased around the UK referendum. In the event, the heightened market volatility and elevated turnover on 24 June prompted the CCPs to process a large volume of intraday margin calls. This included additional initial margin calls in the afternoon of the Australian trading day on 24 June, to increase collateral held to cover forward-looking volatility ahead of the European and US trading days. These calls were met on time. ✕

# 5. Price and Wage Developments

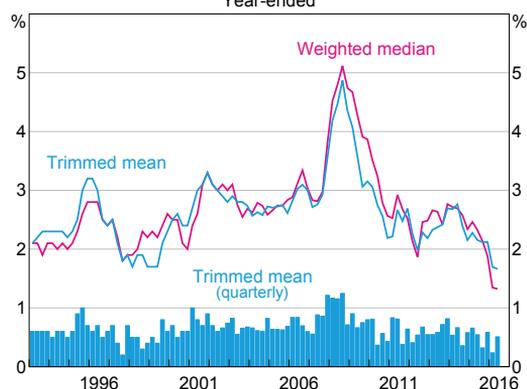
## Inflation

Inflation has been low. A confluence of factors is contributing to weakness in domestic cost pressures. This includes spare capacity in labour and a number of product markets, which has been associated with low wage growth and pressures on costs and margins. Some of the weakness in domestic cost pressures also reflects the adjustment to the decline in the terms of trade and mining investment over recent years, while the depreciation of the Australian dollar over the past few years has put upward pressure on the costs of tradable items.

The June quarter inflation data were broadly in line with the forecast in the *May Statement*. Following the very low March quarter outcomes, measures of underlying inflation picked up to ½ per cent in the June quarter, to be around 1½ per cent over the year (Graph 5.1; Table 5.1). After falling in the March quarter, the headline consumer price index (CPI) increased by 0.6 per cent (in seasonally adjusted terms) to be 1.0 per cent higher over the year (Graph 5.2). Price inflation for volatile items such as fuel and fruit & vegetables boosted headline inflation in the June quarter but remained lower over the year.

The prices of tradable items (excluding volatile items and tobacco) declined slightly in the June quarter and were little changed over the year (Graph 5.3). The final prices of tradable items depend on the world market price and exchange rate movements, although there is still a significant domestic cost component. The substantial

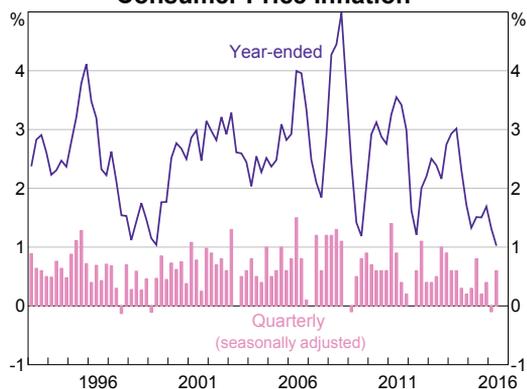
**Graph 5.1**  
Measures of Underlying Inflation\*



\* Excludes interest charges prior to the September quarter 1998; adjusted for the tax changes of 1999–2000

Sources: ABS; RBA

**Graph 5.2**  
Consumer Price Inflation\*



\* Excludes interest charges prior to the September quarter 1998; adjusted for the tax changes of 1999–2000

Sources: ABS; RBA

depreciation of the exchange rate over the past few years has increased import and export prices in Australian dollar terms (Graph 5.4). However,

**Table 5.1: Measures of Consumer Price Inflation**  
Per cent

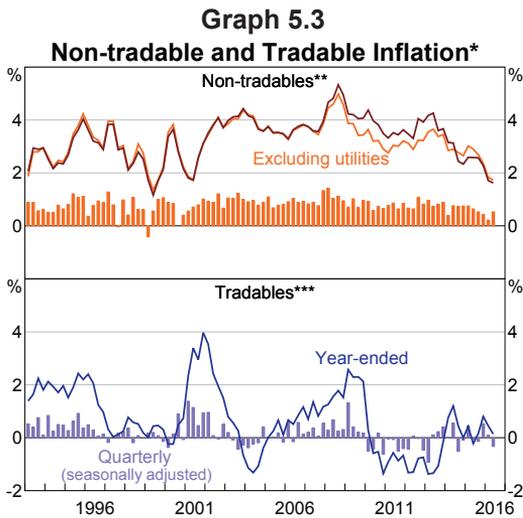
	Quarterly <sup>(a)</sup>		Year-ended <sup>(b)</sup>	
	June quarter 2016	March quarter 2016	June quarter 2016	March quarter 2016
Consumer Price Index	0.4	-0.2	1.0	1.3
Seasonally adjusted CPI	0.6	-0.1	-	-
- Tradables	0.6	-0.6	0.0	0.6
- Tradables (excl. volatile items and tobacco) <sup>(c)</sup>	-0.3	0.1	0.1	0.5
- Non-tradables	0.6	0.2	1.6	1.7
<i>Selected underlying measures</i>				
Trimmed mean	0.5	0.2	1.7	1.7
Weighted median	0.4	0.1	1.3	1.3
CPI excl. volatile items <sup>(c)</sup>	0.4	0.3	1.6	1.7

(a) Except for the headline CPI, quarterly changes are based on seasonally adjusted data; those not published by the ABS are calculated by the RBA using seasonal factors published by the ABS

(b) Year-ended changes are based on non-seasonally adjusted data, except for the trimmed mean and weighted median

(c) Volatile items are fruit, vegetables and automotive fuel

Sources: ABS; RBA



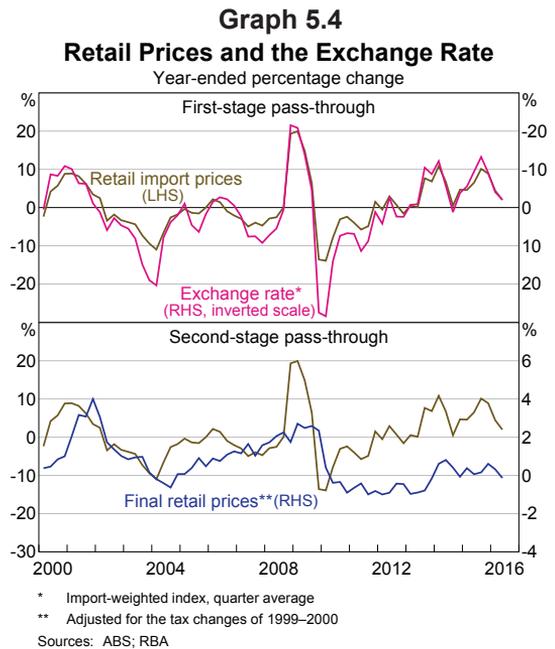
\* Adjusted for the tax changes of 1999–2000

\*\* Excluding interest charges prior to the September quarter 1998 and deposit & loan facilities to June quarter 2011

\*\*\* Excluding volatile items (fruit, vegetables and automotive fuel) and tobacco

Sources: ABS; RBA

heightened retail competition over recent years, including from new foreign entrants, has placed downward pressure on retail prices.<sup>1</sup> The net effect has been further declines in prices of consumer



\* Import-weighted index, quarter average

\*\* Adjusted for the tax changes of 1999–2000

Sources: ABS; RBA

durables, though the extent of the declines is less than a few years ago, and low growth in the prices of food and alcohol.

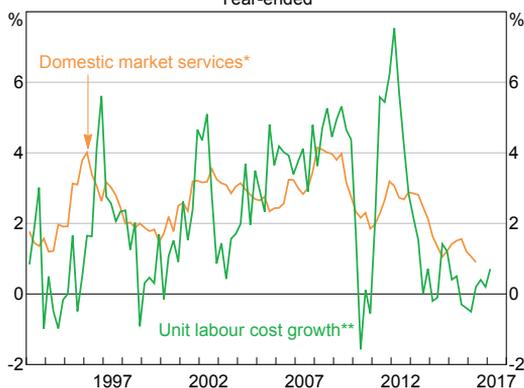
Non-tradables inflation picked up a little in the June quarter but, in year-ended terms, remained

1 For a more detailed discussion, see Ballantyne A and S Langcake (2016), 'Why Has Retail Inflation Been So Low?', *RBA Bulletin*, June, pp 9–17.

around its lowest level since the late 1990s. A number of factors have contributed to the relatively broad-based decline in non-tradables inflation over recent years, including spare capacity in much of the economy and the associated low growth in labour costs.

Market services inflation has been particularly low (Graph 5.5). As labour costs account for around half of final prices for market services, inflation in this component is consistent with low growth in unit labour costs. This weakness has been particularly pronounced in household services inflation, which includes further large falls in prices of telecommunication equipment and services due to heightened competition. Prices of domestic holiday travel and accommodation were also lower over the year.

**Graph 5.5**  
**Market Services Inflation**  
Year-ended



\* Excludes interest charges prior to the September quarter 1998, deposit & loan facilities prior to the June quarter 2011, housing services and domestic travel; adjusted for the tax changes of 1999–2000

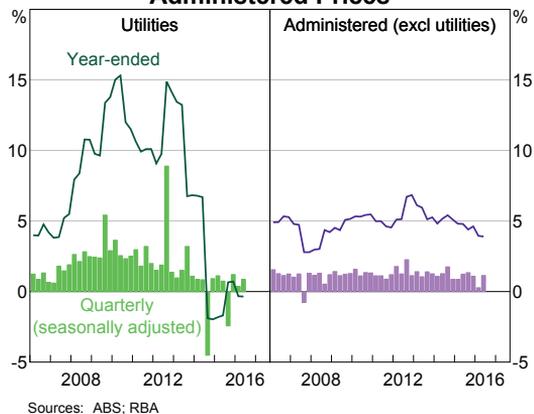
\*\* Non-farm, moved forward by four quarters

Sources: ABS; RBA

Administered prices picked up (in seasonally adjusted terms) in the June quarter, following unusually low outcomes in the March quarter in part due to temporary factors (Graph 5.6). Utilities inflation has been low since 2014, following a period of high inflation that was driven by a variety of factors not closely linked to the business cycle, including: a move towards cost-based pricing; an increase in investment to replace ageing infrastructure and

**Graph 5.6**

**Administered Prices**



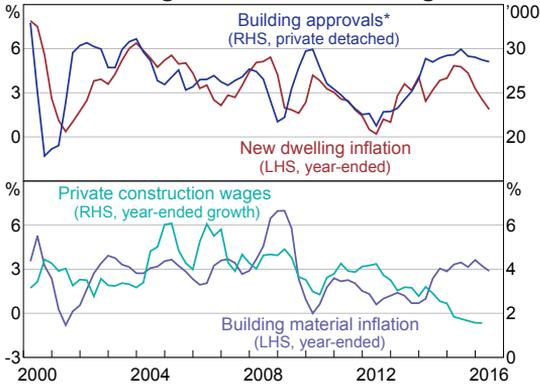
Sources: ABS; RBA

improve capacity; and higher wholesale prices. Many of these pressures have now dissipated and there has been a broad-based decline in inflation in electricity, gas & other household fuels, and water & sewerage. Inflation in other administered items has declined in recent years and was a little below its inflation-targeting average over the past year.

Inflation in the housing-related components of the CPI has been mixed. Inflation in the cost of new dwellings picked up to be around average in the June quarter, following surprisingly weak outcomes in the previous two quarters. New dwelling costs are currently measured by the ABS as the cost of building a new detached house in a capital city, excluding the price of the land; as such, it does not (directly) capture the cost of building an apartment, where a large proportion of building activity has been concentrated of late. The June quarter outcome is broadly consistent with the level of detached housing construction activity in many capital cities and elevated inflation in the cost of building materials (Graph 5.7). While measures of construction wage growth are low, they will also include wage growth in the non-residential and mining construction industries. Furthermore, the residential building industry has a large share of subcontractors, rather than wage earners. According to the Bank's liaison, earnings growth for many residential building subcontractors remains relatively high. New dwelling costs remain weak

**Graph 5.7**

**New Dwelling Inflation and Building Costs**

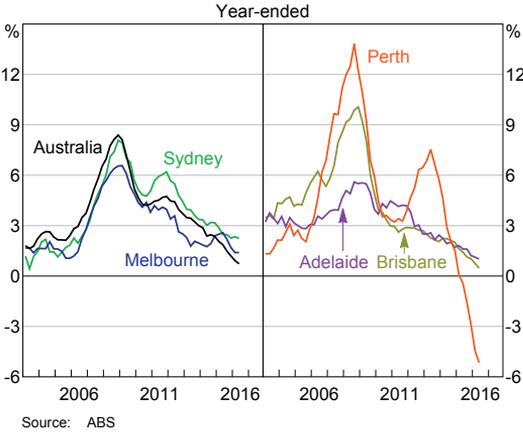


\* Three-month rolling sum  
Sources: ABS; RBA

in Perth, reflecting reduced demand for housing following the end of the mining investment boom and the large decline in commodity prices over recent years.

In Perth, rents have declined sharply, reflecting slower population growth and ongoing additions to the housing supply (Graph 5.8; see 'Box B: The Housing Market'). More generally, residential rent inflation has declined across all capital cities over the year. Developments in rent inflation are fairly persistent over time because the CPI captures all rents, not just the small proportion of agreements that are renegotiated each quarter.

**Graph 5.8**  
**Rent Inflation**

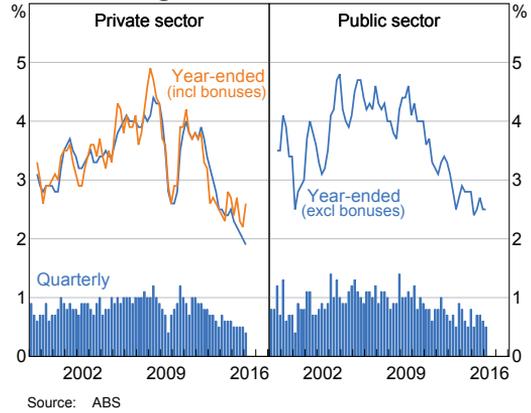


Source: ABS

**Labour Costs**

Labour cost pressures remain weak, reflecting spare capacity in the labour market, a decline in inflation expectations and the moderation in firms' profits due to the decline in the terms of trade. The wage price index (WPI), which is designed to abstract from changes in the type and quality of jobs, rose by 0.4 per cent in the March quarter and by 2.1 per cent over the year. Growth in private sector wages edged down further over the year to March (Graph 5.9). However, when bonuses are included, private sector wage growth has been little changed for the past two years. Public sector wage growth has also been fairly stable over most of the past two years. While wage growth has been low recently, it is around average in real terms (deflated by headline CPI).

**Graph 5.9**  
**Wage Price Index Growth**

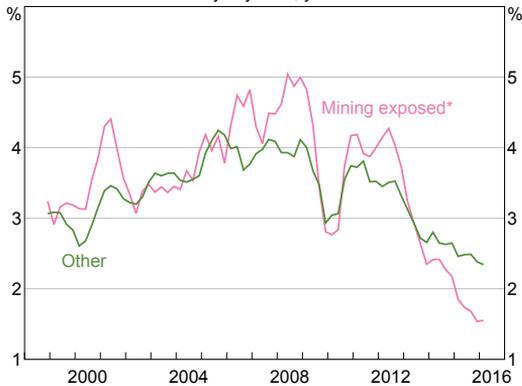


Source: ABS

WPI growth has been low in every industry and across all states. However, private sector wage growth is currently lowest in Western Australia and Queensland, and total wage growth is lowest in industries that are more exposed to the end of the mining investment boom, such as mining, construction and professional, scientific & technical services (Graph 5.10).

Growth in average earnings per hour from the national accounts (AENA) – which captures a broader range of payments to labour as well

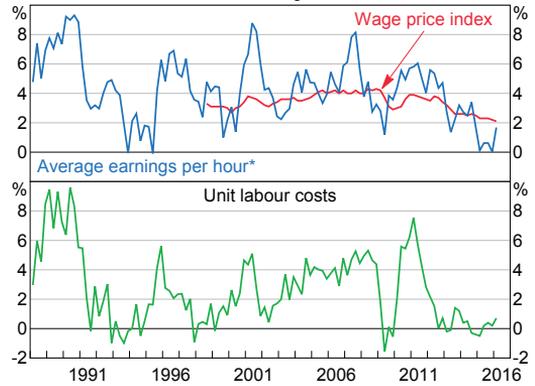
**Graph 5.10**  
**Wage Growth by Industry Group**  
 Seasonally adjusted, year-ended



\* Includes: mining; construction; rental, hiring & real estate; professional, scientific & technical services; and administrative & support services  
 Sources: ABS; RBA

as the effects of changes in the composition of employment – picked up in the March quarter to be 1.7 per cent higher over the year (Graph 5.11). Growth in AENA had been noticeably weaker than growth in the WPI over 2015, which partly reflects the movement of some workers from high-paying jobs in mining-related activities to similar work in lower-paying positions in the non-mining economy. For example, Bank liaison suggests that many workers employed in mining construction during the mining investment boom have returned to jobs in civil and residential construction at lower wage rates. In addition, liaison reports that spare capacity in the labour market more generally is leading some firms to replace workers who are leaving with new employees on lower salaries. Also, promotion rates may be below average and non-wage payments, such as allowances, are likely to be growing slowly or even declining. Nevertheless, AENA growth picked up to be closer to WPI growth in the March quarter 2016. This may just reflect the usual volatility in this series, but the expectation is that AENA growth will eventually pick up in a durable way as the effects of the weakness in resource sector employment wane and there are further cyclical improvements in labour market conditions more broadly.

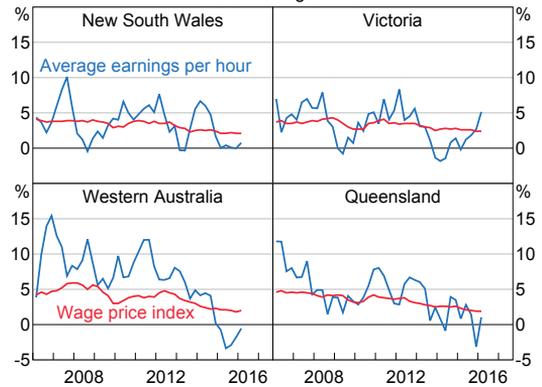
**Graph 5.11**  
**Labour Costs**  
 Year-ended growth



\* Average earnings per hour for the March quarter 2016 are calculated using hours worked from the labour force survey  
 Sources: ABS; RBA

The difference between AENA and WPI growth has been largest in Western Australia, where the shift away from highly paid mining-related positions is most pronounced (Graph 5.12). Indeed, in Victoria AENA growth is outpacing growth in the WPI, which may reflect a shift in employment towards more highly paid positions, a rise in promotion rates or increases in bonuses and other non-wage payments.

**Graph 5.12**  
**Labour Costs by State**  
 Year-ended growth



Sources: ABS; RBA

While low wage growth is consistent with a degree of spare capacity in the labour market, wage growth has been lower than implied by its historical relationship with the unemployment rate.<sup>2</sup> Several

<sup>2</sup> For a more detailed discussion of these factors, see Jacobs D and A Rush (2015), 'Why is Wage Growth So Low?', RBA Bulletin, June, pp 9–18.

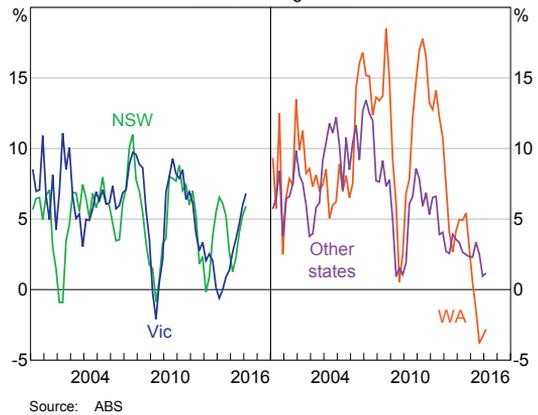
factors are likely to have contributed to this. The decline in inflation expectations and lower CPI outcomes over recent years may have influenced wage negotiations. The Bank's liaison suggests that a large proportion of firms benchmark average wage rates to consumer price inflation and survey evidence suggests union officials commonly consider inflation when negotiating wage increases. It is also possible that other measures of spare capacity in the labour market that have not moved in line with the unemployment rate are more relevant for wage developments. For example, the participation rate remains well below its previous peak, which could signal that some people who would like to work have given up searching for a job, but could re-enter the labour force if employment prospects improve. Also, the underemployment rate remains elevated, as the share of workers who would like to work more hours has not declined (see 'Domestic Economic Conditions' chapter). Finally, increased labour market flexibility may have provided firms with greater scope to adjust wages in response to a given change in demand for their goods and services, and in response to lower income growth, partly due to the significant fall in the terms of trade.

Overall, the cost of a unit of labour from a firm's perspective (unit labour costs) has been little changed for around four and a half years, as low growth in AENA has been matched by low growth in labour productivity (output per hour worked). Productivity growth ticked up a little over the year to March 2016, in part reflecting an increase in LNG exports that made a significant contribution to output but required little additional labour input. Nevertheless, labour productivity growth remains relatively weak in Australia, as it does in many advanced economies (see 'International Economic Developments' chapter). Together with the depreciation of the nominal exchange rate over recent years, low unit labour cost growth is helping to improve international competitiveness, following

a period of relatively strong growth in unit labour costs during the large run-up in commodity prices and mining investment.

Lower growth in labour costs may have encouraged firms to employ more people than otherwise, thereby supporting growth in overall household spending. At the same time, low wage growth has directly contributed to low growth in household disposable income. Overall, growth in total compensation of employees – which reflects growth in both average earnings per hour and the number of hours worked by employees – has picked up to be a little above its long-run average in New South Wales and Victoria over the past year (Graph 5.13). In contrast, compensation of employees has declined in Western Australia over recent years, after growing strongly during the terms of trade and mining investment boom. Growth has also been low in the other states over recent years.

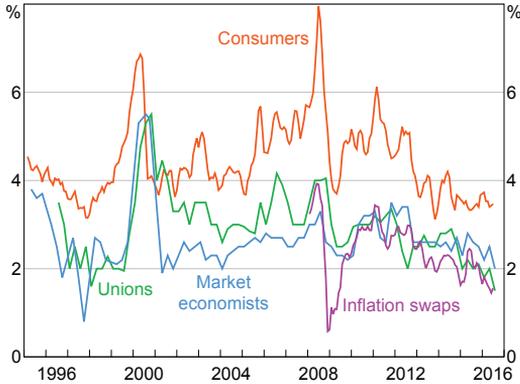
**Graph 5.13**  
**Compensation of Employees**  
 Year-ended growth



## Inflation Expectations

Short-term measures of inflation expectations remain low, consistent with the low inflation outcomes of late (Graph 5.14). Consumers' inflation expectations have been little changed over the past year, while union officials' expectations have

**Graph 5.14**  
**Short-term Inflation Expectations**  
 Over the next year

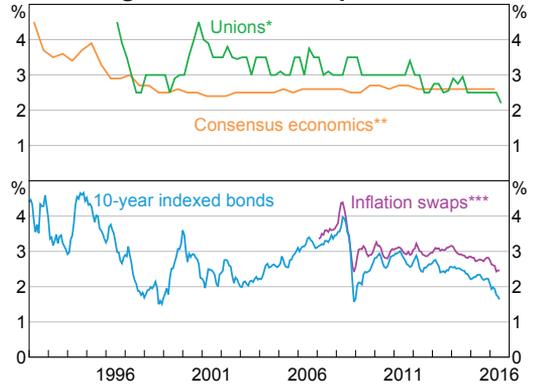


Sources: Australian Council of Trade Unions; Bloomberg; Melbourne Institute of Applied Economic and Social Research; RBA; Workplace Research Centre

drifted down a little. Union officials' and consumers' expectations for inflation over the next year are around the levels seen in the late 1990s. Near-term inflation expectations based on inflation swaps have declined further in recent months; however, some part of this may reflect a change in investors' assessment of, and willingness to bear, inflation risk.

The long-term expectations of union officials have moved a little lower more recently, though both the long-term expectations of market economists and union officials have remained between 2 and 3 per cent (Graph 5.15). Five-to-ten year inflation swaps, which capture expected average inflation between five and ten years ahead, remain within

**Graph 5.15**  
**Long-term Inflation Expectations**



\* Average over the next five to ten years  
 \*\* Average over six to ten years in the future  
 \*\*\* Five-to-ten-year forward

Sources: Australian Council of Trade Unions; Bloomberg; Consensus Economics; RBA; Workplace Research Centre; Yieldbroker

the range of 2–3 per cent, although they have declined since the beginning of the year. Inflation expectations based on 10-year indexed bonds have also fallen noticeably over the first half of the year to be less than 2 per cent, and are now around late 1990s levels. This is partly because the bond-based measure of inflation expectations is the expected average over the next 10 years and is, therefore, affected by expected near-term low rates of inflation. Swaps and bonds may have also been affected by other developments such as changes in the premium that investors demand to bear inflation and liquidity risks. ↘

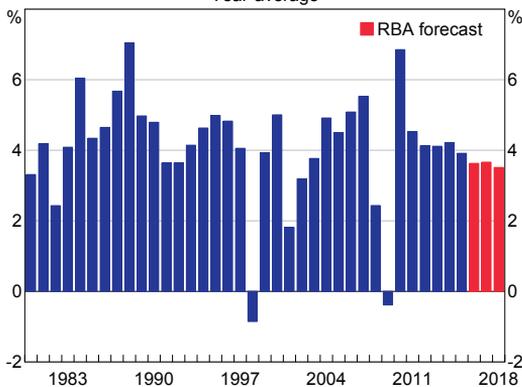


## 6. Economic Outlook

### The International Economy

The GDP growth of Australia's major trading partners overall is expected to be a bit below average over the next few years, which is unchanged from the *May Statement* (Graph 6.1).

**Graph 6.1**  
**Australia's Trading Partner Growth\***  
Year-average



\* Aggregated using total export shares  
Sources: ABS; CEIC Data; RBA; Thomson Reuters

Growth in China is expected to moderate gradually over the next few years, largely as forecast previously. Weakness in the growth of private investment is expected to be partly offset by the effects of recent policy stimulus aimed at achieving the authorities' economic growth targets. Japanese GDP growth is expected to pick up to be slightly above its potential growth rate over the next couple of years. This is slightly stronger in the near term than previously expected given that the next consumption tax increase has been postponed from early 2017 to late 2019 and additional fiscal

stimulus has been announced. However, there has been no change to the longer-term outlook for the Japanese economy, which is facing a significant drag on growth associated with population ageing.

In other east Asian economies, the ongoing weakness in external demand conditions is likely to continue to dampen export and investment growth for a time. Consumption growth, especially in the high-income economies, is also likely to be more subdued than in recent years. Accommodative monetary policies and supportive fiscal policies in some of these economies, together with some recovery in external demand conditions from commodity-exporting emerging economies, are expected to see GDP growth in the region recover to around estimates of the potential growth rate by 2018.

The US economy is expected to grow at an above-trend rate over the next couple of years. US monetary policy remains very accommodative and, after a few years of consolidation, fiscal policy has become less of a drag on growth. Conditions in the US labour market remain strong and should continue to support growth of consumption. This is likely to offset the ongoing weakness in overall business investment, much of which reflects the decline in oil-related investment.

There is considerable uncertainty around how the outcome of the UK referendum will affect the UK economy, although it is expected to restrain UK business investment in the near term. At this stage, the effect of these developments on Australia's major trading partners as a group

is expected to be limited. Outside the United Kingdom itself, the largest impact, although still relatively small, is expected to be on growth in the rest of the European Union. GDP growth in the euro area over the next 2–3 years has been revised slightly lower but is still expected to remain above trend, supported by accommodative monetary policy, less drag from fiscal consolidation and further gradual improvements in labour market conditions.

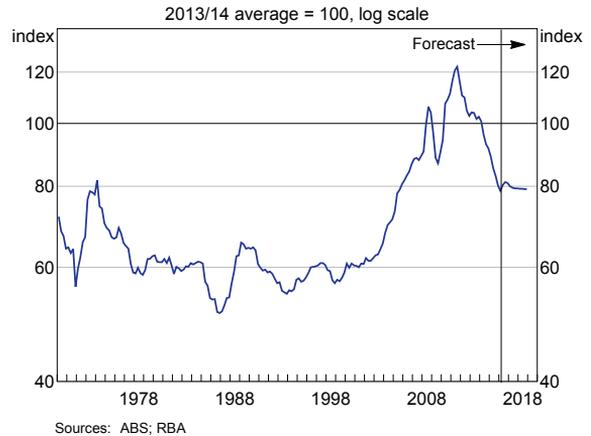
Globally, core inflation has been low for some time, reflecting spare capacity in many labour, product and commodity markets. However, the ongoing decline in spare capacity in the major advanced economies, particularly in labour markets, is expected to place some upward pressure on core inflation over time. While headline inflation rates are likely to remain below central bank targets for some time yet, the drag from the earlier fall in oil prices should dissipate. On the other hand, there are indications that inflation expectations have declined in some advanced economies since late 2014, which could dampen inflationary pressures.

Australia's terms of trade have declined by about 35 per cent since their peak in late 2011 but remain well above levels that prevailed prior to the mining boom (Graph 6.2). They are forecast to remain close to current levels over the course of the forecast period. This outlook is little changed from that presented three months ago. The outlook for coal prices is slightly more positive than previously thought, reflecting supply cuts in China and elsewhere. Iron ore prices are still expected to fall from current levels over the forecast period. Chinese steel demand is projected to ease over the next few years, largely as previously forecast, and the total supply of iron ore is expected to increase, despite a rapid reduction in supply from high-cost producers, particularly those in China.

## Domestic Activity

The domestic forecasts are conditioned on a number of technical assumptions. The cash rate

**Graph 6.2**  
**Terms of Trade**



is assumed to move broadly in line with market pricing as at the time of writing. This assumption does not represent a commitment by the Reserve Bank Board to any particular path for policy. The exchange rate is assumed to remain at its current level over the forecast period (trade-weighted index (TWI) at 63 and A\$ at US\$0.76). The TWI is 1½ per cent higher than the assumption underlying the forecasts in the *May Statement*. The forecasts are based on the price of Brent crude oil being US\$45 per barrel over the forecast period, which is 3 per cent lower than the assumption used in May and in line with futures pricing for the near term. The working-age population is still assumed to grow by 1.5 per cent over 2016 and by 1.6 per cent over 2017 and 2018, drawing on forecasts from the Department of Immigration and Border Protection.

Overall, the forecasts for GDP growth are little changed from those presented in the *May Statement*. The year-ended growth rate in the near term is slightly higher given the unexpected strength in the March quarter data, but recent indicators are consistent with a more moderate pace of growth in the June quarter 2016. Growth is forecast to be around 2½–3½ per cent over the year to the December quarter 2016, before increasing to around 3–4 per cent over the year to the December quarter 2018, which is above estimates of potential growth in the Australian economy (Table 6.1).

**Table 6.1: Output Growth and Inflation Forecasts<sup>(a)</sup>**  
Per cent

	Year-ended					
	Jun 2016	Dec 2016	Jun 2017	Dec 2017	Jun 2018	Dec 2018
GDP growth	3¼	2½–3½	2½–3½	2½–3½	3–4	3–4
CPI inflation	1.0	1½	1½–2½	1½–2½	1½–2½	1½–2½
Underlying inflation	1½	1½	1½–2½	1½–2½	1½–2½	1½–2½
	Year-average					
	2015/16	2016	2016/17	2017	2017/18	2018
GDP growth	3	2½–3½	2½–3½	2½–3½	2½–3½	3–4

(a) Data are quarterly; technical assumptions include A\$ at US\$0.76, TWI at 63.5 and Brent crude oil price at US\$45 per barrel; shaded regions are historical data  
Sources: ABS; RBA

The starting point for the forecasts is that the Australian economy grew by more than estimates of potential over the year to the March quarter 2016. This was stronger than expected at the time of the *May Statement* and was largely the result of a significant expansion in the volume of resource exports due to unusually favourable weather conditions. At the same time, there were further large falls in mining investment, such that mining activity overall was little changed over the year. Meanwhile, the non-mining sectors of the economy grew at an above-average pace over the year to the March quarter 2016, supported by low interest rates and the ongoing effects of the exchange rate depreciation since early 2013. Solid growth was evident in consumption, dwelling investment and most export categories. Public demand grew at close to its average pace, while non-mining business investment declined over the year.

Low interest rates and gains to employment are expected to continue supporting household demand, despite relatively modest growth in household income over the next year or so. Consumption growth is projected to remain close to its long-term average over the forecast period, consistent with the forecasts in the *May Statement*. Meanwhile, growth in real household disposable income is expected to gradually increase to around average levels by the end of the forecast period.

Together, these forecasts imply that the household saving ratio will decline gradually for a time, extending the downward trend of the past few years.

The outlook for dwelling investment is little changed. The substantial amount of residential construction work in the pipeline increased a little further in the March quarter, and it is sufficient to underpin dwelling investment growth for the next year or so. However, the modest decline in dwelling approvals from the high levels observed at the beginning of 2015 is consistent with the pace of growth in dwelling investment moderating towards the end of the forecast period.

The outlook for the level of resource exports is a little higher than previously expected by the end of the forecast period. The liquefied natural gas (LNG) export profile has been revised higher, reflecting a modest increase in capacity at some LNG projects. Coking coal exports are also expected to be slightly higher as Australian miners respond to the improvement in coking coal prices. However, the scope for additional growth in thermal coal exports appears to be limited given weak global demand and the relatively high cost of some Australian production. More generally, the depreciation of the Australian dollar over the past few years is assisting domestic producers of tradable items, and net service exports are forecast to continue growing.

As before, mining investment is expected to continue to fall over the forecast period, as large resource-related projects are completed and few new projects are expected to commence. This forecast reflects existing capacity in conjunction with expectations for some moderation in growth in global demand for commodities. However, the subtraction from GDP growth from lower mining investment looks to have peaked in the 2015/16 financial year.

The outlook for non-mining business investment remains subdued in the near term, consistent with the ABS capital expenditure survey of firms' investment intentions and the low level of non-residential building approvals. However, investment is being supported, especially in non-resource-rich states, by very low interest rates, the gradual pick-up in demand growth and the depreciation of the Australian dollar over the past few years. Moreover, survey measures of capacity utilisation have been increasing over the past couple of years and are currently above their long-term averages. Stronger growth in public investment is expected to support public demand over the forecast period.

Consistent with the outlook for output, the labour market forecasts are little changed from the May *Statement*. Following strong growth in late 2015, employment growth has moderated over the first half of the year, which had been expected. Near-term indicators, such as job advertisements and job vacancies, suggest continued modest employment growth over the second half of 2016. Employment growth is then expected to pick up over the forecast period, supported by rising GDP growth and relatively subdued wage growth. The participation rate is expected to increase as more people enter the labour force in response to the improvement in employment growth. In combination, this implies that the unemployment rate will move only a little lower over the forecast period, and that there is likely to be a degree of spare capacity in the labour market for some time.

## Inflation

The June quarter underlying inflation outcome was broadly in line with expectations at the time of the May *Statement*. As a result, there has been little change to the forecast that underlying inflation will remain around 1½ per cent in year-ended terms over 2016 and pick up to around 1½–2½ per cent by the end of the forecast period.

The large exchange rate depreciation since early 2013 is likely to continue boosting the prices of tradable items as increases in import prices are gradually passed through to the prices paid by consumers. However, domestic factors, such as heightened competitive pressure in retail markets and low wage growth, have put downward pressure on retail inflation over recent years and are expected to persist for some time.

Wage growth is low, reflecting spare capacity in the labour market, a decline in near-term inflation expectations and downward pressure on firms' profits as a result of the decline in the terms of trade. Growth in the wage price index (WPI) is expected to remain around its current levels over the rest of the year and to pick up gradually over the forecast period as labour market conditions improve and firms' output prices rise. However, broader measures of labour costs also influence inflation. One such measure is average earnings per hour from the national accounts, which captures the effects of non-wage costs, such as allowances, as well as changes in the composition of the labour force. Growth in average earnings per hour has been weaker than growth in the WPI over the past year or so, reflecting, in part, the usual cyclical effects arising from spare capacity in the labour market that lead to subdued growth in non-wage costs and enable firms to hire new workers on lower wages. In addition, average earnings appear to have been affected by workers moving from high-paying mining jobs to similar types of work at lower levels of pay, as mining investment and the terms of trade decline. The combination of these effects is expected to wane over the forecast period.

because the transition from mining employment is well advanced and labour market conditions are expected to improve. As a result, the national accounts measure of average earnings is expected to grow at a faster pace than the WPI towards the end of the forecast period.

When considering labour cost pressures, the output that can be produced for each additional hour worked also matters. Unit labour costs, which combine average earnings with labour productivity, are expected to rise gradually over the next few years. This will contribute to a pick-up in non-tradable inflation. Working in the opposite direction, further additions to housing supply are expected to keep rental growth low over the next few years.

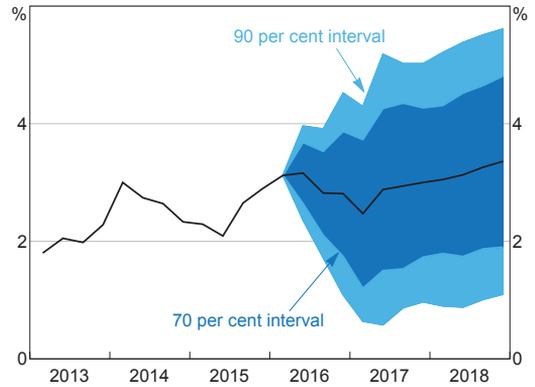
There have also been a number of temporary factors that have subtracted from headline inflation that are expected to dissipate, such as the sharp decline in fuel prices over recent years and the effects of regulatory changes to some utilities prices. In addition, the tobacco excise is scheduled to rise by 12.5 per cent in September 2016. As a result, headline inflation, which has been lower than underlying inflation over the past two years, is expected to pick up to be around 1½–2½ per cent by early 2017.

### Key Uncertainties

The forecasts are based on a range of assumptions about the evolution of some variables, such as the exchange rate and population growth, and judgements about how developments in one part of the economy will affect others. One way of demonstrating the uncertainty surrounding the central forecasts is to present confidence intervals based on historical forecast errors (Graph 6.3; Graph 6.4; Graph 6.5).

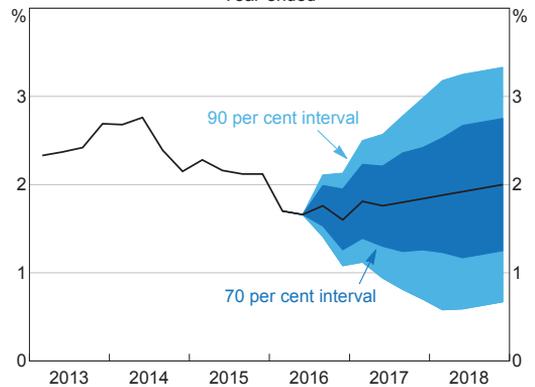
It is also worth considering the consequences that different assumptions and judgements might have on the forecasts and the possibility of events occurring that are not part of the central forecast. There continue to be a number of geopolitical and economic risks that could materialise in the global economy for which the consequences are difficult

**Graph 6.3**  
**GDP Growth Forecast\***  
Year-ended



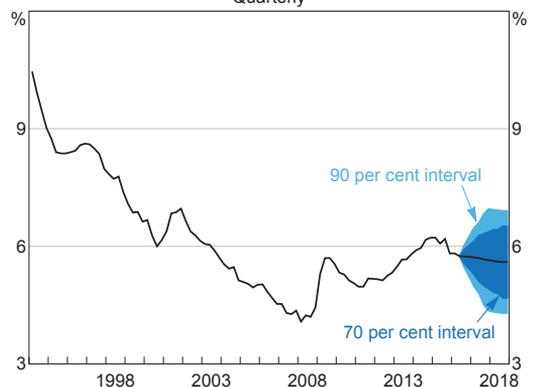
\* Confidence intervals reflect RBA forecast errors since 1993  
Sources: ABS; RBA

**Graph 6.4**  
**Trimmed Mean Inflation Forecast\***  
Year-ended



\* Confidence intervals reflect RBA forecast errors since 1993  
Sources: ABS; RBA

**Graph 6.5**  
**Unemployment Rate Forecast\***  
Quarterly



\* Confidence intervals reflect RBA forecast errors since 1993  
Sources: ABS; RBA

to predict. For example, there may be a larger-than-expected increase in inflation in the United States, which could lead the Federal Reserve to tighten monetary policy by more than market participants expect. In that case, a range of financial prices are likely to respond, including the Australian dollar, which would be likely to depreciate. Relative to the constant exchange rate assumption that underlies the forecasts, this would imply a boost to domestic activity and a pick-up in tradable price inflation in Australia.

Another key source of uncertainty for the central forecasts continues to be the outlook for the Chinese economy, the reaction of Chinese policymakers to slowing growth and the risks created by high and rising levels of debt. In turn, uncertainty about the outlook for China has implications for commodity demand and ultimately for the forecasts for Australia's terms of trade. Domestically, there is considerable uncertainty about the degree of spare capacity in the labour market currently and over the forecast period, and the extent to which wage growth will pick up over the next few years. The underlying balance of demand and supply in the housing market are also difficult to project. Both of these raise uncertainty about the outlook for inflation and activity.

### **The Chinese economy**

The outlook for commodity prices and resource exports continues to be sensitive to demand fluctuations in the Chinese construction and manufacturing sectors. Accordingly, China's growth outlook remains an important source of uncertainty for the Australian economy. A key uncertainty is the sustainability of the recovery in the Chinese property market, which has provided considerable support to upstream suppliers of construction-related manufacturing items and raw materials (see 'Box A: The Pick-up in the Chinese Housing Market'). Recent falls in residential floor space sold and the slowing in residential construction investment raise

some doubts about the durability of the pick-up in demand earlier in the year. A substantial slowing in demand would pose risks for property developers and related industries, including the steel industry.

There is also uncertainty related to how policymakers will respond to the continued rise in corporate and local government debt amid deteriorating conditions in some industries and regions. Chinese financial conditions have been accommodative so far this year, but recent data indicate a modest slowing in broad credit growth. Moreover, the authorities have expressed concern regarding the build-up in leverage in the economy, which may foreshadow greater caution in the application of stimulus policies. The authorities face a difficult trade-off between supporting growth and avoiding financial disruption in the near term, while achieving more financial discipline and broader economic reforms over the longer term.

### **Momentum in the labour market**

It is currently difficult to gauge the momentum in the labour market. A decline in employment growth over 2016 was expected and followed particularly strong growth in employment late last year. Leading indicators of employment, such as job advertisements, vacancies and hiring intentions, have been mixed of late. It is possible that the recent decline in employment growth was temporary, in which case, employment growth would recover more quickly than is currently forecast. However, to the extent that gains in employment continue to be mostly in part-time employment and among workers who would like more hours, there could be more spare capacity in the labour market than implied by the forecast for the unemployment rate. In addition, the past relationship between employment and GDP growth may be less useful as a guide in the coming years because an increasing share of GDP growth is expected to come from LNG production, which is less labour intensive than

most other activities. While the forecasts take this into account, it is possible that a given rate of GDP growth will generate less employment growth than currently anticipated.

The participation rate is currently forecast to increase as the labour market recovers. However, there is some uncertainty around whether the recent fall in the participation rate primarily occurred for cyclical reasons, such as an increase in discouraged workers (who have given up searching for work due to perceived poor employment prospects), or owed more to structural factors, such as the ageing of the population. If the decline in the participation rate has been driven by structural factors, it may not increase over the forecast period, and rising demand for workers may lead to a more pronounced decline in the unemployment rate than is currently forecast.

### **Domestic cost pressures**

As has been the case for some time, there is considerable uncertainty around the extent to which domestic inflationary pressures will pick up over the next few years. Wage growth has been lower than implied by historical relationships between wage growth and measures of spare capacity in the labour market. One explanation is that the low growth of labour costs, and low inflation more generally, has been a more important part of the economy's adjustment to large swings in the terms of trade than in the past. During the large run-up in commodity prices and mining investment, growth in Australian unit labour costs outpaced that in many comparable economies, resulting in a decline in the international competitiveness of Australian labour. However, since the terms of trade have been declining, low growth of unit labour costs has played the reverse role of improving international competitiveness, in conjunction with the depreciation of the exchange rate. It is also likely that relatively low wage growth

has assisted the transition of workers from the mining sector as the mining boom moves to the relatively capital-intensive production phase. The forecast for a pick-up in wage growth is based on the observation that the rebalancing of the economy is already well advanced and so these downward pressures will gradually ease, but there is significant uncertainty around how long this process will take.

The forecast rise in wage growth and inflation implicitly assumes an increase in expectations of future inflation. Various measures of inflation expectations are lower than their long-run averages, but most are still consistent with the medium-term inflation target. It is possible that inflation expectations will be lower for longer than is currently anticipated. On the other hand, wage growth may pick up more quickly than anticipated in response to an improvement in labour market conditions, particularly if employees demand wage increases to compensate for the period of low wage growth over the past few years.

The uncertain outlook for wage growth also has implications for household income and therefore consumption growth. The forecasts assume that households will respond to current near-term weakness in income growth by reducing their rate of saving to maintain their consumption growth. This is likely to be a reasonable assumption if households expect income growth to be weak only temporarily, especially given relatively high rates of saving and gains to household wealth over recent years. It is also consistent with recent data on household savings and consumption decisions. However, if households were to lower their expectations for income growth over the longer term, household consumption growth may be lower than currently forecast.

## Dwelling investment

Recent strength in dwelling investment, particularly the construction of high-density dwellings, has played an important role in supporting the rebalancing of economic activity away from the resources sector. Low interest rates and increases in housing prices have encouraged a substantial increase in the supply of apartments and the pipeline of work yet to be done has increased to very high levels. While this pipeline should support economic activity over the next couple of years, the outlook for dwelling investment beyond this is uncertain.

There is concern about the risk of oversupply in specific geographical areas, such as some parts of inner-city Melbourne and Brisbane. So far, outside Western Australia, the increased supply of housing has largely been absorbed by population growth. However, if growth in housing demand does not continue to keep pace with the further large increases in supply already in the pipeline, it could place downward pressure on prices and rents and increase the risk that off-the-plan purchases fail to settle.

If the housing market were to weaken substantially, consumption could be lower than currently expected due to lower growth in household wealth. Consumer price inflation could also be affected, as housing costs comprise a significant share of the CPI basket. ❖