Statement on Monetary Policy

NOVEMBER 2017

RESERVE BANK
OF AUSTRALIA

Statement on Monetary Policy

NOVEMBER 2017

Contents

The material in this *Statement on Monetary Policy* was finalised on 9 November 2017. The next *Statement* is due for release on 9 February 2018.

The *Statement* is published quarterly in February, May, August and November each year. All the *Statements* are available at www.rba.gov.au when released. Expected release dates are advised ahead of time on the website. For copyright and disclaimer notices relating to data in the *Statement*, see the Bank's website.

The graphs in this publication were generated using Mathematica.

Statement on Monetary Policy enquiries

Secretary's Department
Tel: +61 2 9551 8111
Fax: +61 2 9551 8033
Email: rbainfo@rba.gov.au

ISSN 1448–5133 (Print)
ISSN 1448–5141 (Online)

Overview

The Australian economy is expected to expand at a solid pace over the next couple of years, and labour market developments have been quite positive of late. The drag on growth from the end of the mining investment boom has eased and is likely to end sometime in the next year or so. Investment in the non-mining sector has been increasing but growth in consumption has been below average. Inflation and wage growth remain low. Both are expected to increase only gradually over time.

A number of factors are serving to hold inflation down. Wage growth has remained low and strong competition in the retail sector is dampening retail inflation across a broad range of goods. Although the unemployment rate has declined and is expected to fall further, some spare capacity is likely to remain in the labour market in the period ahead. It is also likely that structural factors and the adjustment following the terms of trade boom have been working to contain wage growth. Stronger labour market conditions are nonetheless expected to lead to a pick-up in wage growth over time. Important uncertainties influencing the outlook for inflation include the questions of how much wage growth might pick up as the labour market tightens, and how quickly the resulting increase in labour costs might feed into inflation.

Both headline and trimmed mean inflation were a little below 2 per cent over the year. Short-run fluctuations in the prices of volatile items such as fruit and vegetables added to the ongoing dampening effects of strong retail competition on the prices of tradeable goods and services.

Slow growth in labour costs and rents also contributed to inflation remaining low. Working in the opposite direction, cost pressures are feeding through into the prices of newly built homes. Tobacco and electricity prices have also boosted headline inflation and are expected to continue to do so. Headline inflation could also be a bit higher in the December quarter because petrol prices have risen noticeably in recent weeks.

Further out, the various measures of inflation are expected to reach 2–2¼ per cent by the end of the forecast period. The forecasts reflect an expectation that wage growth will gradually pick up. They also incorporate the effect of the slight appreciation of the Australian dollar since midyear. If the exchange rate were to appreciate further, economic activity and inflation would be likely to pick up more slowly than currently forecast. The Bank's assessment of how inflationary pressures are likely to evolve is not affected by the forthcoming update to the weights used to calculate the consumer price index, although the forecasts have been lowered a little to account for this methodological change.

The outlook for the Australian economy is little changed from three months ago. Quarterly GDP growth is expected to have eased slightly in the September quarter. Beyond that, growth is forecast to average about 3 per cent over the next couple of years. Growth in resource exports will more than offset the diminishing drag from lower mining investment. The mining sector is therefore likely to contribute to economic growth over the forecast period, as will other categories of exports. Chinese demand for

resources for steel production has supported bulk commodity prices. However, the terms of trade are generally expected to fall over the forecast period, reaching a level somewhat above the trough recorded in early 2016, because Chinese steel demand is expected to be lower, while global supply of iron ore will have increased further.

The outlook for business investment looks to be more positive than it has for some time. Reported business conditions are at a high level and, following recent data revisions, non-mining business investment now appears to be increasing by more than previously thought. Forward-looking indicators, especially those for non-residential building, are consistent with this continuing. A considerable amount of public infrastructure work is planned or underway, particularly in the south-eastern states. This is contributing to activity of the private-sector firms undertaking this work on behalf of the public sector, as well as encouraging some of those firms to invest more themselves.

Growth in household consumption looks to have slowed in the September quarter given recent weakness in retail spending. Consumption growth is expected to pick up gradually, but slow growth in incomes and high levels of debt are constraining factors. The slow growth in household income has been driven primarily by unusually soft outcomes for average earnings of employees as measured in the national accounts, which has more than offset the effects of strong employment growth. Wage growth has been slow, averaging an annual rate of around 2 per cent in recent quarters, but average earnings growth has been slower still. Shifts in the composition of employment within industries to lower-paid work might partly explain this, along with the usual volatility in this measure of average earnings.

Labour market conditions have strengthened considerably in recent months. Growth in employment has continued to outpace that of the working-age population. Employment has increased in all states and has been concentrated in full-time jobs. Forward-looking indicators of labour demand suggest that above-average employment growth will continue in coming quarters. Labour supply has also expanded in all states, driven by increasing participation of women and older workers retiring later than in the past. Measures of unemployment and underutilisation have declined.

Dwelling investment looks to have peaked earlier than previously expected, and the pipeline of projects to be completed is now being worked down in some states. Dwelling investment is nonetheless expected to remain at a high level over the next couple of years, but not to contribute to overall economic growth. This implies that housing supply will continue to expand at an above-average rate, which would tend to weigh on housing prices and rents in some markets.

Housing credit growth has eased a little, and the profile of new lending has shifted away from interest-only and other riskier types of lending. This suggests that recent prudential measures are helping to address risks in household balance sheets. Household debt remains high, however, and continues to increase faster than household income. Conditions in the established housing market have eased noticeably in Sydney, but have remained relatively strong in Melbourne. Housing prices are little changed recently in Brisbane and Perth. Growth in rents is below average in most cities, while in Perth rents continue to fall and vacancy rates are rising.

The global economy has strengthened further over the course of 2017. GDP growth was stronger than expected in the September quarter

in most major economies for which data are available, and this strength appears to have been maintained. Conditions in manufacturing sectors are particularly buoyant, supported by the ongoing expansion in global trade, which is particularly benefiting economies in east Asia.

Growth in China continues to be stronger than earlier expected. Growth in infrastructure and construction activity remains robust and upstream price pressures have emerged. Announcements during the recent Party Congress pointed to the authorities' continued resolve to tackle financial sector risks and the high level of debt. Also consistent with the authorities' stated policy priorities, cuts to steel production have been mandated to improve environmental outcomes. This might reduce Chinese demand for iron ore and coking coal, at least temporarily. Iron ore prices have fallen in recent months partly in anticipation of this. More broadly, growth in China is expected to slow a little in coming years, because the working-age population is declining and the authorities seem less likely to use policy stimulus to maintain growth around current rates.

Conditions in the major advanced economies continue to improve. Labour markets have tightened further and unemployment rates have reached low levels in the United States, Japan, Germany and some smaller euro area member countries. Ongoing policy stimulus, a recovery in investment and the recent tendency for labour supply to increase all suggest that this above-trend growth could persist for a while yet. Wage growth has so far picked up only a little in these economies, however, and inflation generally remains low. The experience of economies with tighter labour markets than Australia's shows how long it can take for pricing pressures to emerge in an environment of strong local and global competition.

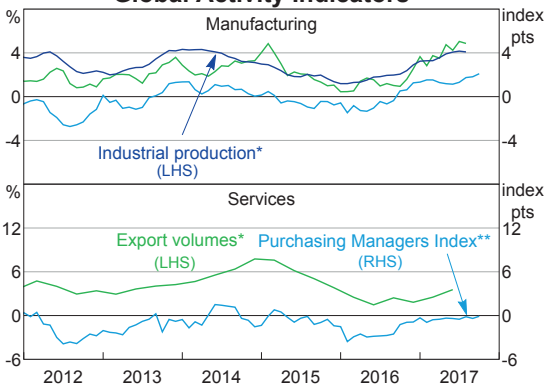
Central banks in a few countries have begun to raise policy rates and the US Federal Reserve is reducing the size of its balance sheet. Financial market pricing suggests that market participants expect policy accommodation globally to be withdrawn only gradually. Consequently, financial conditions continue to be very accommodative. Risk and term premiums have narrowed to low levels, as have spreads on corporate bonds. This has encouraged a rise in corporate bond issuance. Equity prices have risen in most markets. Financial market volatility remains low.

The stimulatory setting of monetary policy in Australia has supported the economy and helped generate a decline in unemployment. Over the period ahead, further progress on reducing spare capacity in the economy is expected, which in turn would support the forecast gradual increase in inflation. Accordingly, at its recent meetings the Reserve Bank Board has judged that holding the cash rate at its current level of 1.5 per cent would be consistent with sustainable growth in the economy and achieving the medium-term inflation target.

1. International Economic Developments

Global economic conditions have improved over the past year, with this improvement relatively broad based across economies. The economic recovery in the major advanced economies has continued and growth in China has been relatively strong, supporting trade and growth in the more highly trade-exposed economies in east Asia. A range of global activity indicators, including growth in industrial production and trade, are at their highest levels in a number of years (Graph 1.1), while unemployment rates are at their lowest levels in a decade or so.

Graph 1.1
Global Activity Indicators

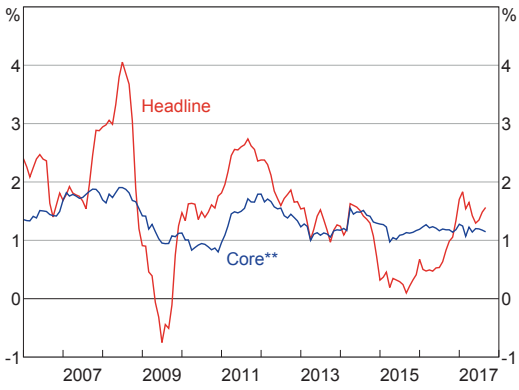


* Year-ended growth; smoothed
** Deviation from long-run average
Sources: Bloomberg; CEIC Data; CPB Netherlands; Markit Economics; OECD; RBA; Thomson Reuters

The near-term outlook is for the recent strength in global growth to be sustained. Growth is expected to exceed current estimates of potential growth in many economies.

Despite the strengthening in global growth, global inflation has remained low (Graph 1.2). The persistence of low inflation is surprising, particularly in advanced economies, given their

Graph 1.2
Inflation – Advanced Economies*
Year-ended



* PPP-weighted
** Excluding food and fuel
Sources: IMF; RBA; Thomson Reuters

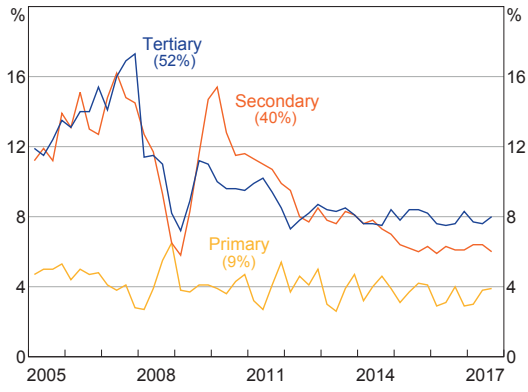
relatively advanced state of economic recovery and signs that capacity constraints are near to being, or have been, reached. One possibility is that ongoing low inflation is signalling that these economies have more spare capacity than suggested by current estimates, which have incorporated the dampening effects of population ageing, slower productivity and below-average capital stock accumulation on potential growth. The inflationary response to capacity constraints might also have been delayed by other factors, such as stronger competition in the retail sector, which has also been a feature of developments in Australia. In line with expectations of increasing inflation, central banks in a few advanced economies have continued to adjust policies so as to be less accommodative (see 'International and Foreign Exchange Markets' chapter). Further rate rises are expected, but only at a gradual pace.

China and Asia-Pacific

In China, GDP growth has been stronger than expected in recent quarters, supported by expansionary fiscal policy and accommodative financial conditions. The 19th National Congress of the Chinese Communist Party, held in mid October, indicated continuity in economic policy in the medium term, while articulating a broad vision for economic development over the next few decades. General Secretary Xi Jinping's report to the Congress reinforced a commitment to develop national infrastructure, support advanced manufacturing and technological innovation, reduce poverty, expand social security and enhance environmental protection. The report also indicated a desire for a stronger role for the party and state-owned enterprises in the economy, and affirmed a dual role for the government and the market in resource allocation. Compared with previous reports, there was less emphasis on achieving specific growth targets. Instead, the leadership committed to raise productivity, reduce excess capacity further, foster deleveraging and address vulnerabilities in the financial sector through tougher regulation.

The most important driver of growth in recent quarters continues to be the services (tertiary) sector, but growth in the industrial (secondary) sector has also been strong due to robust infrastructure and residential construction spending (Graph 1.3). Construction collectively accounts for more than half of Chinese demand for steel, so this has supported imports of iron ore and coking coal (including from Australia). However, the authorities have announced measures to curtail winter steel production in some heavily polluted regions to meet annual air quality targets. This is likely to reduce Chinese demand for these bulk commodities in coming months. While the effect of these measures is expected to be largely transitory, Chinese demand for iron ore and coking coal is expected to moderate in coming years (see 'Box A: The Chinese Steel Market and Demand for Bulk Commodities').

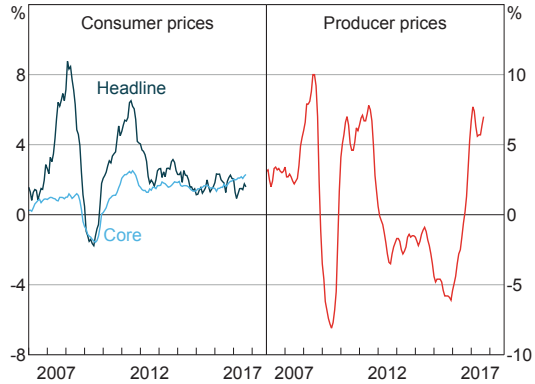
Graph 1.3
China – GDP Growth by Sector*
Year-ended



* Numbers in parentheses show 2016 shares of GDP
Sources: CEIC Data; RBA

Inflation in China has risen in the past few quarters (Graph 1.4). For headline inflation, this was partly driven by higher fuel prices. Producer price inflation has strengthened, partly reflecting rising commodity prices. Core inflation (which excludes food and fuel prices) has edged higher since early 2016, supported by upstream price pressures and continued policy accommodation. However, it remains below the authorities' objective of 3 per cent in 2017.

Graph 1.4
China – Inflation*
Year-ended

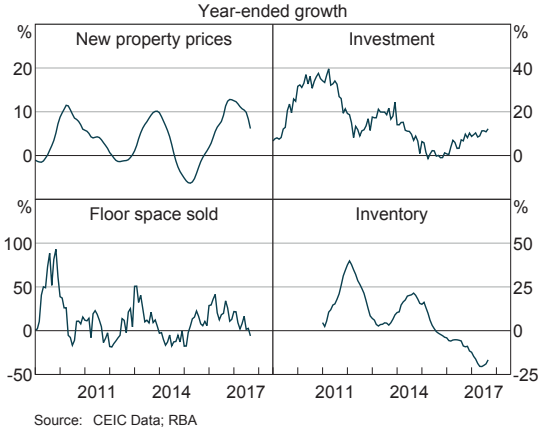


* Seasonally adjusted by RBA
Sources: CEIC Data; RBA

Housing market conditions have shown signs of softening in response to the tightening of restrictions on housing purchases and loan-to-value ratios over the past year; prices are now falling in several cities that introduced tightening policies. Housing sales have also fallen, especially in cities where restrictions have been tightened (Graph 1.5). Nonetheless, growth in residential investment has continued to pick up, which has led to inventory starting to rise again. Authorities in some large cities have recently announced a range of measures to encourage more investment in rental accommodation and to increase incentives for households to rent rather than to purchase property, which may support investment without fuelling further price increases.

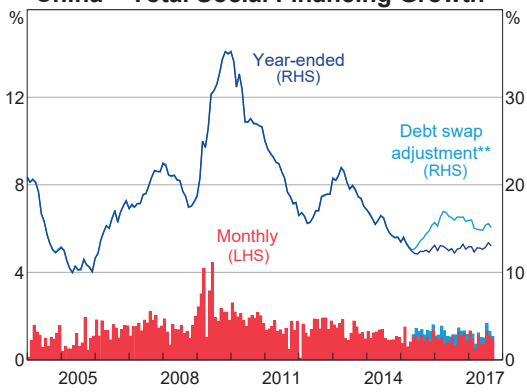
Financial conditions remain accommodative. Growth in total social financing has remained above its target of 12 per cent, largely driven by growth in lending to businesses, although the overall pace of growth has edged down in recent months (Graph 1.6). Household credit growth has eased because of regulatory limits placed on mortgage borrowing, although other types of loans have grown strongly as households have sought to circumvent these restrictions. Lending by some non-bank parts of the financial system

Graph 1.5
China – Residential Property Indicators



Source: CEIC Data; RBA

Graph 1.6
China – Total Social Financing Growth*



* Seasonally adjusted by the RBA

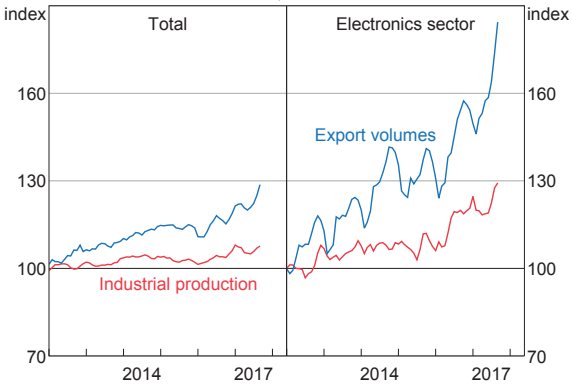
** Upper bound estimate adjusting for impact of local government bond issuance to pay off debt previously included in TSF

Sources: CEIC Data; RBA

(for example, trust companies) has continued to grow strongly. However, recent regulatory measures have made headway in slowing banks' asset growth and lowering non-bank financial institutions' holdings of riskier financial assets. Statements made at the 19th Party Congress reiterated the authorities' commitment to intensify regulatory oversight of the financial system to mitigate systemic risks. The People's Bank of China foreshadowed an increased role for macroprudential policy to complement existing monetary policy tools in addressing financial stability risks.

In other east Asian economies, growth has picked up recently, supported by the upturn in global trade. In the high-income economies, which are closely integrated with global production chains, merchandise exports and industrial production have increased sharply over the past year (Graph 1.7). This recent strength has been driven in large part by the electronics sector. The bulk of electronics exports have been to China to meet Chinese domestic demand or to be used as inputs into global production chains. As a result of strengthening external demand, business investment growth in high-income east Asia has increased since late

Graph 1.7
High-income East Asia – Economic Indicators
Smoothed, 2011 = 100



Sources: CEIC Data; IMF; RBA; Thomson Reuters; UN

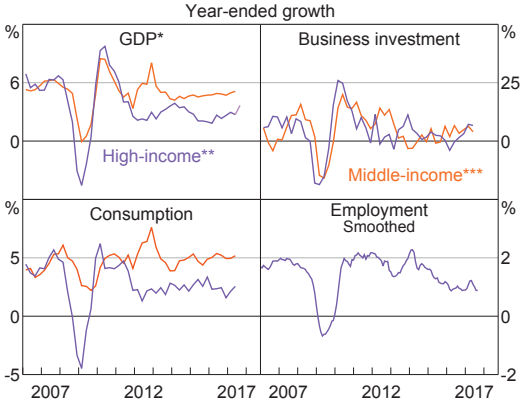
2016 (Graph 1.8). Consumption growth has also picked up recently and consumer confidence remains around multi-year highs after increasing sharply in late 2016. Despite the strengthening of economic activity, employment growth has been relatively subdued.

In the middle-income east Asian economies, GDP growth has been resilient in recent years and above estimates of potential growth. Growth in business investment and public consumption has been robust. GDP growth is likely to remain around these rates: consumer confidence has moderated a little but is still high; merchandise export and visitor arrival growth has increased; and growth in industrial production remains solid. Across the east Asian region, growth continues to be supported by accommodative monetary and fiscal policies. Headline and core inflation have been little changed.

In India, GDP growth has moderated over the past year to less than 6 per cent (Graph 1.9). Growth in private investment has been subdued, reflecting excess capacity in the industrial sector, high corporate leverage and weak business confidence. The Indian Government recently announced a recapitalisation plan for state-owned banks over the next two years; this is expected to boost investment, which has been weighed down by the inability of state-owned banks to issue credit due to high levels of bad debt in recent years. CPI inflation has picked up since mid 2017, partly because food price inflation and housing rent allowances for public sector employees have both increased, but it remains below the Reserve Bank of India's medium-term inflation target of 4 per cent.

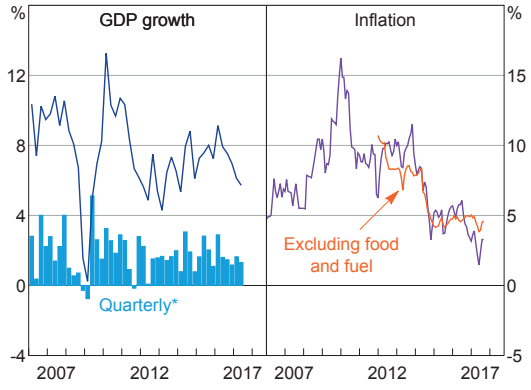
GDP growth in New Zealand has been around its long-run average (Graph 1.10). Residential investment grew at a rapid pace over 2016, but

Graph 1.8
East Asia – Economic Indicators
Year-ended growth



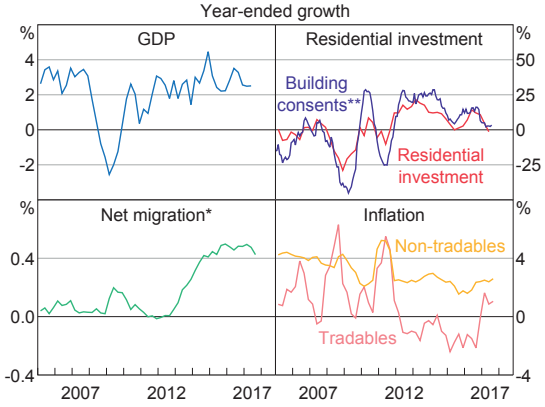
* Estimate for September quarter 2017
** Hong Kong, Singapore, South Korea and Taiwan
*** Indonesia, Malaysia, Philippines and Thailand
Sources: CEIC Data; IMF; RBA; UN

Graph 1.9
India – GDP Growth and Inflation
Year-ended



* Seasonally adjusted by RBA
Sources: CEIC Data; RBA

Graph 1.10
New Zealand – Domestic Indicators
Year-ended growth



* Permanent and long-term working age migration; per cent of working age population
** Smoothed
Sources: RBA; Statistics NZ; Thomson Reuters

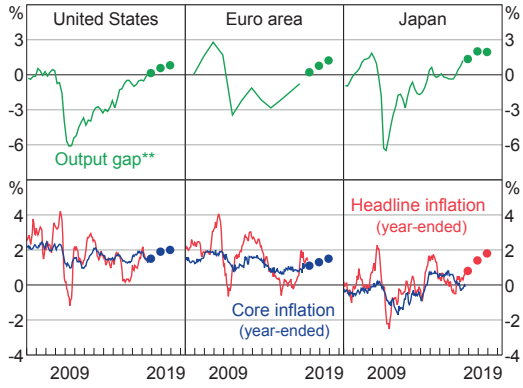
contracted over the first half of 2017 and building consents point to further weakness in the September quarter. The easing in the housing market stems from the tighter credit conditions following the additional regulatory measures introduced last year and supply constraints in the construction sector. However, the run of strong population growth – a result of strong net immigration – and low interest rates should support both consumption and residential investment in coming quarters. The newly elected New Zealand Government has indicated that they intend to reduce immigration.

The unemployment rate in New Zealand has continued to edge lower and employment growth remains strong, although it has slowed from the very rapid pace at the start of the year. Wage growth and non-tradables inflation are still subdued. To date, strong population growth has added to the potential growth of the economy, which may have weighed somewhat on inflation recently. While the current extent of spare capacity is hard to gauge, inflation is expected to increase gradually as capacity pressures are expected to rise from here.

Major Advanced Economies

The major advanced economies continue to grow at rates above current estimates of potential growth, which has resulted in a further tightening in their labour markets. In a number of economies, the spare capacity that followed the global financial crisis has been almost fully absorbed (Graph 1.11). Above-potential GDP growth is expected to be sustained across the major economies, supported by recent stronger growth in investment and accommodative monetary policy. In the United States, rebuilding efforts following recent hurricanes are likely to boost growth moderately for a few quarters.

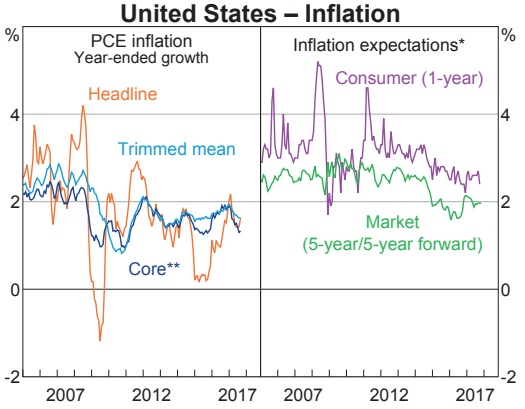
Graph 1.11
Major Advanced Economies – Output Gaps and Inflation*
Central bank forecasts



* FOMC and ECB inflation forecasts exclude food and energy; BoJ inflation forecast excludes fresh food; Japanese inflation data adjusted for the 2014 consumption tax increase
** Actual GDP relative to estimated potential GDP from CBO, EC and BoJ
Sources: BoJ; ECB; FOMC; RBA; Thomson Reuters

Despite rising capacity pressures, core inflation has so far remained low. In the United States, core inflation has eased since the start of the year, but it is generally expected that this will be temporary (Graph 1.12). Market measures of inflation expectations have been little changed this year, though consumer inflation expectations declined a little in recent months. Central banks in the major advanced economies continue to

Graph 1.12
United States – Inflation

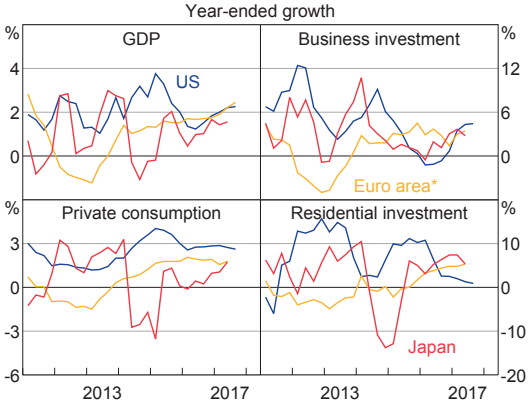


* CPI inflation expectations adjusted for CPI and PCE difference
** Excludes food and energy
Sources: Bloomberg; RBA; Thomson Reuters

expect inflation to increase towards their targets over the next few years, as capacity constraints put upward pressure on wages and prices.

Growth in consumption continues to run at an above-average pace in the major advanced economies (Graph 1.13). This pace is likely to be maintained given robust employment growth, above-average consumer confidence and rising asset prices. However, nominal wage growth is yet to pick up much, which could present a downside risk to this outlook. Residential investment growth in Japan and the euro area has been well above long-run averages for over a year, but supply constraints and rising input costs have weighed on residential construction activity in the United States since mid 2016.

Graph 1.13
Major Advanced Economies – GDP and Components
Year-ended growth

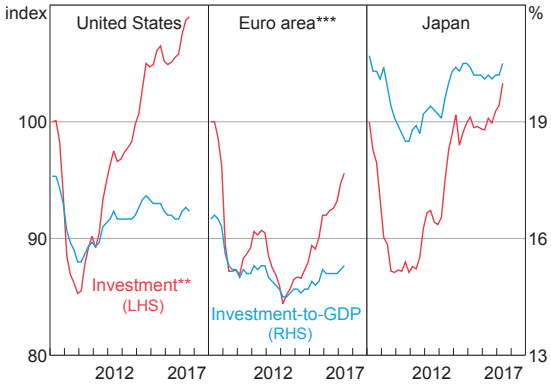


* Business investment is public and private non-residential investment; excludes Ireland due to data measurement issues
Sources: RBA; Thomson Reuters

Growth in business investment has picked up since late 2016 and has contributed significantly to GDP growth in the United States, Japan and some euro area economies over this period. The recovery in the United States was initially concentrated in the energy sector, but it has since broadened to other sectors. In Japan and the euro area, stronger demand and increasing capacity pressures have both supported investment. In Japan, a need for businesses to invest in labour-saving technologies, due to labour shortages, has also been a factor. Surveyed investment intentions and business conditions have risen to multi-year highs over the past year, suggesting that the strength in business investment is likely to be sustained for several quarters at least.

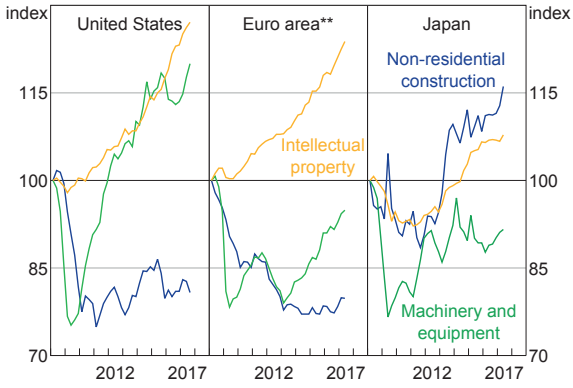
The recent increase in total business and government investment growth has been broad based across economies and investment components (Graph 1.14; Graph 1.15). Despite this, investment is generally a smaller share of GDP in the major advanced economies than it was in the lead-up to the global financial crisis. The large fall in investment during the crisis and a weaker recovery than would usually be expected thereafter have lowered the pace of capital stock accumulation; this has contributed to the lower growth of actual and potential GDP. In the euro area, investment remains below where it was pre-crisis in level terms; however, there is considerable variation across its member countries, with the largest declines and slowest recoveries in investment in economies that experienced the deepest recessions. In contrast, investment has surpassed its pre-crisis levels in

Graph 1.14
Major Advanced Economies –
Total Non-residential Investment*



* Public and private sector; excludes residential investment
** March 2008 = 100
*** Excludes Ireland due to data measurement issues
Sources: Eurostat; RBA; Thomson Reuters

Graph 1.15
Major Advanced Economies –
Total Non-residential Investment*
March 2008 = 100

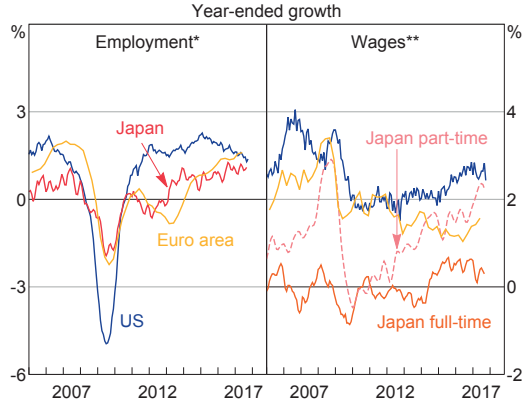


* Public and private sector; excludes residential investment
** Excludes Ireland due to data measurement issues
Sources: Eurostat; RBA; Thomson Reuters

the United States and Japan. By component, machinery and equipment investment remains below pre-crisis levels in the euro area and Japan, while non-residential construction has been especially slow to recover in the United States and euro area. Intellectual property investment is difficult to measure but is generally estimated to have grown steadily over this period and increased as a share of overall investment.

The labour markets of the major advanced economies have tightened substantially, following several years of robust employment growth (Graph 1.16). The euro area unemployment rate has declined to its lowest rate in over eight years and is now only a little above estimates consistent with full employment. The decline has been broad based, but unemployment remains high in the economies where labour markets deteriorated the most during the global financial and euro area sovereign debt crises. In the United States and Japan, unemployment rates are at multi-decade lows and are below estimates consistent with full employment.

Graph 1.16
Major Advanced Economies –
Labour Market and Wages
Year-ended growth



* Three-month moving average for Japan
** Average hourly earnings for the US; compensation per employee for the euro area; smoothed average full-time scheduled wages and part-time hourly wages for Japan
Sources: CEIC Data; ECB; Eurostat; RBA; Thomson Reuters

Partly in response to this tightening in labour markets, participation rates have increased across a range of advanced economies despite the continued drag from ageing populations. In Japan, the participation rate is at its highest level in over a decade, partly as a result of a pick-up in female participation across age groups in recent years. In the United States, the participation rate, after declining since 2007, has been broadly steady in recent years. The effects

of ageing on the US labour supply have not been offset by a rising female participation rate as has been the case in a number of other advanced economies; this is because the female participation rate had already increased earlier in the United States.

Wage growth has been low across the major advanced economies in recent years, but is now showing signs of picking up in some economies as labour markets continue to tighten. In Japan, hourly wage growth in the more flexible part-time sector has increased steadily since 2010 and is around its highest rate in two decades; full-time wages have had their longest sustained increase since the early 2000s. Growth in a range of wage measures in the United States is above the post-crisis trough. Wage growth has also picked up a little in the euro area, especially in the economies closest to full employment.

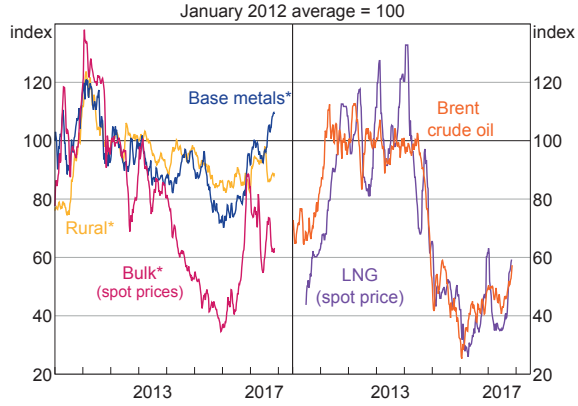
Unit labour cost growth has also ticked up in the euro area and Japan; productivity growth has been above average but little changed over the year. Higher unit labour costs should put pressure on business margins and, over time, translate into higher inflation. The United States has seen a pick-up in productivity growth over the past year and, as a result, despite positive wage growth, unit labour costs have been little changed.

In the United Kingdom, growth eased in the first half of 2017, driven by weaker consumption and subdued investment growth. Inflation has increased sharply following the substantial depreciation of the pound, which followed the Brexit vote in mid 2016. Rising inflation has led to a decline in real wages and, along with average consumer confidence, this has contributed to the slower consumption growth. Business investment growth remains subdued, despite relatively strong conditions in the manufacturing sector, possibly due to uncertainty around Brexit.

Commodity Prices

The pick-up in global demand has boosted global commodity prices since the start of the year, but supply-side factors have led to different price movements across commodities since the previous *Statement*. Iron ore prices have fallen, while the prices of oil and base metals have increased (Table 1.1; Graph 1.17). The prices of coal and rural commodities are little changed.

Graph 1.17
Commodity Prices
January 2012 average = 100



* RBA Index of Commodity Prices sub-indices; SDR
Sources: Bloomberg; RBA; Thomson Reuters

Over the past year or so, strong Chinese steel production has been a key driver of demand for iron ore and coking coal and has supported the prices of both of these commodities (see Graph 1.18, Graph 1.19 and 'Box A: The Chinese Steel Market and Demand for Bulk Commodities'). Prices have also been supported by supply-side factors: global iron ore production has ramped up more slowly than expected, in part because some projects are only producing volumes near the bottom of their projected output ranges. The price of coking coal has been also driven up by supply disruptions, including those stemming from increased mine safety inspections in China and temporary supply disruptions in Australia. However, more recently, concerns about near-term Chinese demand,

Table 1.1: Commodity Price Growth[a]
SDR, per cent

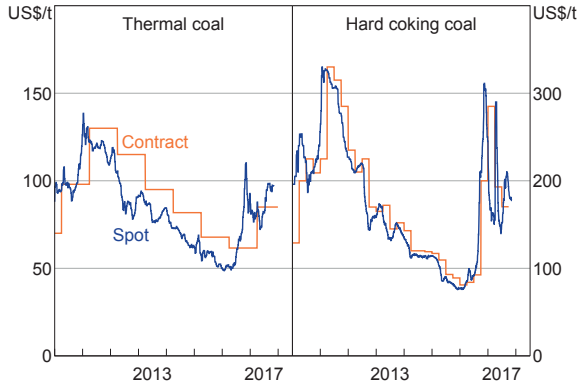
	Since previous *Statement*	Over the past year
Bulk commodities	–8	–26
– Iron ore	–18	–13
– Coking coal	0	–43
– Thermal coal	3	–13
Rural	–1	2
Base metals	11	24
Gold	2	–1
Brent crude oil[b]	22	41
RBA ICP	–2	–4
– Using spot prices for bulk commodities	–4	–15

(a) Prices from the RBA Index of Commodity Prices (ICP); bulk commodity prices are spot prices
(b) In US dollars
Sources: Bloomberg; IHS; RBA

Graph 1.18
Chinese Steel and Iron Ore Spot Prices

* Average of hot rolled steel sheet and steel rebar prices
** Free on board basis
Sources: Bloomberg; RBA

Graph 1.19
Coal Prices
Free on board basis



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

which have arisen ahead of planned steel production cuts during the winter months, have weighed on both iron ore and coking coal prices. In particular, a number of cities are requiring certain mills to cut steel production by 50 per cent over winter to reduce overall pollution. As a result, the prices of Chinese steel and its inputs have diverged recently; the steel price has been supported by expectations of production cuts, while expectations of lower demand for inputs has weighed on iron ore prices in particular. The spot price of iron ore has therefore fallen by almost 20 per cent since the previous *Statement*, while the spot prices of premium hard coking coal and thermal coal were little changed.

Oil prices have increased since the previous *Statement* following an improvement in the outlook for global demand, the possibility of an extension to production cuts by the Organization of the Petroleum Exporting Countries (OPEC)

and non-OPEC producers beyond March 2018 and heightened geopolitical tensions in the Middle East (Graph 1.17). The Asian liquefied natural gas (LNG) spot price has increased sharply in recent weeks, reflecting strong demand from China and South Korea. Another factor has been increased expectations by market participants that Australian LNG exports sold into the spot market by Queensland producers will be limited; to a large extent this reflects their commitment to meet the projected shortfall in domestic east coast gas. This will have little impact on Australian export revenues, however, because the bulk of Australia's LNG exports are sold via long-term contracts.

Base metal prices have also risen in recent months and are almost 25 per cent higher over the past year. The increase has coincided with the improvement in global economic conditions, although developments in supply, in particular cuts to Chinese domestic production, have also contributed.

As discussed in the 'Economic Outlook' chapter, Australia's terms of trade are still expected to decline over the forecast period, consistent with lower Chinese demand and further increases in low-cost supply of bulk commodities. However, there is a risk of some near-term volatility given the decision by Chinese authorities to implement substantial cuts to steel production for environmental reasons over the next few months.

Box A

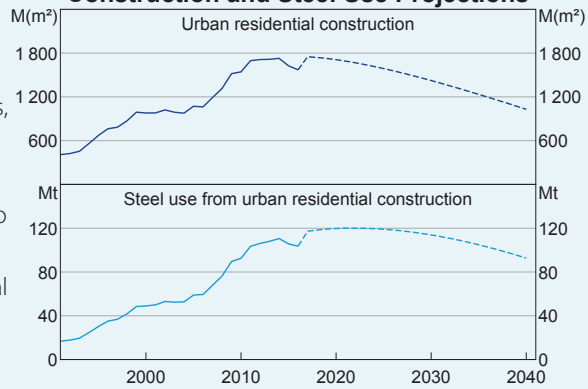
The Chinese Steel Market and Demand for Bulk Commodities

China is by far the largest consumer of iron ore and coking coal globally, primarily for use in the production of steel. It consumes more of these bulk commodities than it produces and so generates demand for bulk commodity exporters, such as Australia, which is the world's largest exporter of both commodities. Over the longer term, growth in Chinese demand for the inputs to steel production is likely to slow, which will affect the outlook for Australia's iron ore and coking coal exports. Stronger demand from other emerging economies could offset this to some extent.

There are a number of reasons to expect that Chinese demand for steel is near its peak, although there is considerable uncertainty around this projection. China's population is projected to fall in coming decades, and the current rate of urbanisation is likely to slow. Both factors would tend to reduce demand for steel needed to build urban housing and infrastructure. Partly offsetting this effect, though, urban housing could require more steel per unit as buildings become larger and taller (Graph A1).[1]

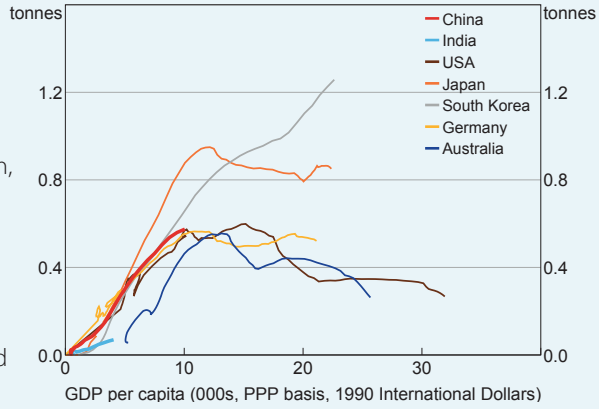
It is also possible that the amount of steel used per person, or 'steel intensity', has peaked. The steel intensity of the Chinese economy increased significantly during China's industrialisation and urbanisation since the 1990s, but this effect is likely to peter out as the economy shifts away from heavy industry and towards services (Graph A2). If so, China's experience would remain consistent with that of many advanced economies, where steel intensity rose with incomes, and then plateaued at a similar level to China's current steel intensity at around the same income level. The exceptions are economies that export a much larger share of their steel output; steel intensity peaked at a higher level in Japan and is still increasing in South Korea. For some

Graph A1
Construction and Steel Use Projections



Sources: CEIC Data; RBA

Graph A2
Steel Production per Capita
Smoothed



Sources: RBA; The Conference Board; World Steel Association

1 For a discussion of the methodology on which these estimates are based, see Berkelmans L and H Wang (2012), 'Chinese Urban Residential Construction to 2040', RBA Research Discussion Paper No 2012-04.

emerging economies, such as India, the increase in steel intensity has been slower because of a less steel-intensive pattern of development, although further urbanisation and infrastructure investment could lift steel intensity in the future. Looking forward, China is unlikely to follow the same trajectory as Japan and South Korea because the level of exports this would imply (given the existing scale of its own domestic demand) would be extremely large relative to the rest of the world's current demand for steel; China already accounts for around a quarter of global steel exports.

Further increases in steel intensity would also be inconsistent with the Chinese Government's stated longer-term policy priorities with respect to environmental protection. Chinese authorities have recently intensified their commitment to reducing air pollution by implementing constraints on steel production, which is a heavy user of coal. Some of the policies announced so far include targeted reductions to steel production over the winter months in 28 cities located in regions where production collectively accounts for more than one-third of China's annual steel output. The effects of these restrictions on overall production might be ameliorated by shifting production to the summer months, to other provinces and to less-polluting steel mills.

Domestic steel demand is not expected to fall sharply, however, because the slowing in demand for construction-related steel is likely to be gradual, and some other sources of demand will continue to support Chinese steel production. For example, car ownership has been rising rapidly in China but remains very low relative to other economies (around 130 vehicles per thousand people, compared with more than 800 in the United States). Consequently, consumption and production of motor vehicles has considerable room to grow as household incomes rise. On the other hand, Chinese exports are likely to decline in coming years. The prices of a number of Chinese steel products have been increasing relative to the prices of steel exported from the United States and Europe. Also, numerous current or impending trade actions against Chinese steel exporters may limit the scope for China to increase its already large share of global steel trade.

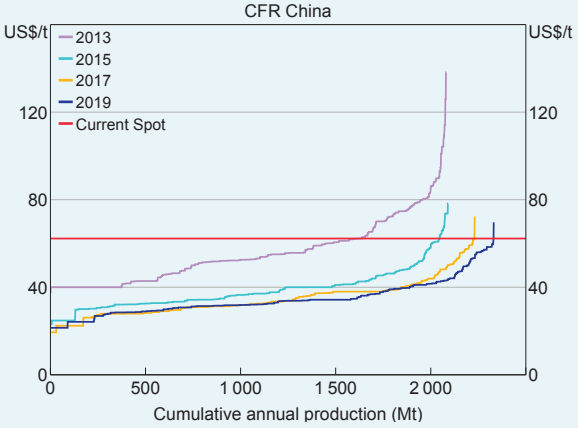
On top of slowing demand for Chinese steel, demand for Australian iron ore and coking coal as inputs could be further affected if China increases the share of its production made from scrap metal. At around 11 per cent of domestic crude steel production, the current ratio of scrap steel consumption in China is low relative to many other large steel-producing economies (for example, the ratio exceeds 50 per cent in the European Union and 70 per cent in the United States). The Chinese Government aims to triple this ratio over the next decade.

Supply-side developments will also affect prices of these commodities. Global supply of iron ore has increased considerably over recent years and is expected to expand further in the period ahead following strong investment in production capacity. Australia (along with Brazil) is a low-cost producer of iron ore, and is therefore well placed to compete in the global market. The average variable cost of iron ore production is expected to decline, in part reflecting new low-cost supply from Australia and Brazil (Graph A3).[2]

The supply-side dynamics for coking coal are different because not much additional capacity is expected to come online over the next few years. However, the global seaborne market is small, which makes the spot price vulnerable to supply-side disruptions. Over the past year

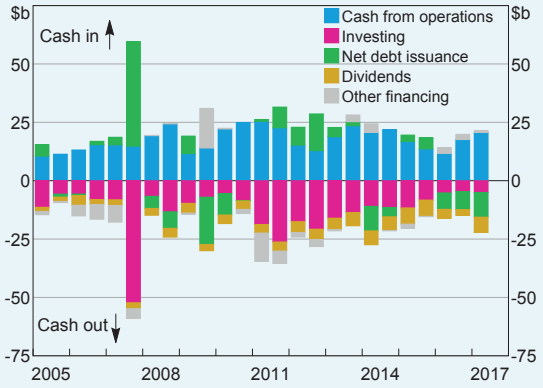
2 See RBA (2014), 'Box B: Iron Ore and Cost Curves', *Statement on Monetary Policy*, August, pp 18–20.

Graph A3
Iron Ore Cost Curves*



* Quality adjusted
Sources: AME Group; Bloomberg; RBA

Graph A4
Major Miners' Use of Cash



Sources: Bloomberg; RBA

or so, the spot price for coking coal has been quite volatile, reflecting changes to production restrictions implemented by Chinese authorities and Tropical Cyclone Debbie that damaged infrastructure in Queensland's Bowen Basin. As these temporary factors dissipate, prices are expected to return to lower levels.

Given the easing in bulk commodity prices since 2011 and longer-term developments that point to further declines, it is no surprise that information from the Bank's liaison program suggests that there are no large new iron ore or coking coal mine projects due to commence construction in the near term in Australia. Most major miners have used the higher revenue stemming from the recent increases in commodity prices to pay down debt and return profits to shareholders (Graph A4). While there are a number of potential iron ore projects that could be developed in Australia, they would require expectations of sustained high prices and would take several years of planning and construction before commencing production.

2. International and Foreign Exchange Markets

Central bank policies have remained a key focus of financial markets in recent months. Central banks in a few advanced economies have continued to adjust policies so as to be less accommodative and market participants have brought forward their expectations for increases in policy rates. This has occurred as spare capacity in economies has diminished further. Partly as a result, yields on sovereign bonds in advanced economies have risen from their recent lows.

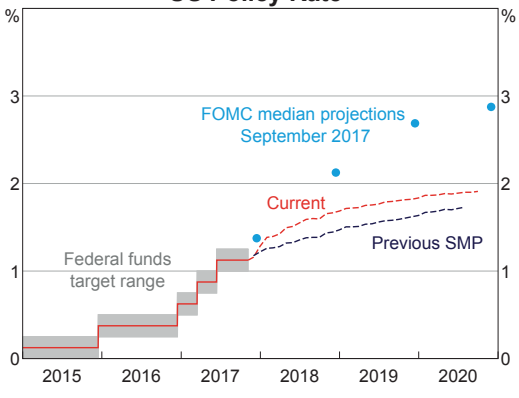
Meanwhile, prices of riskier assets have risen strongly. Many equity market indices have reached record highs and credit spreads on corporate bonds have tightened from already narrow levels. At the same time, both realised and implied financial market volatility have remained subdued. As well as a search for yield in the low interest rate environment, these outcomes reflect improved economic conditions, strength in corporate earnings and expectations for increased fiscal stimulus. They also reflect the low inflation environment and the view that central banks will remove policy accommodation only gradually. Corporations have taken advantage of these favourable financial conditions to raise funds in bond and equity markets. Bond issuance, particularly in US dollars, is around its highest level for several years.

Exchange rates have also responded to changing expectations for monetary as well as fiscal policy. Although the US dollar has appreciated a little in recent months, it remains lower than it was at the end of 2016. While the Australian dollar has depreciated a little of late, it remains higher than its early-2016 trough in trade-weighted terms.

Central Bank Policy

The US Federal Reserve continues to remove monetary accommodation. It began to reduce the size of its balance sheet in October and stated that it will continue to do so in 'a gradual and predictable manner' over the next few years. The Federal Open Market Committee (FOMC) projected that it is likely to increase the policy rate by another 25 basis points this year and by a further 75 basis points in 2018. Most members of the FOMC believe that inflation is being held down by transitory factors and that inflationary pressures will build as the labour market continues to tighten. In contrast, some other members are concerned that low inflation may reflect structural factors and could be more persistent. While market participants' expectations for the level of the policy rate have increased recently, they remain below the FOMC's median projections (Graph 2.1).

Graph 2.1
US Policy Rate*

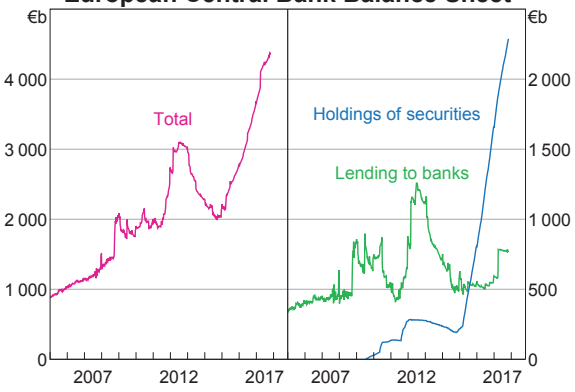


* Dashed lines indicate market expectations

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

At its October meeting, the European Central Bank (ECB) announced that it will extend its asset purchase program until September 2018 but will reduce the pace of asset purchases from €60 billion to €30 billion per month from January 2018 (Graph 2.2). The ECB stated that it will extend the program even further if necessary for inflation to rise towards target on a sustained basis. It also stated that it will continue to reinvest the receipts from maturing assets and keep interest rates at present levels until well past the end date of net purchases.

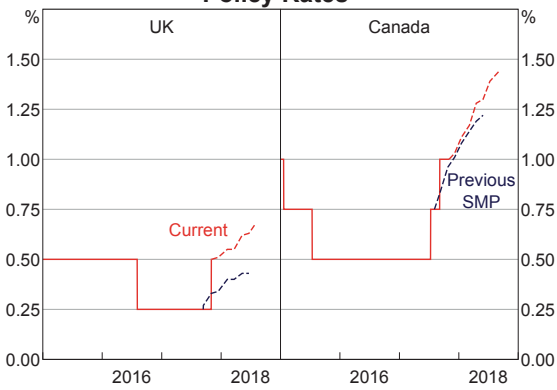
Graph 2.2
European Central Bank Balance Sheet



Sources: European Central Bank; Thomson Reuters

The Bank of Canada (BoC) increased its policy rate by a further 25 basis points in September, earlier than many market participants had anticipated. At its October meeting, the BoC lowered its near-term forecast for inflation, citing the strength in the Canadian dollar, and noted that it will be cautious in making further adjustments to the policy rate. The Bank of England increased its policy rate in November, noting diminishing economic slack and above-target inflation. However, it also noted that any further increases in the policy rate are likely to be limited and gradual. Market participants currently expect higher policy rates in Canada and the United Kingdom than they did a few months ago (Graph 2.3).

Graph 2.3
Policy Rates*



* Dashed lines indicate market expectations

Sources: Bloomberg; RBA; Thomson Reuters

The Bank of Japan (BoJ) has left its policy settings unchanged since late last year. While it intends to purchase around ¥80 trillion in Japanese government bonds annually under its policy of 'yield curve control', purchases actually needed to maintain yields on 10-year bonds around zero have fallen below this pace at times in recent months. The BoJ expects inflation to pick up towards its target over the coming years as economic growth remains above potential.

In contrast to central banks in advanced economies, many central banks in emerging markets have reduced their policy rates in response to an easing of inflationary pressures. In Brazil, Indonesia and Russia, policy rates have been lowered significantly over the past year or so (Table 2.1). The Reserve Bank of India has also reduced its policy rate this year, though it has noted upside risks to inflation.

Table 2.1: Monetary Policy

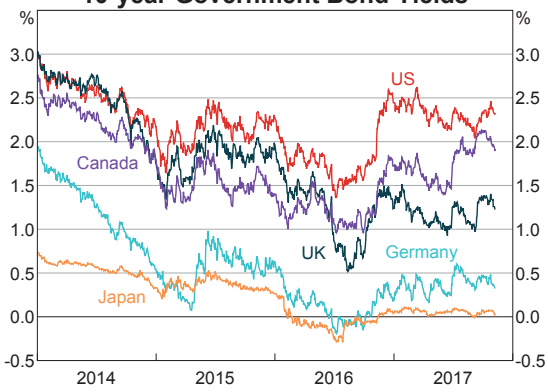
	Policy rate Per cent	Most recent change	
Euro area[(a)]	–0.40	↓	Mar 16
Japan[(a)]	–0.10	↓	Jan 16
United States[(b)]	1.125	↑	Jun 17
Australia	1.50	↓	Aug 16
Brazil	7.50	↓	Oct 17
Canada	1.00	↑	Sep 17
Chile	2.50	↓	May 17
India	6.00	↓	Aug 17
Indonesia	4.25	↓	Sep 17
Israel	0.10	↓	Feb 15
Malaysia	3.00	↓	Jul 16
Mexico	7.00	↑	Jun 17
New Zealand	1.75	↓	Nov 16
Norway	0.50	↓	Mar 16
Russia	8.25	↓	Oct 17
South Africa	6.75	↓	Jul 17
South Korea	1.25	↓	Jun 16
Sweden	–0.50	↓	Feb 16
Switzerland[(b)]	–0.75	↓	Jan 15
Thailand	1.50	↓	Apr 15
Turkey	8.00	↑	Nov 16
United Kingdom	0.50	↑	Nov 17

(a) Marginal rate paid on deposits at the central bank
(b) Midpoint of target rate
Sources: central banks; RBA; Thomson Reuters

Sovereign Debt Markets

Government bond yields have risen recently as market participants have brought forward their expectations for the withdrawal of monetary policy accommodation (Graph 2.4). The rise in yields has been most significant in Canada, where expectations for policy rates have increased the most. In the United States, the effect of the policy actions of the Federal Reserve and prospects for increased fiscal stimulus have been partially offset by lingering concerns of market participants that low inflation may

Graph 2.4
10-year Government Bond Yields



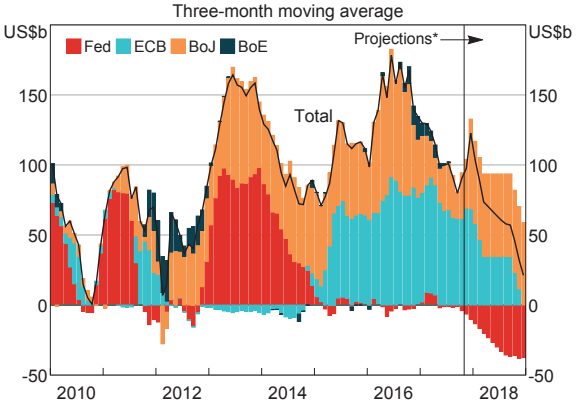
Source: Bloomberg

persist. In the euro area, the increase in yields on German government bonds has been limited by expectations that the ECB will remove policy accommodation at a slower pace than many other central banks. Yields on other euro area government bonds have generally moved in line with German bunds, although yields on Spanish government bonds rose a little more in response to the push for independence in Catalonia. In Japan, yields on 10-year government bonds have remained close to the BoJ's target of around 0 per cent under its policy of 'yield curve control'.

Notwithstanding their recent increases, government bond yields in many advanced economies remain very low by historical standards. This partly reflects the large holdings and ongoing purchases of government bonds by central banks. However, net purchases by central banks will decline significantly over the next year as the US Federal Reserve continues to reduce the size of its holdings and the ECB slows the pace of its purchases (Graph 2.5). Nonetheless, the US Federal Reserve and market participants generally anticipate that any resulting change in government bond yields will be small.

Although yields on government bonds in emerging markets have also risen in recent months, they have declined significantly over

Graph 2.5
Central Bank Net Asset Purchases
Three-month moving average



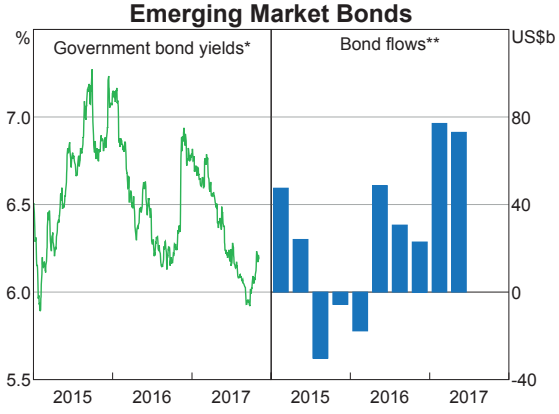
* Based on central bank guidance
Sources: central banks; RBA; Thomson Reuters

2017 (Graph 2.6). This decline reflects a decrease in inflation and the associated lowering of monetary policy rates in many emerging markets. In addition, investor sentiment towards emerging markets has been buoyed by the improvement in global economic conditions and perceptions that emerging economies are generally less vulnerable to a sudden withdrawal of external funding than they were during the 2013 'taper tantrum' in the United States. These perceptions stem, in part, from reductions in the current account deficits and increases in the levels of foreign exchange reserves of those countries that had appeared most vulnerable to capital flight. In addition, the perceived likelihood of capital flight from emerging markets is low because market participants see little risk of a sharp rise in inflation or interest rates in advanced economies.

Credit Markets

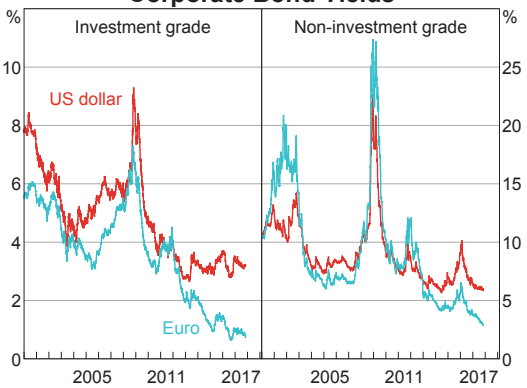
Credit market conditions for corporations remain highly favourable. Yields on corporate bonds and their spreads to government bond yields are low (Graph 2.7); in some market segments spreads are at their lowest levels since the financial crisis. These accommodative conditions for corporations partly reflect strong investor demand for corporate debt. Demand for corporate bonds has been buoyed by a recovery in corporate earnings – owing to stronger economic growth – and the prolonged low level of risk-free rates globally, which have made it easier for firms to service their debt and reduced their risk of default. Reflecting this, default rates in both the United States and the euro area have declined this year and the number of firms receiving upgrades to their credit ratings has increased (Graph 2.8). Nonetheless, as the Bank's October 2017 *Financial Stability Review* noted, some investors may be underestimating the downside risks they face.

Graph 2.6
Emerging Market Bonds



* Local currency-denominated
** Only for countries that report on a quarterly basis
Sources: Bloomberg; JP Morgan; national sources; RBA; Thomson Reuters

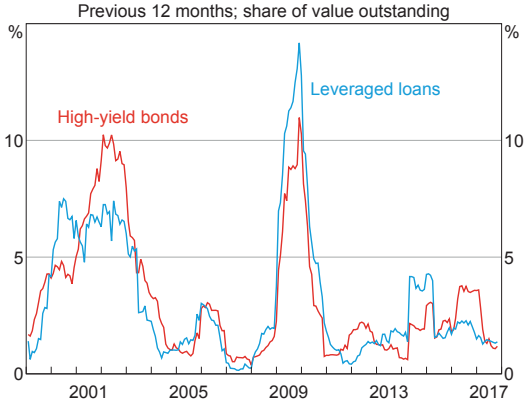
Graph 2.7
Corporate Bond Yields



Source: Thomson Reuters

Graph 2.8
US Default Rates

Previous 12 months; share of value outstanding



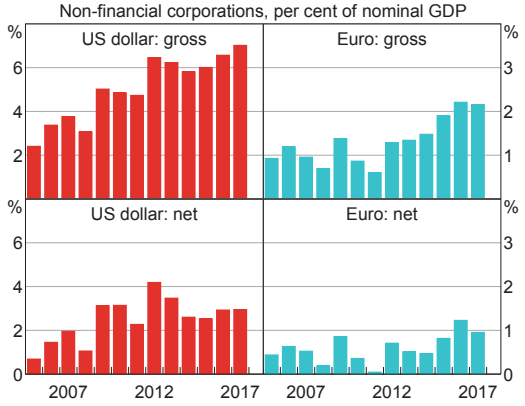
Source: JPMorgan

Corporations have taken advantage of the demand for corporate debt and low interest rate environment by increasing bond issuance. Global issuance in 2017 has been substantial and follows strong issuance in 2016 (Graph 2.9). As a result, measures of corporate leverage have risen in many regions in recent years.

Borrowing costs in short-term US dollar money markets have risen alongside increases in the federal funds rate. Nonetheless, the cost of borrowing US dollars in money markets on an unsecured basis, relative to the risk-free rate, declined sharply early in the year and has remained low (Graph 2.10). The additional cost of borrowing US dollars in exchange for other currencies is also low relative to late last year, though recently it has increased somewhat.

Graph 2.9
Corporate Bond Issuance*

Non-financial corporations, per cent of nominal GDP

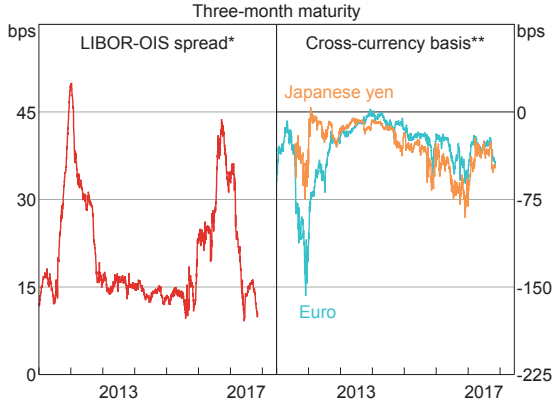


* Annualised estimate for 2017

Sources: Dealogic; RBA; Thomson Reuters

Graph 2.10
US Dollar Funding Costs

Three-month maturity



* Difference between the London Interbank Offered Rate and the Overnight Index Swap rate

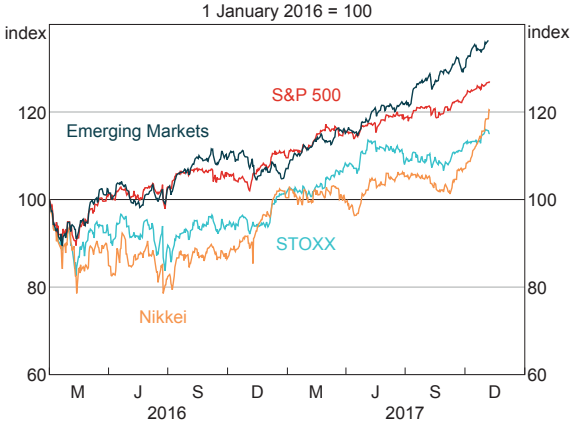
** Negative value represents an additional cost to borrow US dollars

Source: Bloomberg

Equity Markets

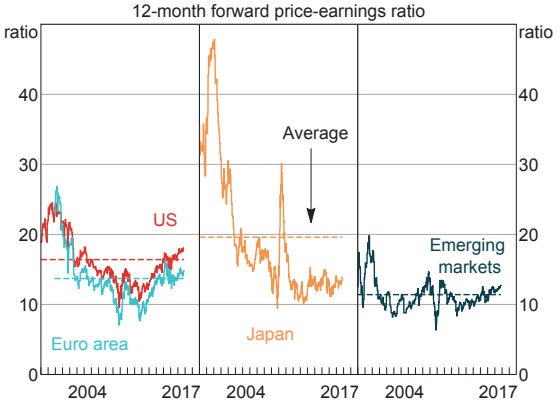
Global share prices have risen significantly over 2017, particularly in emerging markets (Graph 2.11). The rises reflect higher corporate earnings, which have been supported by the improved economic conditions, and the low interest rate environment. In the United States, aggregate corporate earnings are forecast to rise substantially in 2017 for the first time in three years. Nonetheless, the rise in share prices has generally outpaced the rise in near-term earnings. As a result, measures of valuation, such as the price-earnings ratio, have increased in many share markets to around their highest levels in more than a decade and, as noted in the Bank's October 2017 *Financial Stability Review*, some asset prices appear elevated (Graph 2.12). However, the high level of valuations is broadly consistent with expectations of ongoing strength in earnings over the next few years and the low level of interest rates.

Graph 2.11
Major Share Price Indices
1 January 2016 = 100



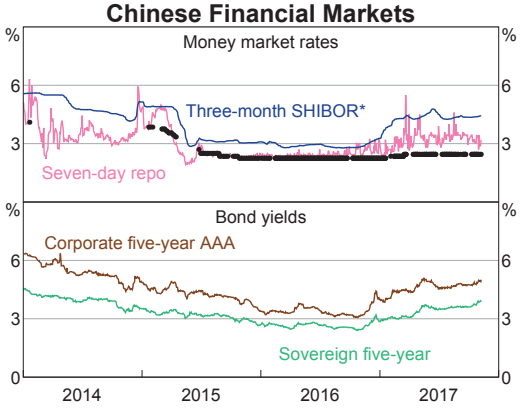
Source: Bloomberg

Graph 2.12
Equity Valuations
12-month forward price-earnings ratio



Source: Thomson Reuters

Graph 2.13
Chinese Financial Markets



* SHIBOR is an average of the rate at which large banks say they will lend unsecured funds to other banks

Sources: Bloomberg; CEIC Data

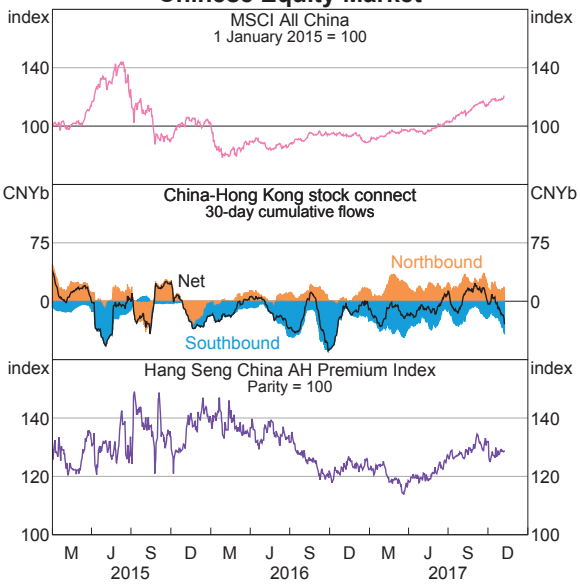
Chinese Financial Markets

Chinese government and corporate bond yields have increased recently because market participants expect that the authorities will renew efforts to address concerns around leverage in the financial system. Prior to these moves, conditions in Chinese financial markets had been little changed since the middle of the year (Graph 2.13). This followed a period of rising financial market interest rates that accompanied regulatory measures implemented by Chinese authorities in response to concerns about financial stability risks (see RBA (2017), 'Box B: Recent Developments in Chinese Financial Regulations', *Statement on Monetary Policy*, August, pp 27–30 for details). These earlier measures appear to have had some effect in reducing vulnerabilities in some areas of the financial sector (see 'International Economic Developments').

The People's Bank of China (PBC) announced a reduction in reserve requirement ratios (RRR) from 2018 for banks that meet certain targets for lending to small businesses and the agricultural sector. The PBC subsequently reiterated its intention to implement a prudent and neutral monetary policy, while keeping liquidity stable, and has said that the RRR announcement does not reflect a shift in its monetary policy stance.

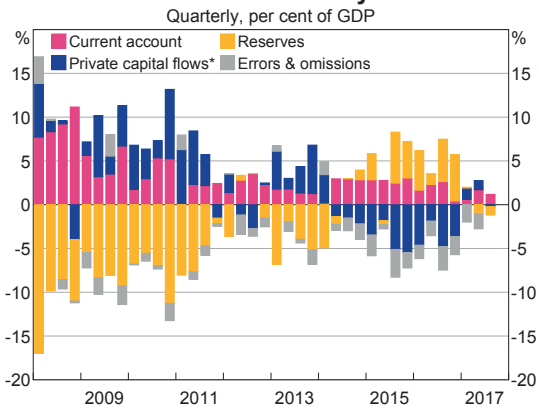
Chinese share prices have increased further during the second half of this year and are around one-third higher over 2017 to date (Graph 2.14). Equity prices have been supported by a general improvement in corporate profitability amid generally better-than-expected economic conditions. An increase in net investment flows into equities from Hong Kong has also contributed. Partly in response to these flows, the difference between share prices

Graph 2.14
Chinese Equity Market



Sources: Bloomberg; CEIC Data; RBA

Graph 2.15
China's Balance of Payments



* Latest observation includes errors & omissions

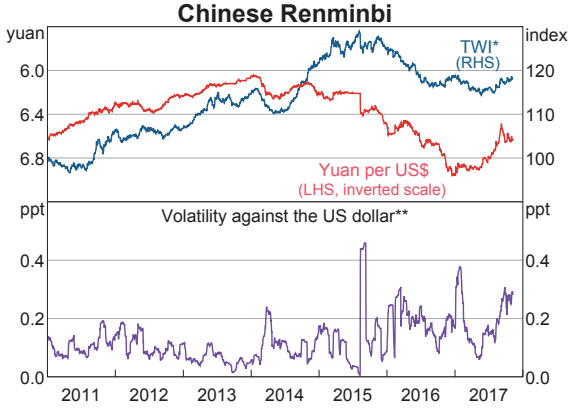
Sources: CEIC Data; RBA

on the mainland (in the A-share market) and in Hong Kong (in the H-share market) of Chinese companies with a dual listing has widened.

There has been a change in behaviour this year in response to policies related to capital flows and the exchange rate. China has experienced small net private capital inflows over 2017 to date (Graph 2.15). Private capital inflows have been driven by an increase in foreigners' holdings of Chinese renminbi (RMB) with Chinese banks, as well as an increase in Chinese corporations' borrowing in foreign currency. This is in contrast to the trend over the previous few years, when Chinese firms had opted to repay debts denominated in foreign currency, contributing to large net capital outflows. Partly reflecting the turnaround in net capital flows, the value of the PBC's foreign currency reserves has been little changed over the year to October, at a bit over US$3 trillion.

The noticeable appreciation of the RMB against the US dollar over 2017 to date has both supported and reflected net capital inflows (Graph 2.16). The appreciation has reduced the perceived currency risk associated with holding assets denominated in RMB and increased the attractiveness of borrowing in foreign currency. Much of the appreciation over the year has been associated with broad-based depreciation of the US dollar (notwithstanding the slight appreciation of the US dollar over the past couple of months, see Foreign Exchange); the RMB is little changed on a trade-weighted (TWI)

Graph 2.16
Chinese Renminbi



* 2011 average = 100

** Rolling 22-day standard deviation of daily percentage changes

Sources: Bloomberg; CFETS; RBA

basis. Volatility in the RMB has picked up recently, in line with the PBC looking to gradually allow more flexibility in the exchange rate. Consistent with this, the authorities recently removed a requirement, introduced in late 2015, which had made it more expensive to sell RMB.

Tighter enforcement of capital controls by the Chinese authorities, which has reduced direct investment outflows, has also contributed to the turnaround in Chinese capital flows. In August, the authorities released rules on overseas direct investment, formalising some of the regulations introduced since late 2016 (see 'Box B: Chinese Direct Investment in Australia'). While the tighter capital controls might lead to a reduction in Chinese direct investment in Australia, Chinese investment overall makes up only a relatively modest share of the level of total direct investment in Australia.

Foreign Exchange

Expectations for the stance of monetary policy continue to influence exchange rates in advanced economies. Following a broad-based depreciation since the start of the year, the US dollar has recently appreciated a little against a range of currencies (Table 2.2; Graph 2.17). Expectations of tighter monetary policy in the United States as well as renewed prospects for fiscal stimulus have supported the currency. The US dollar appreciation has been particularly pronounced against the Mexican peso, reflecting heightened concerns regarding the future of Mexico's trading relationship with the United States (Graph 2.18).

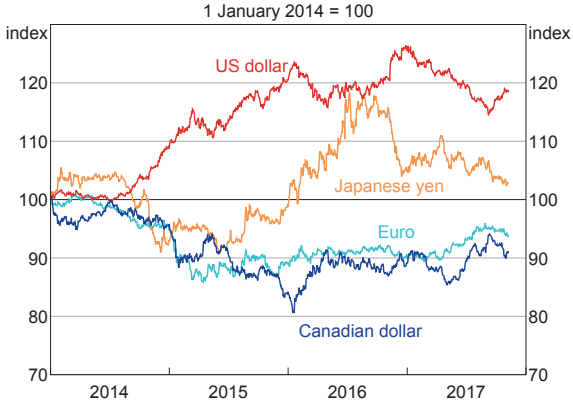
The Canadian dollar has fluctuated alongside evolving market expectations for the timing and extent of changes to monetary policy. It is now around 5 per cent higher since the recent trough in May on a trade-weighted basis. The euro has been little changed in recent months,

Table 2.2: Changes in the US Dollar against Selected Currencies
Per cent

	Over 2016	2017 to date
Philippine peso	6	3
Indonesian rupiah	–2	0
Brazilian real	–18	0
New Zealand dollar	–1	0
Swiss franc	2	–2
Japanese yen	–3	–3
Russian rouble	–14	-4
Indian rupee	3	-4
Chinese renminbi	7	–5
Canadian dollar	–3	–5
Malaysian ringgit	5	–6
UK pound sterling	19	–6
Singapore dollar	2	–6
Australian dollar	1	–6
New Taiwan dollar	–1	–7
South Korean won	3	–7
Thai baht	–1	–8
Mexican peso	21	–8
Swedish krona	8	–8
European euro	3	–9
Trade weighted index	**4**	**–6**

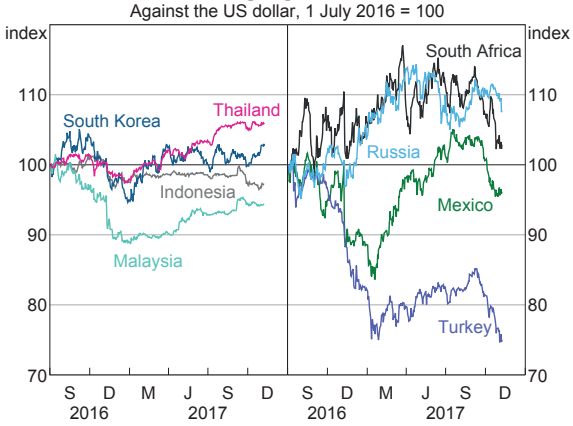
Sources: Bloomberg; Board of Governors of the Federal Reserve System

Graph 2.17
Nominal Trade-weighted Exchange Rates
1 January 2014 = 100



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

Graph 2.18
Asian and Emerging Market Currencies
Against the US dollar, 1 July 2016 = 100

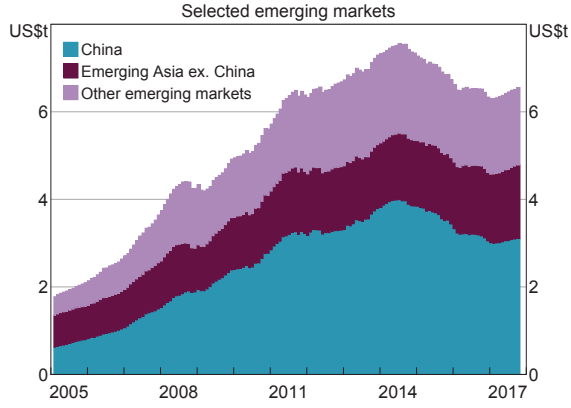


Source: Bloomberg

after appreciating earlier in the year following an easing of political uncertainty and the ECB removing its bias to ease interest rates further. Measures of volatility in foreign exchange markets remain at low levels.

The gross foreign currency reserves of most emerging market economies have increased since the end of 2016 (Graph 2.19). This is consistent with a depreciation of the US dollar over this period, which increased the US dollar value of reserves held in other currencies. The increase in reserves has also generally been larger for those economies that tend to manage their exchange rate more closely against the US dollar.

Graph 2.19
Gross Foreign Currency Reserves
Selected emerging markets



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

Australian Dollar

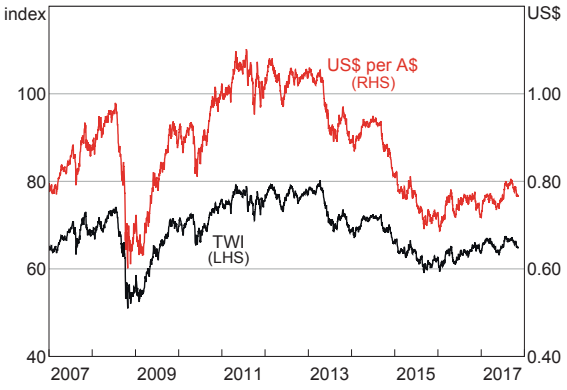
Since the start of 2016, the Australian dollar has appreciated against the US dollar and on a trade-weighted basis (Table 2.3; Graph 2.20). Increases in iron ore and coal prices supported the Australian dollar over this period. This more than offset the effect of a narrowing of interest rate differentials between Australian and US government bonds. More recently, the Australian dollar has depreciated slightly, reflecting the broad-based appreciation of the US dollar since early September (see above) and a decline in the price of iron ore.

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

	Over 2016	2017 to date
South African rand	–12	10
Indonesian rupiah	–3	7
US dollar	–1	7
New Zealand dollar	–3	6
Swiss franc	1	5
Japanese yen	–4	4
Indian rupee	1	2
Chinese renminbi	6	2
Canadian dollar	–4	1
Malaysian ringgit	3	1
UK pound sterling	18	0
Singapore dollar	1	0
South Korean won	1	–1
Thai baht	–2	–1
European euro	2	–3
Trade-weighted index	**2**	**2**

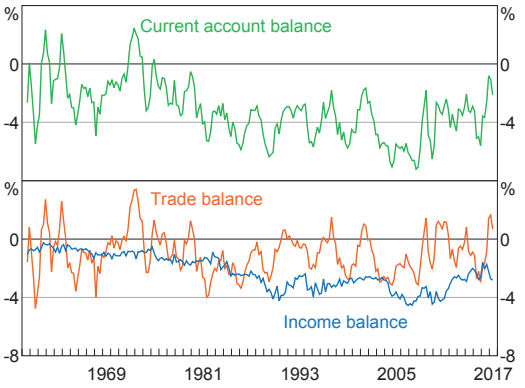
Sources: Bloomberg; RBA

Graph 2.20
Australian Dollar



Sources: Bloomberg; RBA

Graph 2.21
Current Account Balance
Per cent of nominal GDP



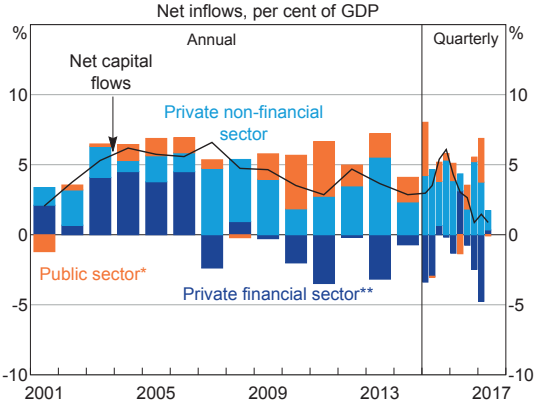
Sources: ABS; RBA

Capital Flows

With a decline in the difference between Australia's saving and investment over recent years, the current account deficit has narrowed to low levels (Graph 2.21). This has coincided with the trade balance moving into surplus owing to higher resource prices and volumes, which have supported export revenues. Australia's ongoing net foreign liability position with the rest of the world (and the repayments that are made due to this position) means that the net income balance has remained in deficit. When the currency composition of assets and liabilities is taken into account, Australia has a net foreign currency asset position. This increases even further when the hedging of foreign currency exposures back into Australian dollars is taken into account (see 'Box C: Foreign Currency Exposure and Hedging in Australia' for further details).

In line with the narrowing current account deficit since early 2016, the extent of net capital inflows to Australia has slowed (Graph 2.22). This has largely reflected a gradual reduction in inflows to the mining sector as the mining investment boom has unwound, although there have been some offsetting inflows to the non-mining, non-financial sector.

Graph 2.22
Australian Capital Flows
Net inflows, per cent of GDP



* Excludes official reserves and other RBA flows
** Adjusted for US dollar swap facility in 2008 and 2009
Sources: ABS; RBA

Box B
Chinese Direct Investment in Australia

The Chinese authorities tightened their enforcement of capital controls in late 2016, partly in response to a marked increase in the pace of Chinese direct investment abroad over 2015 and 2016. Among other things, the authorities established formal guidelines for investment overseas, putting in place restrictions on investment in sectors such as real estate, entertainment and tourism, but encouraging it in others such as mining and infrastructure. In addition, direct investments are likely to come under increased scrutiny if they have not undergone due diligence, are highly leveraged and/or are not aligned with investors' core competencies. Chinese investment overall currently accounts for a relatively modest share of total foreign direct investment flows (FDI) into Australia. Moreover, FDI accounts for only a third of total capital flows into Australia (portfolio flows make up the largest share). In any case, this change in Chinese policy has occurred at a time when overall capital inflows to Australia have been noticeably lower than in the past, in line with lower current account deficits following the end of the mining investment boom.

Looking back at history, direct investment flows from China to Australia have been larger since 2008 than they were over the preceding decade. (Investments are considered to be 'direct' if an investor gains control or a significant degree of influence on the management of an Australian company.[1]) The increase in FDI from China to Australia occurred amid a substantial increase in direct investment flowing out of China more generally over the past decade as the Chinese authorities gradually opened up the capital account. Chinese investment in Australia made a contribution to the expansion of Australia's productive capacity during the mining investment boom in particular, attracted by the favourable risk-adjusted returns on offer here.

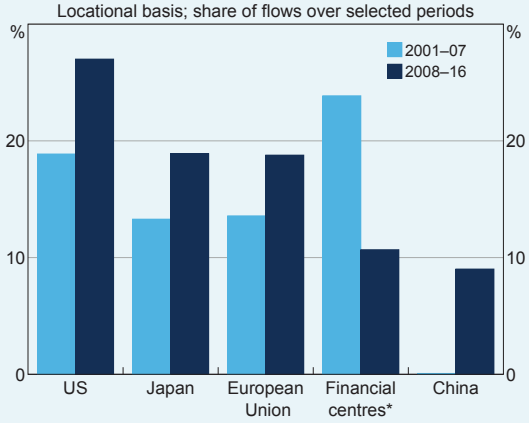
The source of FDI flows to Australia can be difficult to measure. There are two main ways to do so. First, FDI can be recorded based on the location of the immediate investor ('locational' basis). Second, FDI flows can be measured according to the economy from which they were ultimately sourced ('ultimate risk' basis), regardless of whether the investment flowed through an offshore financial centre before arriving in Australia. In the case of Chinese investment in Australia, this distinction is important. Australia has received around US$35 billion in direct investment flows from mainland China over the past decade when measured using the location of the investor. Estimates based on the ultimate source of FDI flows suggest that Australia received more than double that amount. To a large extent, this difference is because a sizeable amount of Chinese investment is directed to Australia via Hong Kong and other financial centres. Another reason for the difference is that the locational measure is net of investment flows back to the direct investor.

According to measures based on the location of the investor, China's share of overall FDI flows into Australia has averaged just under 10 per cent since 2008, compared with almost zero in the

1 This usually arises through owning at least 10 per cent or more of a company's equity. Foreign investment in real estate is considered a form of direct equity investment and comprises a small share of total direct investment inflows to Australia.

preceding period for which data are available (Graph B1). The share is somewhat higher when measured based on the ultimate source of FDI. Despite the considerable increase in China's inflows, China's share of the FDI stock in Australia is smaller than the shares of other major economies. The largest direct investors in Australia have been from the United States, Europe and Japan. According to measures based on the location of the investor, these economies have accounted for around 60 per cent of the flow of FDI into Australia since 2008, and currently account for a little over half of the outstanding stock of FDI in Australia. In contrast, China accounts for only 5 per cent of the outstanding stock of FDI in Australia based on the location of the investor.

Graph B1
Direct Investment in Australia
Locational basis; share of flows over selected periods

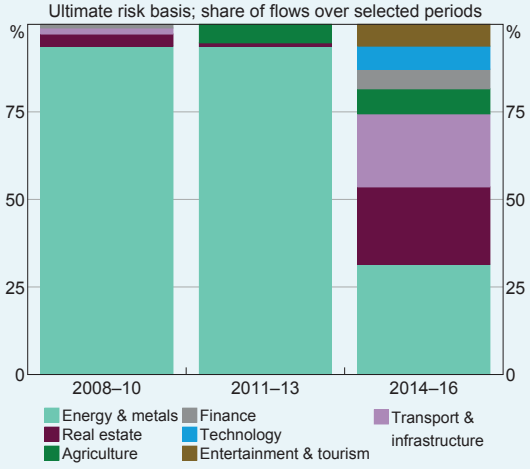


* Includes Belgium, Bermuda, British Virgin Islands, Cayman Islands, Hong Kong, Ireland, Luxembourg, Singapore and Switzerland

Sources: ABS; RBA

The majority of investment in Australia from China has been in the metals and minerals sector. This was particularly the case during the mining investment boom, when Chinese investment played a role in expanding the sector's productive capacity to meet growing demand for Australia's natural resources (Graph B2). Since then, however, a range of measures suggest some easing in the pace of direct investment flows from China

Graph B2
Chinese FDI in Australia by Sector
Ultimate risk basis; share of flows over selected periods



Sources: American Enterprise Institute and the Heritage Foundation; RBA

to Australia. This was accompanied by a shift in Chinese investment towards a broader range of sectors in Australia, particularly towards large-scale real estate and infrastructure projects, and a shift away from state-owned (or partly owned) corporations towards the private sector. One measure, from a global database that captures investments above US$100 million, indicates that large-scale real estate and infrastructure projects accounted for roughly two-fifths of total Chinese direct investment in Australia from 2014 to 2016 (a similar database with a smaller threshold suggests a slightly larger share).[2] Although the entertainment and tourism sectors have received a larger share of FDI flows out of China in more recent years, Chinese investment in Australia has tended to be less concentrated in these now-restricted sectors relative to Chinese investment in many other countries. For example, in recent years close to 30 per cent of total Chinese direct investment to the United States has been to the entertainment and tourism sectors, compared with around 5 per cent for Australia (though such estimates only capture large investments).

2 KPMG and the University of Sydney (2017), 'Demystifying Chinese Investment in Australia', May.

Box C

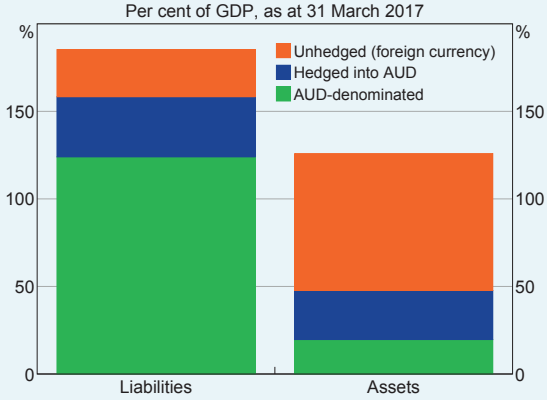
Foreign Currency Exposure and Hedging in Australia

Understanding firms' foreign currency exposures and the extent to which these are hedged is important, as these factors could have implications for economic activity and financial stability. Movements in the exchange rate can affect the balance sheet positions and cash flows of firms that hold foreign currency assets or liabilities or conduct trade denominated in foreign currencies. This is particularly important for countries such as Australia that have a net foreign liability position.[1] If a country's liabilities are largely denominated in foreign currency and are not hedged, a large depreciation of the exchange rate will significantly increase the domestic currency value of its external obligations.

Every four years, the Reserve Bank funds the Australian Bureau of Statistics to undertake a survey of firms to better understand the distribution of foreign currency exposures in Australia and the extent to which they are hedged.[2] The latest Survey of Foreign Currency Exposure was conducted as at the end of March 2017 and the results were released recently.[3] It confirmed that, despite the country as a whole having a net foreign liability position equivalent to 59 per cent of GDP, Australia continues to have a net foreign currency *asset* position even before hedging by derivatives is taken into account. In March 2017, this was equivalent to 45 per cent of GDP (Graph C1). This position reflects the fact that the bulk of foreign liabilities are denominated in Australian dollars, while foreign assets are largely denominated in foreign currencies. Once hedging by derivatives is taken into account, Australia's foreign currency asset position increases to be equivalent to around 50 per cent of GDP. This is because more than half of the foreign currency liabilities are hedged into Australian dollars compared with around one-quarter of foreign currency assets.

The banking sector is fully hedged in net terms and hence has minimal exposure to exchange rate movements. This is important since the foreign currency exposures of the banking system are a potential source of vulnerability. The foreign liabilities of the banking sector account for around one-third of Australia's foreign liabilities and a large share of the

Graph C1
Currency Composition of Australia's External Position
Per cent of GDP, as at 31 March 2017



Sources: ABS; RBA

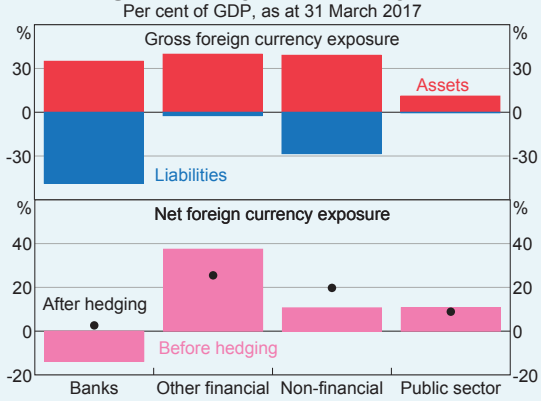
1 See ABS (2017), 'Balance of Payments and International Investment Position, Australia, Mar 2017', ABS Cat No 5302.0.
2 For a discussion of the results of the March 2013 survey, see Rush A, D Sadeghian and M Wright (2013), 'Foreign Currency Exposure and Hedging in Australia', RBA *Bulletin,* December, pp 49–57.
3 See ABS (2017), 'Foreign Currency Exposure, Australia, March Quarter 2017', ABS Cat No 5308.0. A more detailed discussion will be included in the Reserve Bank's December 2017 *Bulletin.*

country's foreign currency liabilities. The banks hold large foreign currency assets against these foreign currency liabilities; after accounting for its foreign currency asset holdings, the sector had a net foreign currency liability position equivalent to 14 per cent of GDP, or 7 per cent of banks' total financial assets (Graph C2). The exposure to exchange rate movements for the sector as a whole from these positions is minimal because:

- Banks use derivatives to hedge almost 70 per cent of their foreign currency liabilities and around 50 per cent of their foreign currency assets. Hence, in net terms the banks have a small foreign currency asset position after accounting for the use of derivatives for hedging purposes.
- For debt security liabilities – which account for just over half of banks' foreign currency liabilities – the banks are almost fully hedged with derivatives. Moreover, the survey shows that the maturities of the derivatives used to hedge against foreign currency risk are well matched to the maturity of the underlying debt securities.
- For the relatively modest portion of foreign currency liabilities that are not hedged with derivatives, there is typically a matching asset in the same foreign currency. Over recent years, banks have increased their foreign currency deposits that are not hedged with derivatives, but these have been matched by increased lending in the same foreign currency.

Outside of the banking sector, no other sectors had a net foreign currency liability position, either before or after accounting for hedging by derivatives. Among Australian entities, other financial corporations had the largest net foreign currency asset position, in line with this sector capturing large investors in overseas assets such as superannuation funds and fund managers.

Graph C2
Foreign Currency Exposure by Sector
Per cent of GDP, as at 31 March 2017



Sources: ABS; RBA

Most of the foreign currency liabilities of non-financial corporations, such as mining firms, are not generally hedged with derivatives because these firms tend to have foreign currency income streams. In contrast, the public sector has minimal foreign currency liabilities, almost all of which are hedged.

3. Domestic Economic Conditions

Domestic economic conditions have improved since earlier in the year, supported by low interest rates, growth in public spending and continued strength in the global economy. The adjustment of the Australian economy to the cycle in mining investment is well advanced. Employment growth has been strong over the past year, particularly for full-time employment. The unemployment rate has declined a little further recently, although there is still spare capacity in the labour market and wage growth remains low.

Domestic GDP growth increased in the June quarter; growth in most components of expenditure picked up, although mining investment declined (Table 3.1; Graph 3.1).

The economy looks to have expanded at a modestly slower rate in the September quarter. However, taking the year as a whole, this would imply an increase in year-ended growth to around estimates of potential growth. Looking forward, the economy is expected to strengthen. This is expected to reduce spare capacity in the labour market further and lead to a gradual increase in wage growth and inflation.

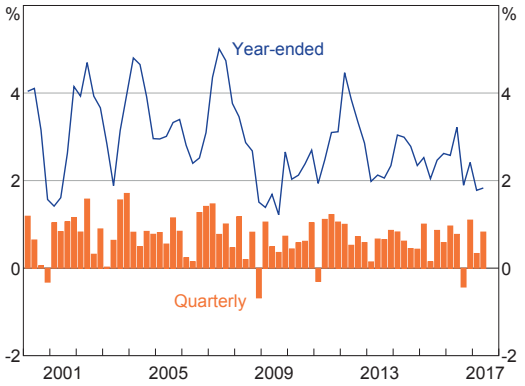
The divergence between economic conditions across the states has continued to narrow (Graph 3.2). The rate of decline in state final demand in Western Australia slowed over the year as the drag from mining investment diminished. Employment growth has been strong

Table 3.1: Demand and Output Growth
Per cent

	June quarter 2017	March quarter 2017	Year to June quarter 2017
GDP	0.8	0.3	1.8
Domestic final demand	1.0	0.6	2.4
– Consumption	0.7	0.5	2.6
– Dwelling investment	0.2	–3.7	–2.5
– Mining investment	–1.9	2.4	–9.8
– Non-mining investment	2.3	2.1	6.1
– Public demand	2.2	0.5	3.9
Change in inventories[(a)]	–0.6	0.4	–0.3
Exports	2.7	–2.2	4.3
Imports	1.2	2.2	6.5
Mining activity[(b)]	1.6	0.8	3.5
Non-mining activity[(b)]	0.7	0.3	1.6
Nominal GDP	–0.1	2.3	6.3
Real gross domestic income	–0.5	1.5	4.7
Terms of trade	–6.0	5.7	14.9

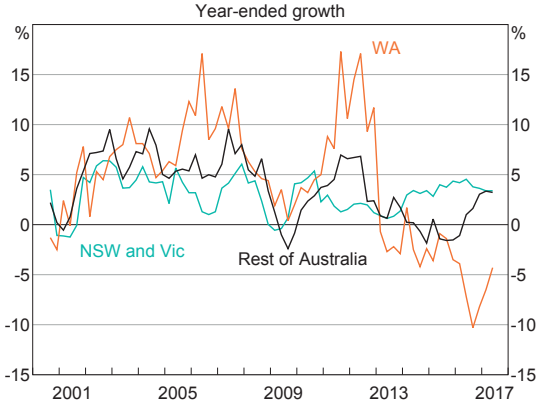
(a) Contribution to GDP growth
(b) RBA estimates
Sources: ABS; RBA

Graph 3.1
GDP Growth



Source: ABS

Graph 3.2
State Final Demand
Year-ended growth



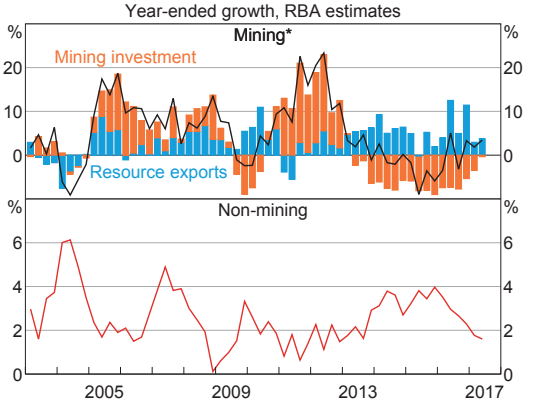
Sources: ABS; RBA

in Western Australia over the past year and the unemployment rate has fallen. In Queensland, growth in state final demand has increased, following a number of years of below-trend growth. In the rest of the country, final demand has continued to expand at an above-average rate.

Mining Activity

The mining sector has contributed positively to domestic GDP growth over recent quarters; the drag on growth since 2012 from falling mining investment has continued to dissipate and resource exports have increased further (Graph 3.3).

Graph 3.3
Mining and Non-mining Activity
Year-ended growth, RBA estimates



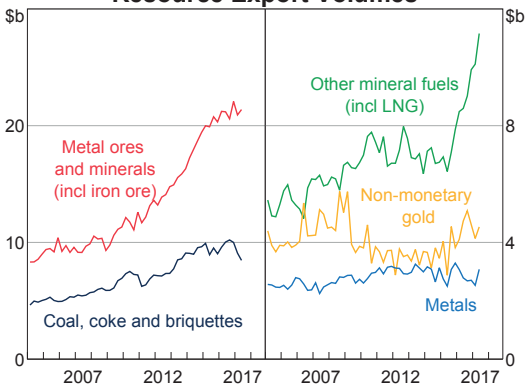
* Net of mining-related imports; components are contributions to year-ended mining activity growth; contribution from changes in inventories not shown

Sources: ABS; RBA

While mining investment fell in the June quarter and is expected to fall a bit more over coming quarters, the largest declines have already occurred; both the ABS capital expenditure (Capex) survey of investment intentions and Bank liaison point to smaller declines in mining investment over the period ahead. Much of the remaining decline is expected to be in liquefied natural gas (LNG) investment as the construction phase of large projects is completed. The level of mining investment is then expected to stabilise in the second half of next year; while very few new large projects are expected to commence, major mining firms are likely to invest to maintain their existing productive capacity.

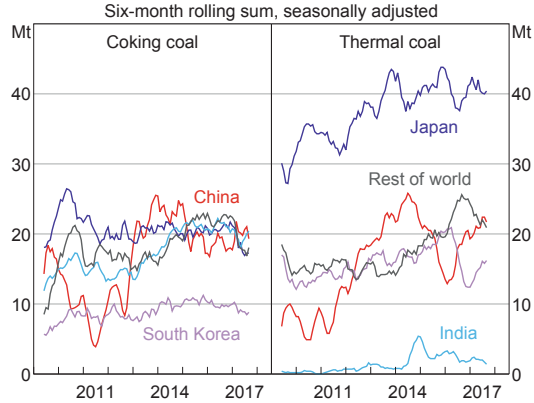
Resource export volumes have grown strongly over recent years as more production capacity has come on line. The increase over the past year was driven largely by LNG production (Graph 3.4). LNG exports are expected to contribute just above ⅓ percentage point to annual GDP growth over the next couple of years as existing plants ramp up production and new plants come on line (this is a little lower than previously expected due to delays at some projects and lower production than had been expected at some

Graph 3.4
Resource Export Volumes



Sources: ABS; RBA

Graph 3.5
Coal Exports by Destination
Six-month rolling sum, seasonally adjusted



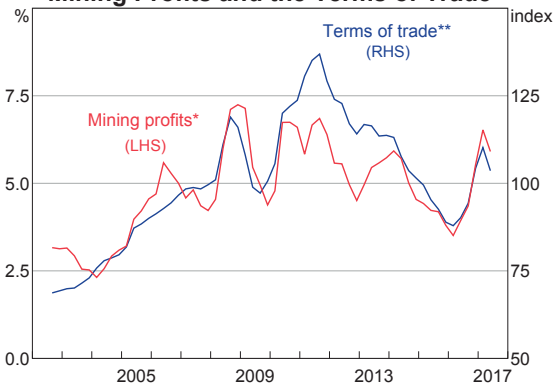
Sources: ABS; RBA

others). Iron ore export volumes remain at high levels and are expected to rise only a little further in the period ahead as additional production capacity from Australia's low-cost producers comes on line (see 'Box A: The Chinese Steel Market and Demand for Bulk Commodities').

Coal export volumes declined sharply in the June quarter, as had been anticipated after Cyclone Debbie damaged key coal rail infrastructure in the Bowen Basin. Coal exports look to have rebounded in the September quarter. Coking coal shipments returned to pre-cyclone levels in May and liaison information and timely data suggest that exports have remained at a high level since then. China, Japan, India and South Korea remain the primary destinations for Australia's coking coal exports, reflecting the significant levels of steel production in these economies (Graph 3.5). Thermal coal exports to China have increased over the past year or so, offsetting declines in exports to South Korea and some other countries.

Although resource export volumes have grown strongly for some time now, the improvement in mining profits since early 2016 has been driven largely by the sizeable increase in bulk commodity prices over that period (which also drove the increase in the terms of trade from early last year; Graph 3.6). Information from company announcements has indicated that mining firms have generally used the additional income to pay down debt, pay dividends and increase share buybacks, rather than expand production capacity through new investment. This suggests that companies did not expect the higher prices to be sustained; prices have since declined (see 'International Economic Developments' chapter). Some mining firms have reportedly undertaken small-scale investments in machinery and equipment.

Graph 3.6
Mining Profits and the Terms of Trade

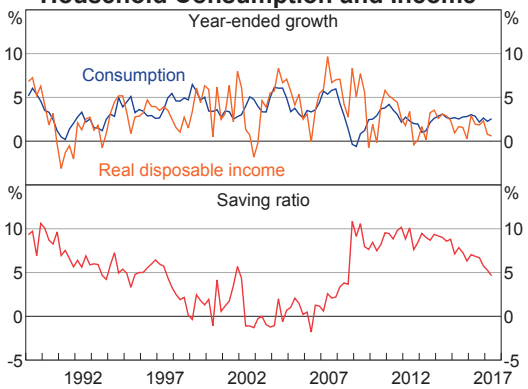


* Inventory valuation adjusted; per cent of quarterly nominal GDP
** 2014/15 average = 100
Sources: ABS; RBA

Household Sector

Growth in household consumption picked up in the June quarter to a moderate rate, and in year-ended terms was around the average since the global financial crisis (Graph 3.7). The pick-up in the quarter reflected stronger growth in goods consumption. Growth in consumption of services, which had been stronger over the past few years, was weak in the quarter. Consumption growth remained strongest in the eastern states but also picked up slightly in Western Australia in the quarter.

Graph 3.7
Household Consumption and Income*



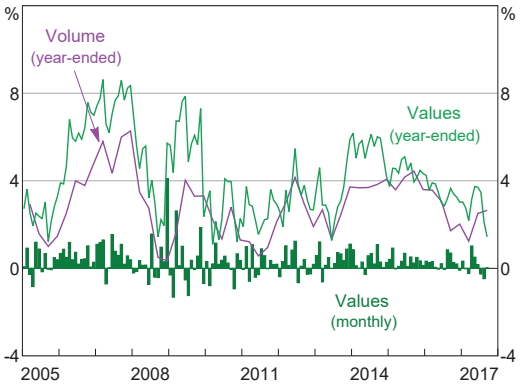
* Disposable income is after tax and interest payments; saving ratio is net of depreciation

Sources: ABS; RBA

Some timely indicators of consumption point to subdued growth in the September quarter. There was broad-based weakness in retail sales in the quarter, particularly for household goods (Graph 3.8). However, employment growth has been strong recently and surveys of consumer sentiment have increased to be around their long-run average, which may support consumption in the near term.

More generally, household consumption growth has held up reasonably well over recent years, given the below-average growth in household income over this period. Growth in labour income, which is the largest component of household income, has been subdued

Graph 3.8
Retail Sales Growth



Sources: ABS; RBA

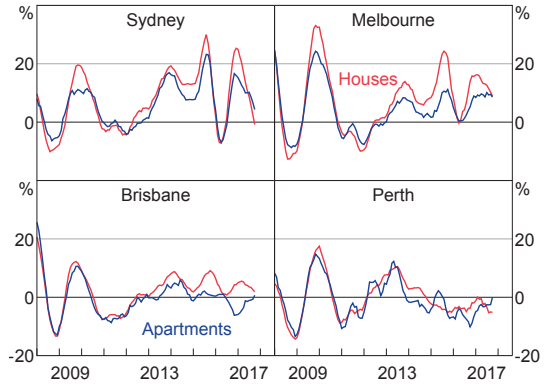
(see 'Labour Costs' below). Growth in non-labour income, which includes earnings from unincorporated enterprises and income earned from properties, has been a bit below average. The subdued growth in household income has been relatively broad based by state, although it has been most pronounced in Western Australia.

With consumption growth holding up over the past few years, despite lower income growth, the share of households' income that is saved has declined (Graph 3.7). The decline has been concentrated in the mining states, where income growth has been weaker over this period; these states had previously recorded larger increases in their saving ratios during the 2000s, when their income growth was relatively strong. Household saving ratios have been relatively stable in New South Wales and Victoria.

Conditions in established housing markets have eased in recent months. The Sydney market has slowed noticeably; auction clearance rates have fallen and housing price growth has been relatively subdued over the past few months, although this follows very strong increases in housing prices over the second half of 2016 and early 2017 (Graph 3.9 and Graph 3.10). Conditions remain strongest in Melbourne; vendor discounts and days on market continue

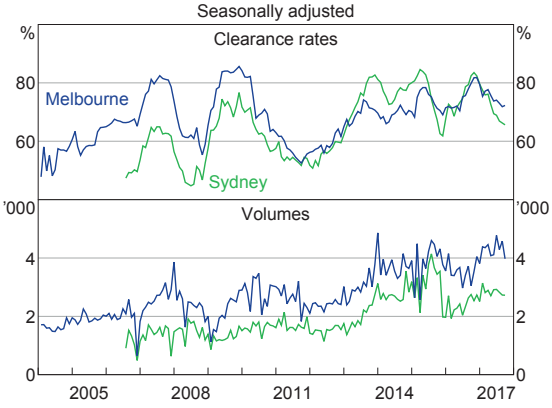
to point to very strong conditions, although housing price inflation and the auction clearance rate have declined a little. The more pronounced slowing in the Sydney housing market relative to Melbourne may reflect the higher share of investors in the Sydney market; the flow of loan approvals to these buyers has slowed since the beginning of the year. Housing prices in Sydney are also higher, so affordability could be more of a constraint than in Melbourne. Higher migration flows to Victoria, both from overseas and interstate, are also supporting the demand for housing (Graph 3.21).

Graph 3.9
Housing Price Growth by Dwelling Type
Six-month-ended annualised



Sources: CoreLogic; RBA

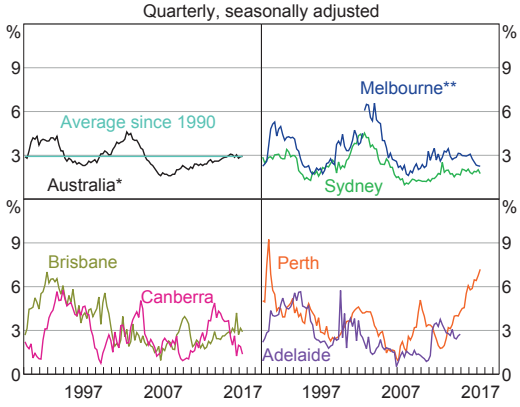
Graph 3.10
Auction Market Indicators
Seasonally adjusted



Sources: APM; CoreLogic; RBA; REIV

Housing prices have declined a little further in Perth, where the rental vacancy rate has increased to its highest level since 1990, driven by the slowing in population growth (Graph 3.11). In Brisbane, apartment prices have been little changed in recent months following earlier declines, while detached house prices have increased.

Graph 3.11
Rental Vacancy Rates
Quarterly, seasonally adjusted



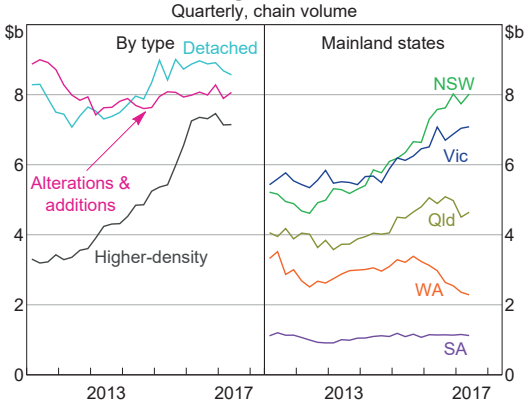
* Excludes Adelaide from March 2015 onwards
** Series break December quarter 2002
Sources: RBA; REIA; REIV

The value of housing loan approvals has been little changed in aggregate in the past few months (see 'Domestic Financial Markets' chapter).

High housing prices in the largest cities, related to relatively strong population growth, have encouraged new dwelling construction and alterations & additions in recent years (Graph 3.12). Residential dwelling investment remains high, although it is a little lower than in late 2016 and may have peaked in the current cycle. High-density construction, particularly high-rise apartments, continues to account for a relatively large share of construction activity.

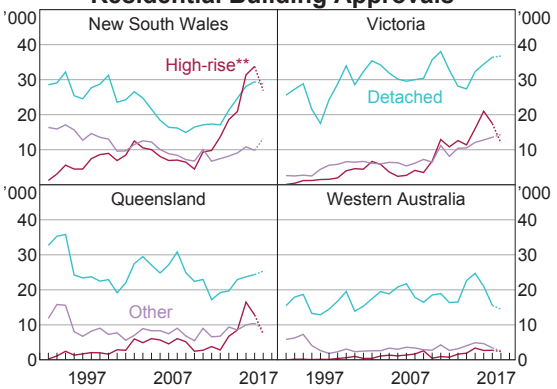
In terms of the outlook for dwelling investment, residential building approvals have been lower over the past year than they were over the preceding two years, particularly for higher-density housing (Graph 3.13). The decline

Graph 3.12
Dwelling Investment
Quarterly, chain volume



Source: ABS

Graph 3.13
Residential Building Approvals*

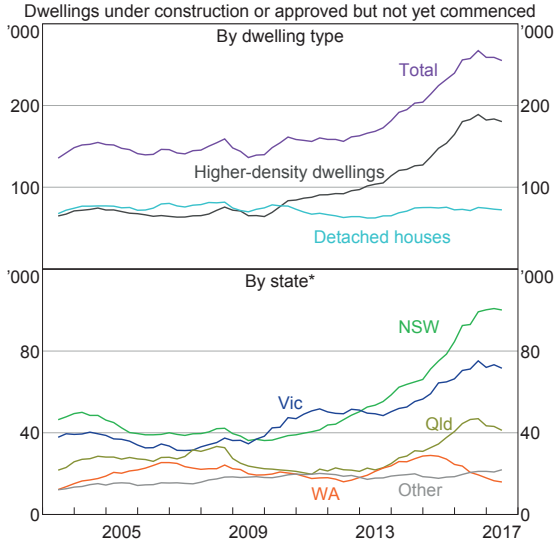


* Dashed lines show 2017 figures to September annualised
** Apartments in buildings four storeys or more
Sources: ABS; RBA

in building approvals is likely to reflect several factors. Liaison with developers indicates that demand for off-the-plan apartments in the major east-coast cities has moderated, reflecting weaker demand from foreign buyers and domestic investors. Developers' access to bank finance – which is secured before obtaining a building approval – has tightened over the past year or so, particularly in areas where there have been very large increases in the supply of apartments, such as inner-city Brisbane. These factors may continue to weigh on building approvals in the coming year. In contrast, demand for new detached housing and greenfield land, which is generally used for detached housing and medium-density developments, has been robust in the eastern capital cities, particularly Melbourne. In Perth, housing market conditions remain weak, though building approvals appear to have stabilised in recent months.

Even though the level of residential building approvals has declined, dwelling investment is likely to remain at a high level for the next year or so because of the large pipeline of work already approved or underway, especially in New South Wales (Graph 3.14). The earlier build-up in the pipeline was driven by apartment projects, which typically take around three times longer to complete than detached houses.

Graph 3.14
Residential Dwelling Pipeline
Dwellings under construction or approved but not yet commenced



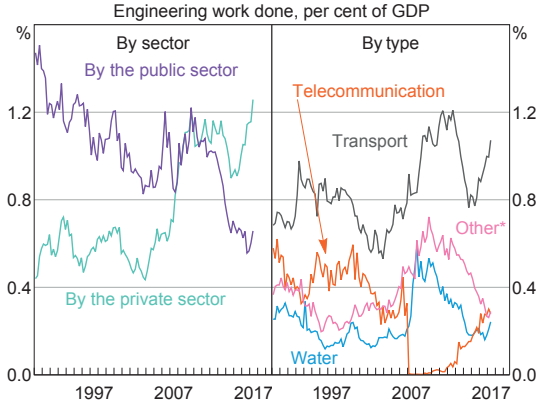
* Dwelling units under construction are private sector projects only
Sources: ABS; RBA

Government Sector

Public demand growth remained strong in the June quarter, for both consumption and investment. The recent strength in public investment has been driven mainly

by an increase in infrastructure construction, particularly in telecommunications and transport (Graph 3.15). Much of this work has been done by the private sector for the public sector, which liaison contacts and business surveys suggest has supported business conditions over the past year or so. More recently, liaison contacts have reported that these contracts to complete public infrastructure works have begun to support their own private investment in machinery and equipment. State and federal budgets suggest that public investment will remain strong over the next year or more as work continues on infrastructure projects. This will also contribute to import growth over the forecast period, as the import intensity of public investment is fairly high compared with other expenditure components.

Graph 3.15
Public Infrastructure
Engineering work done, per cent of GDP



* Includes electricity, harbours and recreation
Sources: ABS; RBA

Non-mining Business Investment and Trade

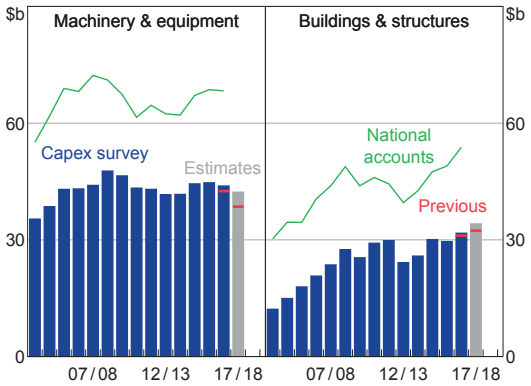
Non-mining business investment has been rising gradually for a number of years, and has increased by almost 10 per cent since the start of 2016. Recent revisions to the national accounts data indicate that non-mining investment growth has been stronger than previously reported. The outlook for non-mining investment is being supported by low interest rates, the expected pick-up in GDP growth and the diminishing impact of falling mining investment on other sectors of the economy, particularly in Western Australia and Queensland.

On balance, forward-looking indicators of non-mining business investment have improved somewhat and are now pointing to further growth in investment in the period ahead. Investment intentions for 2017/18 reported by firms in the ABS Capex survey were revised higher in the most recent survey, but suggest that growth will be moderate at best over the next year (Graph 3.16).[1] Private non-residential building approvals remain around their highest level for some time (Graph 3.17). The stock of private non-residential building work yet to be done has risen in recent quarters, but it remains low relative to recent history. As noted earlier, the large pipeline of public infrastructure spending should continue to have positive flow-on effects to private business investment. Survey measures of capacity utilisation have improved over the past year, particularly for goods-producing firms. The NAB survey measure of investment intentions has also increased over the past year.

Non-resource exports have contributed strongly to economic growth since the exchange rate peaked in 2013 (Graph 3.18). Service exports have contributed around ¼ percentage point to GDP growth over the past year, largely driven by education and tourism. Rural export volumes have also contributed to GDP growth in recent quarters, following the record winter crop harvest. Manufactured exports have been little changed over the past year.

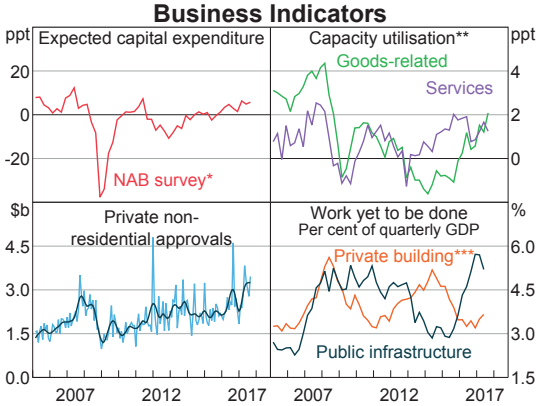
1 The Capex survey only covers about half of the non-mining business investment captured by the more comprehensive national accounts measure; it does not cover certain industries, such as some service industries, or certain types of investment, such as in software and research & development.

Graph 3.16
Non-mining Capital Expenditure*
Nominal



* Estimates are firms' expected capital expenditure; adjusted for past average differences between expected and realised spending
Sources: ABS; RBA

Graph 3.17
Business Indicators

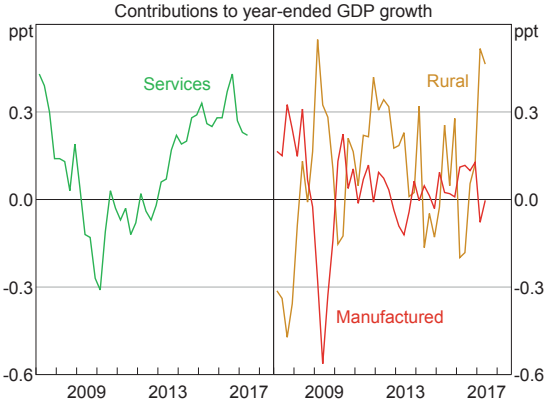


* Expectations for the year ahead; deviation from long-run average
** Deviation from long-run average; goods-related includes manufacturing, construction, wholesale and retail; services includes business and household services
*** Non-residential
Sources: ABS; NAB; RBA

Labour Market

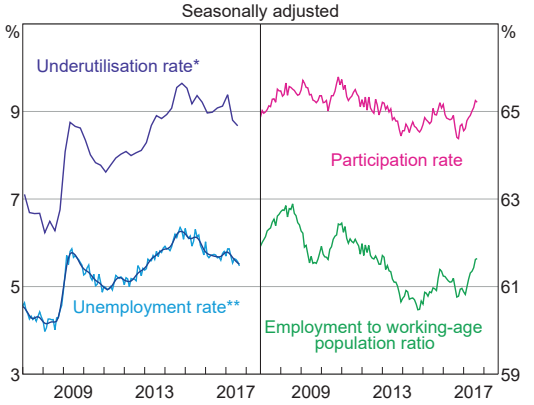
Labour market conditions have improved markedly over the past six months. Employment has grown by 3 per cent over the year and most of the increase has been in full-time employment. The participation rate has risen to its highest level since 2012; the increase over the year has been fairly broad based across all states, and most pronounced for older workers and females aged 35–44 years (Graph 3.19). The unemployment rate has declined a little over the past year to 5.5 per cent, which remains somewhat above the Bank's estimate of the rate that is consistent with full employment. A broader definition of labour market underutilisation, which captures the additional hours that underemployed people would like to work as well as hours of work sought by the unemployed, has also declined over the year. Leading indicators of labour demand, such as job advertisements and business's hiring intentions, continue to point to solid growth in employment over the next six months.

Graph 3.18
Non-mining Exports
Contributions to year-ended GDP growth



Sources: ABS; RBA

Graph 3.19
Labour Market
Seasonally adjusted

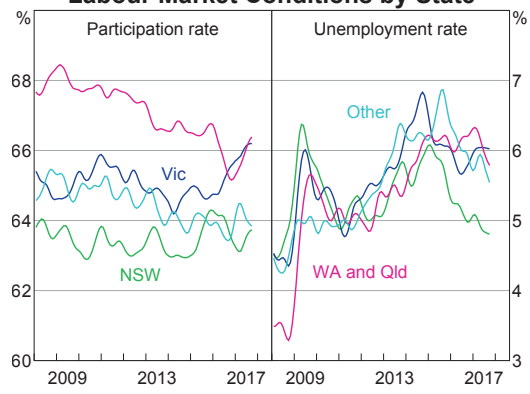


* Hours-based measure
** Trend unemployment in dark blue
Sources: ABS; RBA

The improvement in labour market conditions has been broad based across Australia. The level of employment has increased in the mining-exposed states of Western Australia and Queensland since late 2016 and the unemployment rate in Western Australia has fallen noticeably (Graph 3.20). These data suggest that the labour market adjustment following the fall in the terms of trade and mining investment over recent years has largely run its course, although wage growth in mining-related parts of the economy remains low. Part of the adjustment in Western Australia and Queensland has occurred through a slowing in both net interstate and, more significantly, net overseas immigration. A large share of people leaving Western Australia are moving to Victoria, where population growth has been the strongest of all states in recent years due to strong net inflows from both interstate and overseas (Graph 3.21). It could be the case that these recent migrants to Victoria have higher participation rates than the average population, which would partly explain the strong rise in the Victorian participation rate over recent years.

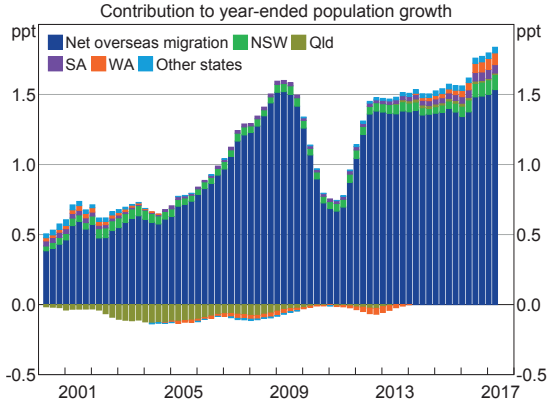
Employment growth remains strongest in the household services sector, particularly in health care and social assistance.[2] The growth in health-related employment has occurred across all states and, at the occupational level, there has been particularly strong growth in the number of jobs in nursing, aged and disabled care, as well as for other health professionals, such as physiotherapists and occupational therapists. The rollout of the National Disability Insurance Scheme over the next few years and the gradual ageing of the population should continue to boost employment in this industry. Construction employment has also risen over the past year as a result of the residential and infrastructure building occurring in the eastern states. There has been little change in employment in other goods-related industries, such as retail, mining and manufacturing, in recent years. Surveys of business's job vacancies suggest that there is continued demand for workers in health care, administration & support (which includes labour hire firms) and construction. The Bank's liaison program has heard reports of shortages of workers with specialised IT skills and workers for some specific roles related to the construction industry.

Graph 3.20
Labour Market Conditions by State



Sources: ABS; RBA

Graph 3.21
Net Migration to Victoria
Contribution to year-ended population growth



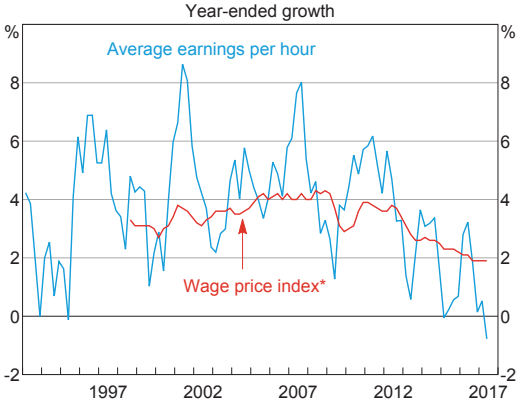
Sources: ABS; RBA

2 Analysis of the recently released ABS Experimental Labour Accounts indicates discrepancies between jobs estimates reported by businesses and households, particularly on an industry basis. This suggests that caution should be applied to the interpretation of the quarterly employment data by industry, which may be somewhat overstated or understated, depending on how people describe their industry in the Labour Force survey.

Labour Costs

Wage growth remains low across a range of measures. The wage price index (WPI) has grown at a slow but stable rate since last year, increasing by a little less than 2 per cent over the year to the June quarter (Graph 3.22). Growth in average earnings from the national accounts (AENA) – a broader but more volatile measure of earnings – has been particularly slow in the past few years and is at its weakest on a sustained basis since at least the mid 1960s. As the largest component of household income, the low growth in labour income over recent years has contributed to below-average growth in consumer spending and has been associated with low inflation.

Graph 3.22
Labour Costs
Year-ended growth



* Total pay excluding bonuses
Source: ABS

Spare capacity in the labour market continues to contribute to low wage growth. The unemployment rate remains somewhat above the Bank's estimate of the rate consistent with full employment and a considerable fraction of employees would like to work more hours.

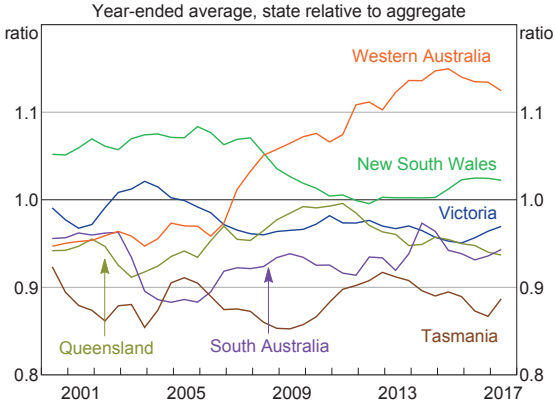
A number of other factors are potentially associated with the low level of wage growth, including a lower level of job mobility, concerns around job security, changes in relative bargaining power, trends in labour productivity and structural change in the economy associated with technological change and increased competitive pressures from the internationalisation of services trade. The Australian experience of low wage growth is common with a number of advanced economies, including some with tighter labour markets. This common experience points to similar factors weighing on wage growth across a range of countries.

The adjustment of the economy to the end of the mining investment boom and the earlier decline in the terms of trade is evident in recent wage developments. Average wage rates have been declining for several years in Western Australia and Queensland, relative to the rest of Australia, following an increase over the previous decade (Graph 3.23). Reports from the Bank's liaison program suggest that wage freezes had become increasingly common in the mining states over recent years, though there are tentative signs emerging that their frequency is declining.

The adjustment following the terms of trade boom has involved the movement of some workers from high-paying jobs in mining-related industries to similar but lower-paying jobs in the non-mining economy. For example, workers employed in mining construction may have moved to jobs in civil and residential construction. Rebalancing in the Western Australian labour market is also influencing wage outcomes in other states through an increase in net interstate migration to the eastern states, boosting the supply of workers there.

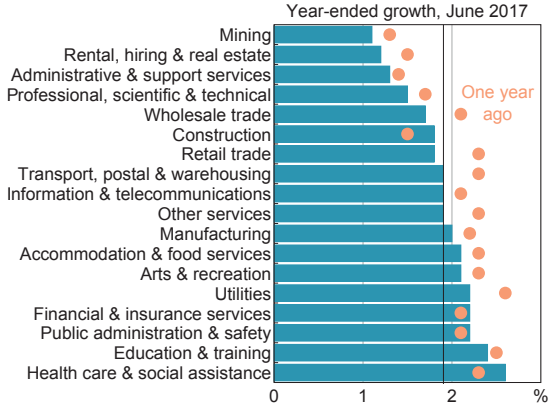
The WPI is a measure of growth in wages that is designed to be unaffected by changes in the composition of the workforce. AENA captures a broader range of labour earnings than WPI as well as the effects of changes in the composition of employment. Growth in AENA has been noticeably weaker than WPI over recent years, particularly in Western Australia and Queensland. This difference

Graph 3.23
Average Hourly Earnings*
Year-ended average, state relative to aggregate



* Average weekly earnings divided by average weekly hours worked
Sources: ABS; RBA

Graph 3.24
Wage Price Index by Industry*
Year-ended growth, June 2017

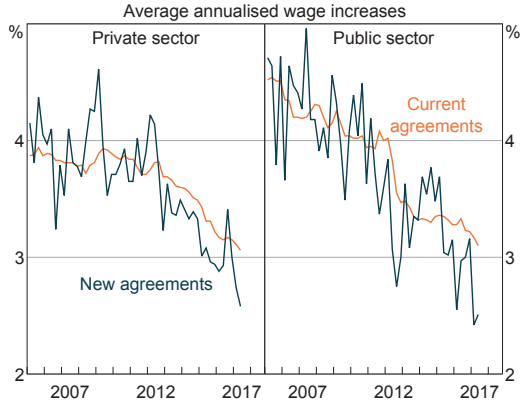


* Vertical line indicates aggregate growth
Source: ABS

isn't explained by workers shifting from higher-paying industries to lower-paying industries; rather, compositional changes within industries seem to be lowering average earnings. Over recent years, reports from the Bank's liaison program have suggested both an increase in the proportion of new employees hired on lower salaries than their predecessors and downward pressure on non-wage payments, such as allowances.

Wage growth remains relatively low across all industries and states, though some differences across industries appear to reflect trends in activity and the nature of pay-setting arrangements. Wage growth remained relatively high in education and healthcare, which have recorded the largest employment gains over the past year (Graph 3.24). These industries also have a large share of employees on collective agreements and it will take some time for the current low rate of wage growth to pass through to their stock of existing enterprise bargaining agreements; average annualised wage increases for new agreements remain below those in the stock of existing agreements (Graph 3.25). Meanwhile, wage growth remains relatively weak in the business services sector, including in professional, scientific and technical services

Graph 3.25
Enterprise Bargaining Agreements
Average annualised wage increases



Source: Department of Employment

where the largest share of employees are on individual agreements. Construction sector wage growth has picked up slightly over the past year, alongside strength in activity and employment in the industry. The Bank's liaison contacts, as well as information from business surveys, suggest that the availability of suitable labour has declined in some industries, though this only appears to have led to upward pressure on wages in select roles.

Information from the Bank's liaison suggests that private sector wage growth increased in the September quarter, and that the Fair Work

Commission's (FWC) decision to increase award wages by 3.3 per cent was a contributing factor. Around one-quarter of all employees are covered by awards and this share has increased materially over recent years.[3] Further to this, wages of close to one-fifth of employees are linked to changes in award wages through conditions specified in their collective agreements or individual arrangements, although the size and timing of the FWC decision's impact is uncertain for these employees. Beyond the impact of the FWC decision, the Bank's liaison points to a modest improvement in private sector wage growth over the year ahead.

3 See RBA (2017), 'Box C: Minimum Wage Decision', *Statement on Monetary Policy*, August, pp 42–43.

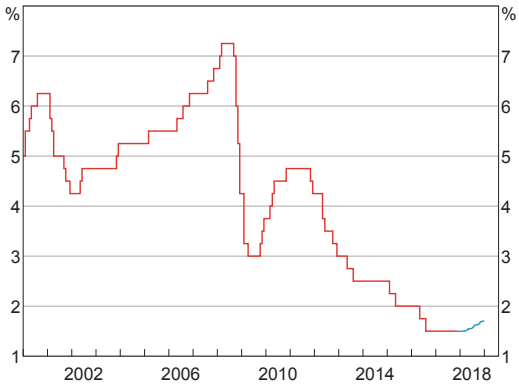
4. Domestic Financial Markets

Consistent with markets offshore, volatility in Australian financial markets remains low as do interest rates, while valuations of 'riskier' assets have increased further as investors search for yield. Financial market prices suggest that the cash rate is expected to be unchanged over the next year or so. Australian government bond yields remain at low levels, while equity prices in Australia have risen, after having been little changed since the start of the year. Banks and large businesses have been readily able to raise funding from markets, with spreads of corporate bond yields to government bonds around their lowest levels in 10 years. Business credit growth and bond issuance have both picked up after slowing around the beginning of the year. Housing credit growth has edged lower for both owner-occupiers and investors. The share of new interest-only housing loans declined sharply this year as lenders have responded to the limit on such new lending set by the Australian Prudential Regulation Authority. After increasing a bit earlier in the year, the average housing lending rate on existing loans was little changed over the past quarter, while some lenders have announced reductions to interest rates on selected products for new borrowers.

Money Markets and Bond Yields

The Reserve Bank has maintained the cash rate target at 1.50 per cent since August 2016. Market rates imply that the cash rate is expected to remain unchanged over the next year or so (Graph 4.1).

Graph 4.1
Cash Rate*



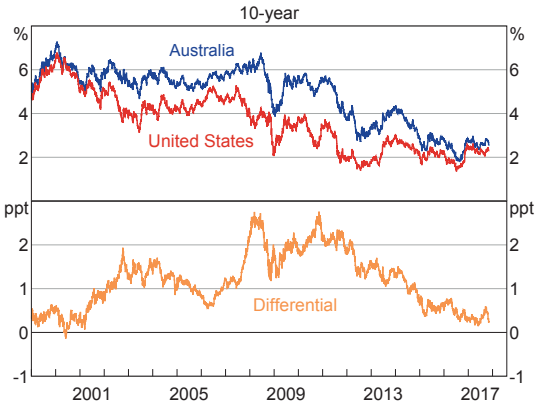
* Data from December 2017 onwards are expectations derived from interbank cash rate futures

Sources: ASX; Bloomberg

Short-term interest rates in the repurchase agreement (repo) market have increased recently and remain high relative to overnight indexed swaps (OIS) rates. This reflects, among other factors, heightened demand for secured funding from market participants, particularly non-residents. The increase in repo rates appears to be related to developments in the foreign exchange swap market, where Australian dollars can be lent against yen at a relatively high implied Australian dollar interest rate. As a result, some investors have been borrowing Australian dollars under repo to use them for foreign exchange swap transactions.

Yields on 10-year Australian Government Securities (AGS) are around the levels that prevailed at the start of the year, and the spread between 10-year AGS and US Treasury yields remains relatively narrow (Graph 4.2). Recent issuance from the Australian Office of Financial Management and state borrowing authorities has been well-received by the markets.

Graph 4.2
Government Bond Yields



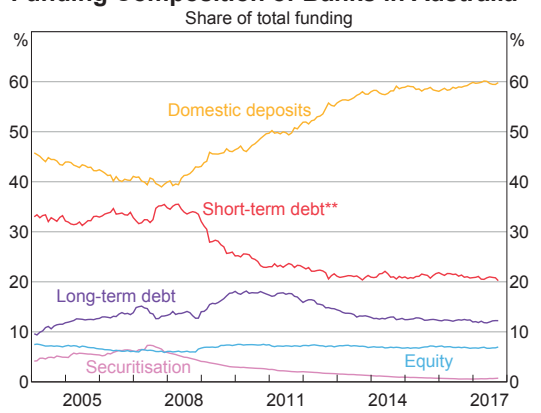
Sources: Bloomberg; RBA

Financial Intermediaries

The overall composition of bank funding was little changed in recent quarters (Graph 4.3). Growth in term deposits has slowed, as banks have lowered interest rates on these products. Banks have also increased their net bond issuance, consistent with favourable conditions in funding markets that have enabled banks to issue for longer terms and at lower cost (Graph 4.4).

Both deposits and long-term debt are considered to be relatively stable sources of funding for the purposes of the Net Stable Funding Ratio (NSFR) requirement, which will take effect from the beginning of 2018. Under the NSFR, banks are required to hold a minimum level of stable funding for their assets. The major banks have reported that they are comfortably above the regulatory minimum for the NSFR.

Graph 4.3
Funding Composition of Banks in Australia*

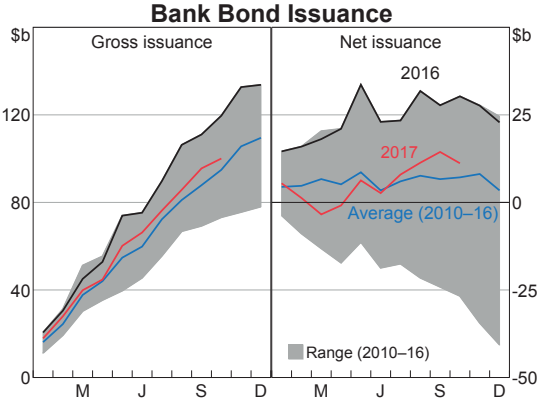


* Adjusted for movements in foreign exchange rates; tenor of debt is estimated on a residual maturity basis

** Includes deposits and intragroup funding from non-residents

Sources: APRA; RBA; Standard & Poor's

Graph 4.4
Bank Bond Issuance

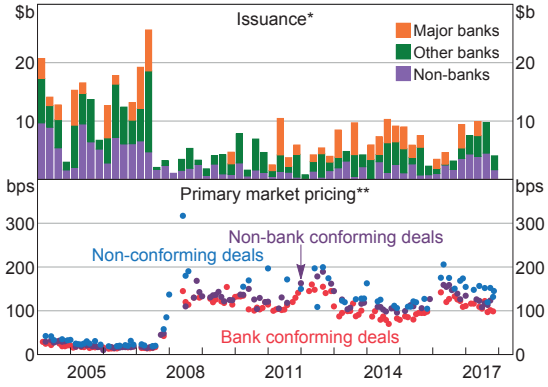


Source: RBA

Issuance of residential mortgage-backed securities (RMBS) in 2017 has been higher than in recent years. Most RMBS have been issued by smaller banks and non-bank originators (Graph 4.5). Primary market spreads of RMBS to the BBSW benchmark rate have narrowed somewhat over the past year. Narrower spreads combined with an increase in issuance is consistent with growing investor demand in the RMBS market. In liaison, some smaller banks indicated that they intend to maintain a higher level of issuance of RMBS in the near term to boost their capital ratios, diversify their funding base and take advantage of stronger demand for RMBS. A number of smaller banks also noted that the downgrades of their credit ratings in mid 2017 had made RMBS slightly more attractive as a source of funding compared with unsecured bank debt.

Issuance of hybrid securities picked up slightly over recent months as banks have replaced maturing hybrid issues; hybrid securities

Graph 4.5
Australian RMBS



* Latest quarter issuance to date
** Face-value weighted monthly average of the primary market spread to bank bill swap rate for AAA rated notes

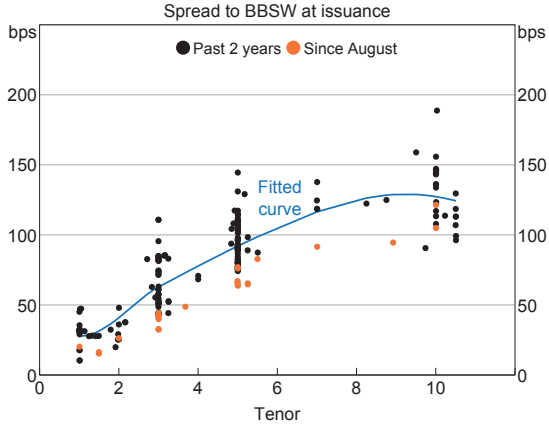
Source: RBA

remain stable as a share of funding. Hybrid securities have both equity and debt features and can be used to help fulfil regulatory capital requirements. Recent issuance has included large Basel III-compliant Additional Tier 1 and Tier 2 deals offshore by two major banks.

As outlined in the October *Financial Stability Review*, APRA announced increases in required capital ratios in July in order for the Australian banking sector to be considered 'unquestionably strong'. APRA has reported that the major banks will need to increase their capital to meet new benchmarks, which will take effect from January 2020. APRA estimates that the major banks should be able to generate this additional capital by retaining earnings, without significantly altering their plans for asset growth or dividend payments, and without undertaking further equity raisings. In recent profit announcements, the major banks reported that their capital ratios had generally increased and in all cases were above 10 per cent. Most other authorised deposit-taking institutions (ADIs) already hold well in excess of the new capital benchmarks.

Debt funding costs have been stable in recent months, after declining a little earlier this year due to lower interest rates for both deposits and debt securities. The reduction in deposit rates largely reflected the maturity of term deposits that were entered into at higher interest rates last year in combination with lower fixed rates on new term deposits. The cost of major banks' outstanding long-term wholesale debt funding is expected to continue to decline, with the cost of new long-term debt below that of outstanding debt. Indeed, bank bond spreads at issuance are around their lowest level in the past two years (Graph 4.6). The cost of hybrid issuance has also fallen this year.

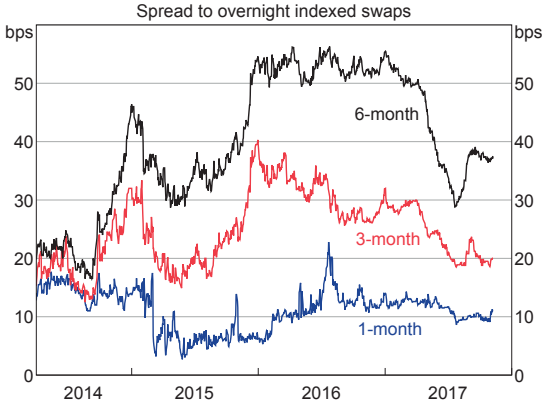
Graph 4.6
Major Bank Primary Market Bond Pricing
Spread to BBSW at issuance



Source: RBA

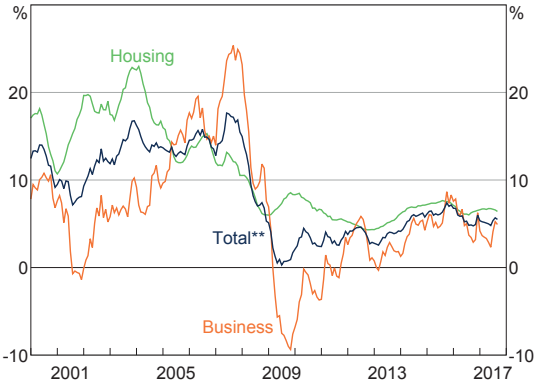
The cost of short-term wholesale funding has also declined over the year to date, although this has been partly reversed over the past few months (Graph 4.7). The decline in bank bill rates relative to OIS earlier in the year reflected lower issuance. This was associated with a number of factors that made it relatively less attractive to issue bank bills in the domestic market, including a decline in the cost of short-term offshore funding and strong growth in deposits. Since mid 2017, 6-month bank bill rates have risen and 3-month bank bill rates have stabilised as the factors lowering rates in the first half of the year have partially unwound.

Graph 4.7
Bank Bill Spreads
Spread to overnight indexed swaps



Sources: ASX; Tullett Prebon (Australia)

Graph 4.8
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

The implied spread between lending rates and debt funding costs for the major banks is estimated to have been relatively stable in recent months. This follows an increase in the first half of the year in response to a small increase in the average housing interest rate and slightly lower debt funding costs.

Financial Aggregates

Total credit growth has remained steady as growth in business credit has picked up since earlier in the year, while housing credit growth has edged lower (Graph 4.8). Broad money has grown a little faster than total credit over the past year, although recently it has slowed a little as deposit growth has slowed (Table 4.1).

Household Financing

Housing credit growth has edged lower in six-month annualised terms, with a notable decline in investor credit growth this year and a slowing in owner-occupier credit growth more recently (Graph 4.9). This follows an increase in owner-occupier credit growth earlier in the year, largely concentrated in NSW and Victoria, while the decline in investor credit growth has been broadly based (Graph 4.10).

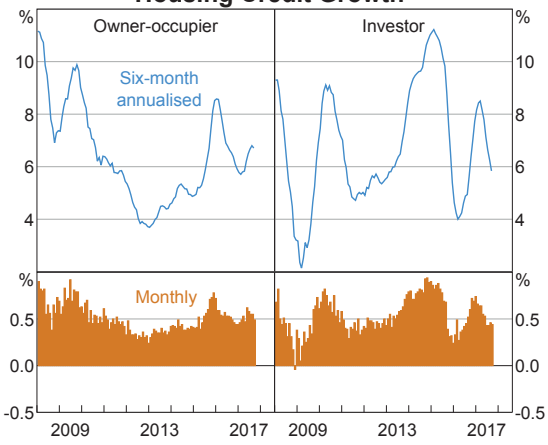
The share of housing loan approvals with interest-only payments has declined sharply, averaging less than 20 per cent in the September quarter, down from around 35 per cent in 2016. This share

Table 4.1: Financial Aggregates
Percentage change[(a)]

	Three-month ended		Year-ended
	June 2017	Sept 2017	Sept 2017
Total credit	1.5	1.2	5.4
– Housing	1.6	1.5	6.6
– Owner-occupier	1.7	1.6	6.3
– Investor	1.5	1.3	7.2
– Personal	–0.2	–0.3	–1.0
– Business	1.5	1.0	4.3
Broad money	2.1	0.4	6.8

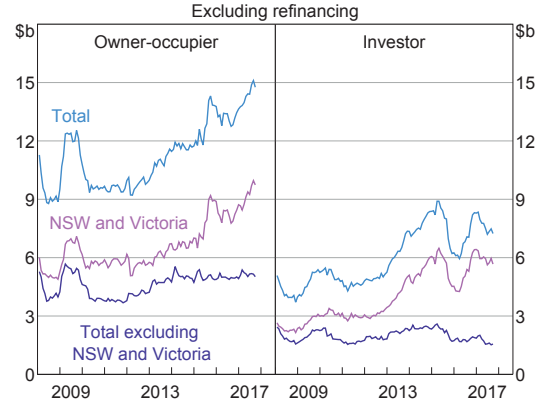
(a) Growth rates are break adjusted and seasonally adjusted
Sources: APRA; RBA

Graph 4.9
Housing Credit Growth*



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

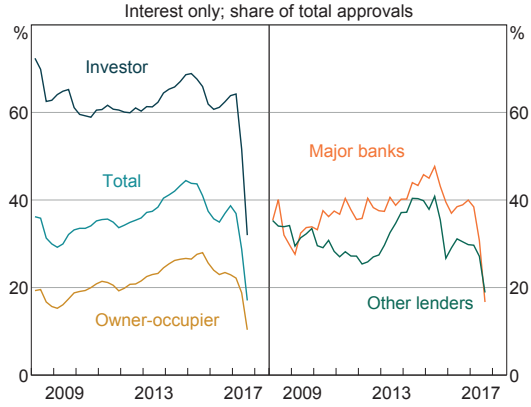
Graph 4.10
Housing Loan Approvals
Excluding refinancing



Sources: APRA; RBA

has declined most notably for investors, which, however, remains higher than the share for owner-occupiers (Graph 4.11). In addition, banks have reported that some existing borrowers are continuing to switch from interest-only to principal-and-interest loans in response to the interest rate differential that now exists between these loan products. With many lenders below APRA's limit of 30 per cent for the interest-only share of new lending, some lenders have announced reductions in interest rates on fixed-rate loans with interest-only repayments.

Graph 4.11
Housing Loan Approvals
Interest only; share of total approvals

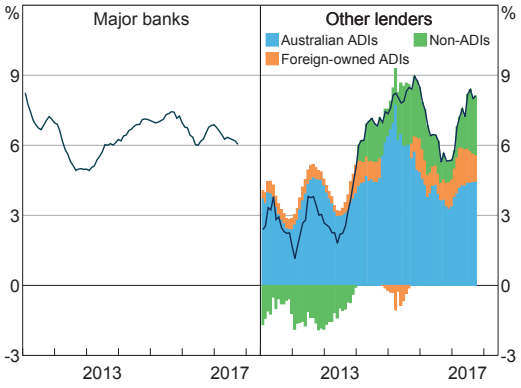


Sources: APRA; RBA

Slower growth in housing lending by the major banks over the past six months was largely offset by stronger growth from other lenders (Graph 4.12). This partly reflected the need for the major banks to reduce their interest-only lending by more than the other lenders in order to comply with APRA's limit. One factor constraining credit growth for some smaller lenders is their capacity to process an increased volume of applications in a timely manner. Non-ADI lenders have also accounted for a larger share of housing credit growth in recent years, although these lenders are estimated to account for less than 5 per cent of the stock of outstanding housing credit. Proposed changes to APRA powers introduced to the Australian Parliament in October will enable more comprehensive measurement of the provision of credit by non-ADIs.

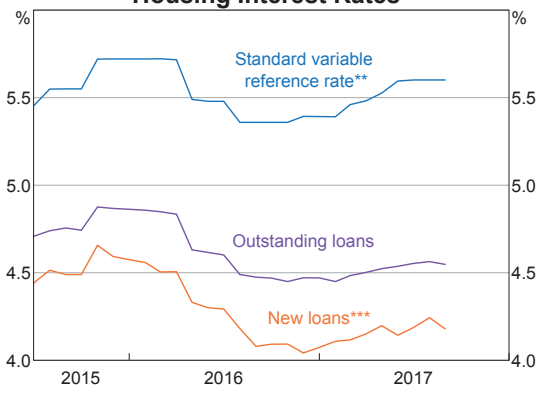
There has been faster growth in the supply of new dwellings in recent years. Accordingly, lending approvals to households for the purposes of building or purchasing a new dwelling have continued to grow this year, while lending approvals for purchasing or refinancing existing dwellings have been steady.

Graph 4.12
Housing Credit Growth*
Six-month annualised



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

Graph 4.13
Housing Interest Rates*



* Outstanding and new loans series include variable and fixed interest rate loans; data to September 2017
** Average across major banks' rates
*** All loans originated over the past three months
Sources: RBA; Securitisation database

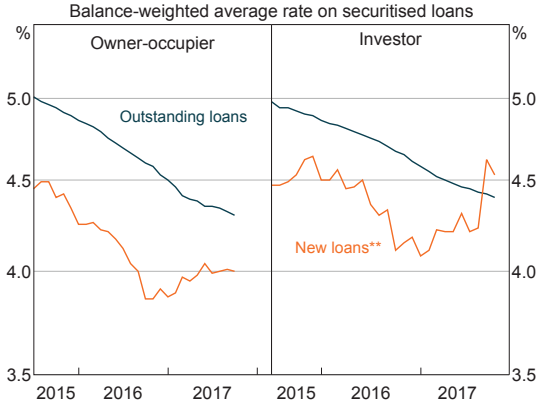
Housing lending rates

Standard variable reference rates (SVR) on housing loans have been stable in recent months. This follows increases for investors and interest-only borrowers earlier in the year and declines for owner-occupiers with principal-and-interest loans. Data on securitised mortgages reported to the RBA indicate that the average rate for outstanding housing loans has risen by around 10 basis points since November 2016 (Graph 4.13; Table 4.2). This increase in outstanding housing interest rates is noticeably less than the increase in SVRs over that period.[1]

The increase in the average rate on all loans is less than the rise in SVRs for several reasons. First, interest rates on new variable-rate loans are, on average, below those on outstanding loans. This gap exists because the discounts that lenders apply to the SVRs have tended to increase over time. For example, the increases in interest-only and investor SVRs this year have been partly offset by larger discounts (Table 4.3).

Second, the average interest rate on all fixed-rate loans has fallen by around 20 basis points over the year, since the interest rates on most new fixed-rate loans are below those on existing and maturing loans (Graph 4.14). In addition, some lenders have recently announced reductions in interest rates on fixed-rate loans for investors.

Graph 4.14
Fixed Housing Interest Rates*
Balance-weighted average rate on securitised loans



* For principal-and-interest and interest-only loans; data to September 2017
** Fixed-rate loans originated over the past three months
Sources: RBA; Securitisation database

1 The Securitisation Dataset covers a significant share of the market for housing loans and provides useful indicators of developments in home lending, although loans in the dataset may have different characteristics from those not covered by the dataset. See Kent C (2017), 'Some Innovative Mortgage Data', Speech at Moody's Analytics Australia Conference 2017, Sydney, 14 August. Available at: <https://www.rba.gov.au/speeches/2017/sp-ag-2017-08-14.html>.

Table 4.2: Intermediaries' Fixed and Variable Lending Rates

	Interest rate Per cent	Change since November 2016 Basis points
Housing loans[a]		
– Variable principal-and-interest rate		
– Owner-occupier	4.33	–7
– Investor	4.77	17
– Variable interest-only rate		
– Owner-occupier	4.76	45
– Investor	5.11	62
– Fixed rate		
– Owner-occupier	4.30	–23
– Investor	4.40	–21
– Average outstanding rate	4.55	10
Personal loans		
– Variable rate[b]	11.63	14
Small business		
– Term loans variable rate[e]	6.43	4
– Overdraft variable rate[e]	7.31	4
– Fixed rate[c][e]	5.29	–1
– Average outstanding rate[d]	5.28	–7
Large business		
Average outstanding rate[d]	3.39	–10

(a) Average rates from Securitisation Dataset, data to September 2017
(b) Weighted average of advertised variable rate products
(c) Average of the major banks' 3-year fixed rates
(d) RBA estimates
(e) Residentially secured, average of the major banks' advertised rates
Sources: ABS; APRA; Securitisation System; RBA

Table 4.3: Average Discount on New Loans[a]

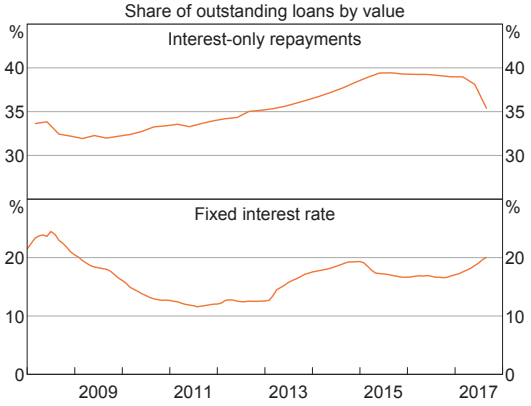
Relative to major banks' standard variable reference rates; percentage points

	2015	2016	2017
Owner-occupier			
– Principal and interest	1.0	1.2	1.2
– Interest only	1.1	1.2	1.3
Investor			
– Principal and interest	1.1	1.2	1.3
– Interest only	1.1	1.2	1.4

(a) RBA estimate
Sources: Banks' websites; RBA; Securitisation Database

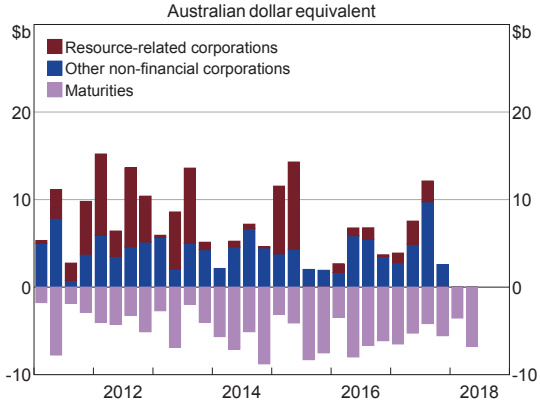
Third, some existing borrowers have switched their repayment terms from interest-only to principal-and-interest to obtain lower interest rates (Graph 4.15). In addition, an increasing share of borrowers are choosing fixed-rate loans, for which interest rates have continued to decline.

Graph 4.15
Loan Characteristics
Share of outstanding loans by value



Sources: APRA; RBA

Graph 4.17
Australian Corporate Bond Issuance
Australian dollar equivalent



Source: RBA

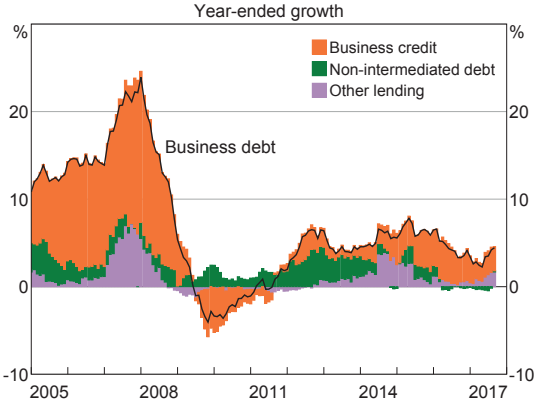
Business Financing

Growth in a broad measure of business debt picked up in the past six months, reflecting higher growth in business credit, corporate bond issuance and syndicated lending by foreign institutions (Table 4.1; Graph 4.16). The increase in corporate bond issuance has been driven by infrastructure and utilities companies (Graph 4.17). In contrast, net equity raisings have been relatively subdued this year.

The growth in business credit over the course of this year reflects ongoing strength in lending by foreign banks. The major banks' share of new business loan approvals remains low relative to recent years, reflecting both foreign competition and efforts by some major banks to reduce exposures to selected industries and larger companies. Business lending by Chinese banks continues to grow rapidly, with the share of this lending in total business credit now more than 3 per cent, up from around 1 per cent in 2012.

Demand for new lending remains mixed across industries (Graph 4.18). There has been a pick-up in loan approvals for finance and insurance

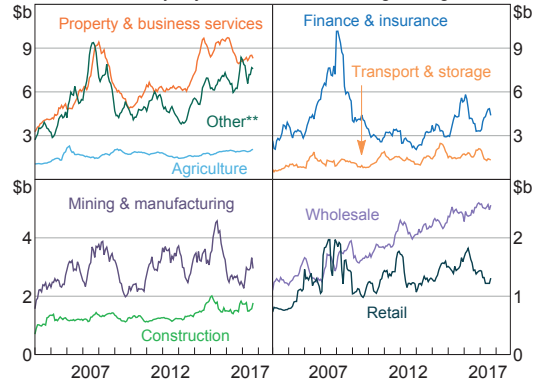
Graph 4.16
Business Debt*
Year-ended growth



* Break adjusted, non-seasonally adjusted

Sources: APRA; Bloomberg; RBA; Thomson Reuters

Graph 4.18
Business Loan Approvals by Industry*
Seasonally adjusted, six-month moving average



* Loan approvals are gross of refinancing

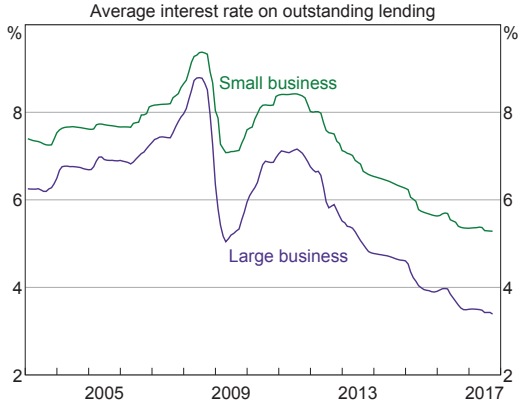
** Includes health and recreational services, government and defence, and telecommunications

Sources: APRA; RBA

and other service industries such as education, health and tourism. Meanwhile, loan approvals for the retail trade sector have declined, with many lenders adopting a cautious outlook for traditional bricks-and-mortar retailers. While some lenders have reported concerns over property valuations, property lending has increased in recent months, including for residential development.

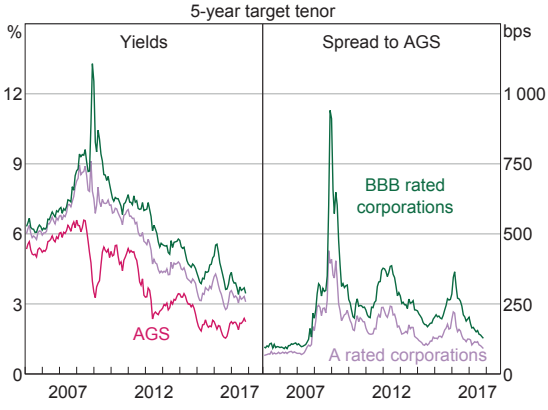
Business lending rates on outstanding loans to small and large businesses have decreased slightly this year (Graph 4.19). Also, corporate bond spreads (relative to yields on AGS) have continued to narrow, with this trend broad based across industries and credit-rating bands (Graph 4.20).

Graph 4.19
Average Business Lending Rates*
Average interest rate on outstanding lending



* RBA estimates
Sources: APRA; RBA

Graph 4.20
Australian Corporate Bond Pricing
5-year target tenor

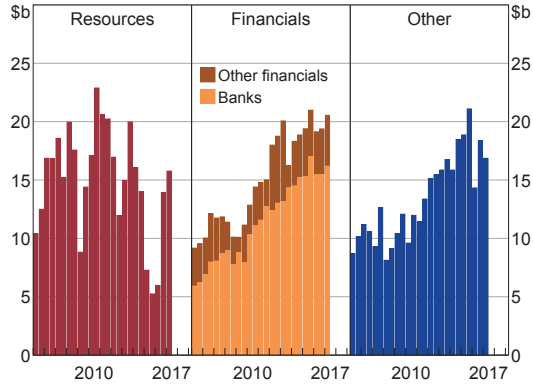


Sources: Bloomberg; RBA; S&P Capital IQ

Corporate Profits and Balance Sheets

The underlying profits of ASX 200 companies rose in the first half of 2017, but were slightly below consensus expectations (Graph 4.21). The increase was largely driven by resources sector profits, which were boosted by higher commodity prices. The large mining companies reported that they would use these higher earnings to increase their dividends and reduce their debt.

Graph 4.21
ASX 200 Underlying Profits
Semiannual



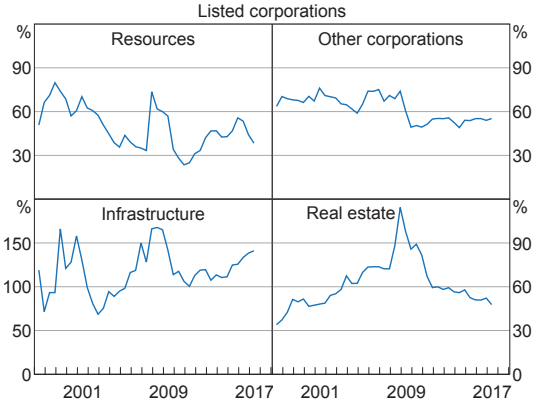
Sources: Bloomberg; Morningstar; RBA

The financial sector also reported an increase in profits, with particularly strong earnings results from non-banks. Earnings in the banking sector were supported by higher net interest income, slow growth in expenses and a decline in charges for bad and doubtful debts. Growth in net interest income reflected growth in average interest-earning assets and a rise in the net interest margin.

Aggregate gearing for listed non-financial corporations continued to decline, reflecting a reduction in debt. Gearing in the resources sector declined, as higher cash flows in the mining sector were used to pay down debt (Graph 4.22). Gearing in the real estate sector

also declined, with property revaluation gains boosting assets. Conversely, gearing in the infrastructure sector continued to increase.

Graph 4.22
Gearing Ratios by Sector*
Listed corporations



* Ratio of book value gross debt to equity; excludes foreign-domiciled companies listed on the ASX.

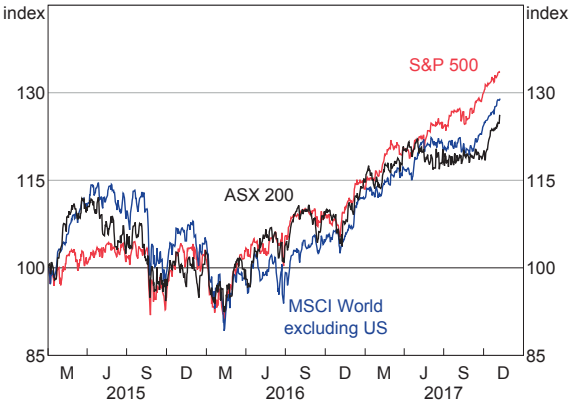
Sources: Bloomberg; Morningstar; RBA

Equity Markets

After having been little changed since the start of the year, Australian equity prices have recently increased alongside higher equity prices in global markets (Graph 4.23). This increase has been broad based across sectors. Resources sector share prices have increased in recent months, notwithstanding lower iron ore prices.

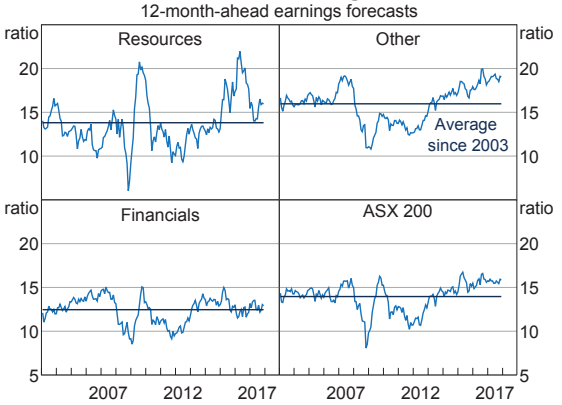
Analysts' earnings expectations for ASX 200 companies have been revised higher, particularly in the resources sector. Resources sector valuations (as measured by forward price-earnings ratios) have continued to track around their long-term average (Graph 4.24). Valuations across the other sectors have been little changed.

Graph 4.23
Share Price Accumulation Indices
End December 2014 = 100



Sources: MSCI; Thomson Reuters

Graph 4.24
ASX 200 Price-earnings Ratios
12-month-ahead earnings forecasts



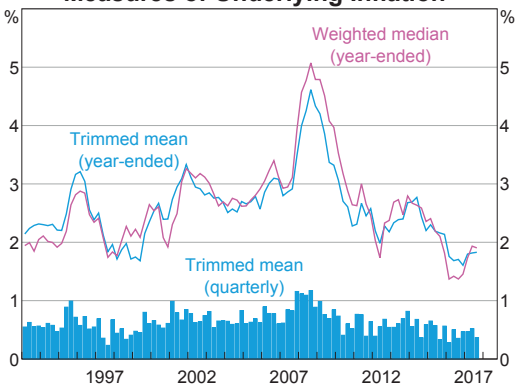
Source: Thomson Reuters

5. Inflation

Inflation has increased over the past year, but remains low. The inflation outcomes over the past couple of years reflect a number of factors including low wage growth associated with spare capacity in the labour market, heightened competitive pressures in the retail sector and downward pressure on rental growth. Working in the opposite direction, there have been large increases in tobacco and utilities prices over the year, while the ongoing activity in residential construction continues to add to inflation in the cost of building a new dwelling.

The trimmed mean measure of inflation declined a little in the September quarter to 0.4 per cent, to be 1.8 per cent over the year (Table 5.1; Graph 5.1) Headline inflation was 0.4 per cent (seasonally adjusted) in the quarter, but was little changed over the year at 1.8 per cent

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

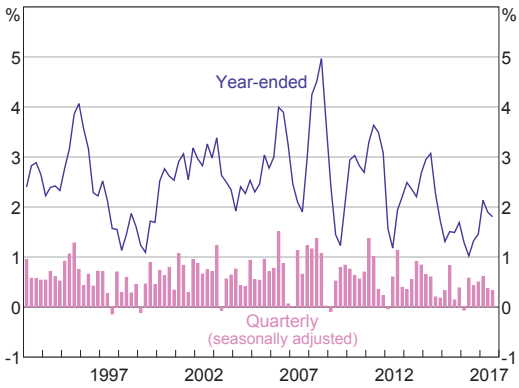
(Graph 5.2). Both measures were a little lower than expected at the time of the August *Statement*. This reflected unanticipated falls in the

Table 5.1: Measures of Consumer Price Inflation
Per cent

	Quarterly[a]		Year-ended[b]	
	September quarter 2017	June quarter 2017	September quarter 2017	June quarter 2017
Consumer Price Index	0.6	0.2	1.8	1.9
Seasonally adjusted CPI	0.4	0.4		
– Tradables	–0.8	–0.4	–0.9	0.4
– Tradables (excl volatile items)[c]	0.0	–0.2	–1.0	–0.9
– Non-tradables	0.9	0.8	3.2	2.7
Selected underlying measures				
Trimmed mean	0.4	0.5	1.8	1.8
Weighted median	0.3	0.6	1.9	1.9
CPI excl volatile items[c]	0.6	0.5	1.9	1.5

(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

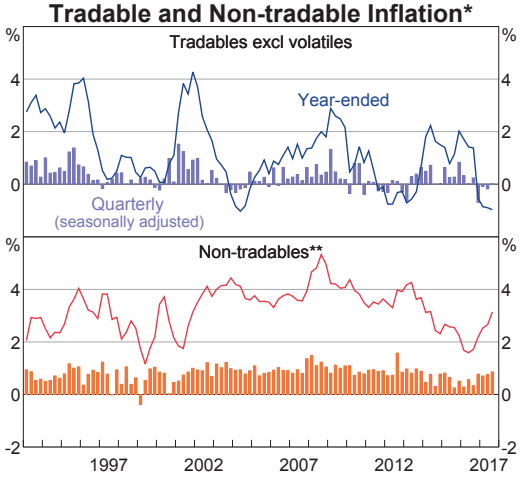
Graph 5.2
Consumer Price Inflation*



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

Sources: ABS; RBA

Graph 5.3
Tradable and Non-tradable Inflation*

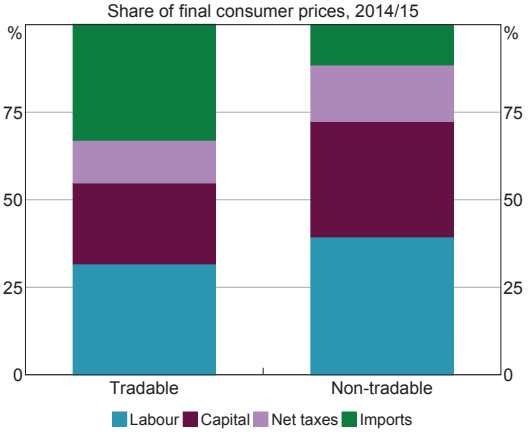


* Adjusted for the tax changes of 1999–2000

** Excludes interest charges and deposit & loan facilities

Sources: ABS; RBA

Graph 5.4
Input Structure by Primary Input*
Share of final consumer prices, 2014/15



* ABS tradable and non-tradable classification as at December quarter 2016

Sources: ABS; RBA

prices of volatile items such as fruit & vegetables and fuel in the quarter, while rents and retail inflation were also a little weaker than expected. Overall, the data did not materially change the assessment of pricing pressures in the economy. The December quarter release of the CPI will include updated weights for the individual goods and services in the index (see 'Box D: Updated Weights for the Consumer Price Index').

Over the past year, non-tradable inflation has increased, largely as a result of increases in the tobacco excise and utility prices (Graph 5.3). Rising new dwelling costs have also contributed. Inflation in other non-tradable goods and services has been more muted, reflecting low rental growth and subdued growth in labour costs, which account for around two-fifths of final non-tradable prices (Graph 5.4). In particular, labour costs are a large share of final prices for administered prices (excluding utilities) and market services, which have experienced lower-than-average inflation (Graph 5.5). Joint analysis of the micro-level CPI data by the Australian Bureau of Statistics and the Reserve Bank indicates that the average size of price changes for non-tradables has declined since 2013, alongside the decline in wage growth over that period.[1]

Higher electricity and gas prices boosted non-tradable inflation in the September quarter and over the year because energy retailers in most of the eastern states passed on large

1 For further information, see Sutton (2017), 'Feature Article: The Average Size and Proportion of Price Changes in the CPI', *Consumer Price Index, Australia*, September.

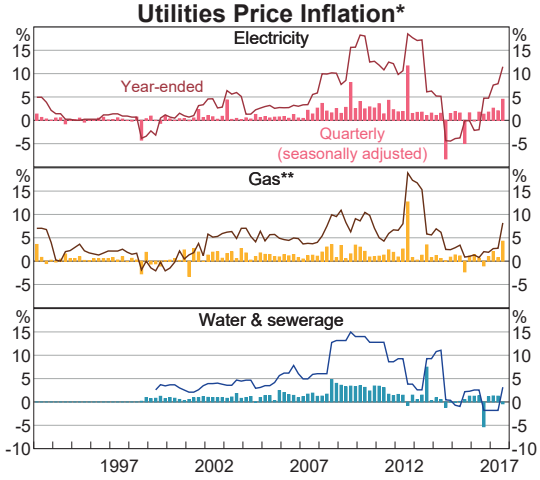
Graph 5.5
Market Services Inflation

* Includes household services, meals out & take-away and insurance & financial services; adjusted for the tax changes of 1999–2000
** Non-farm; moved forward by four quarters
Sources: ABS; RBA

increases in wholesale electricity and gas prices (Graph 5.6). The increases in wholesale prices were primarily due to supply constraints following the closure of a few large coal-fired power plants and uncertainty that had dampened investment in generation capacity, as well as increasing demand for gas to meet liquefied natural gas export demand. For the measurement of electricity and gas inflation, the ABS captures both standing offers and market offers. Standing offers are contracts characterised by infrequent but regular price changes, with terms and conditions that are regulated by law. Market offers are non-standard contracts agreed to between an individual and an energy retailer. In the September quarter, market offer rates increased by less than standing offer rates in some states, in part due to competition between energy retailers. Utilities account for around 2 per cent of businesses costs, although these estimates vary by industry. Liaison reports that many businesses have chosen to absorb the price increases in lower margins to date, which suggests the pass-through of higher energy prices to other prices has so far been limited.

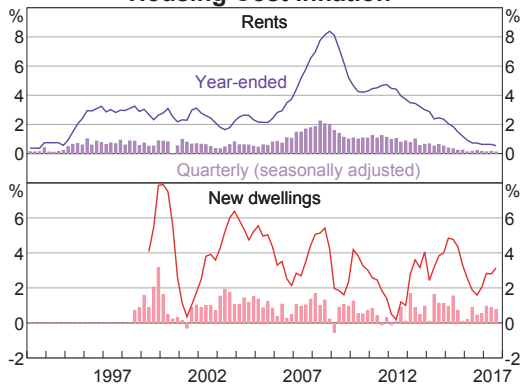
New dwelling cost inflation rose over the year, although trends vary across Australia consistent with differences in the level of residential construction activity (Graph 5.7). The cost of building a new dwelling has fallen in Perth over the year, but has risen in Melbourne and Sydney alongside strong activity in residential construction. The cost of constructing a new house has risen faster than the cost of constructing a new apartment, despite the large volume of apartment development that is currently underway. This could be due to the

Graph 5.6
Utilities Price Inflation*



* Adjusted for the tax changes of 1999–2000
** Includes other household fuels
Sources: ABS; RBA

Graph 5.7
Housing Cost Inflation*



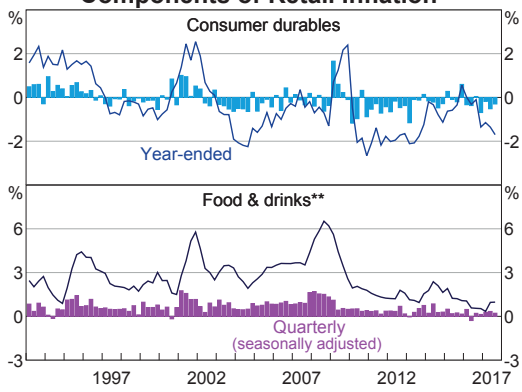
* Adjusted for the tax changes of 1999–2000
Sources: ABS; RBA

larger productivity improvements and spare capacity in the construction of office property, which uses similar materials and labour inputs to apartments. Information from the Bank's liaison program suggests that higher utilities prices have contributed to cost pressures for some building materials. Liaison contacts have also reported continued shortages in selected construction skills in some of the eastern states, though there is little evidence to date of increased wage pressures in the construction industry more broadly.

Growth in rents moved lower in the quarter to be at its lowest year-ended rate since the mid 1990s. Conditions vary across cities, reflecting differences in the recent additions to the stock of rental housing, population growth and general economic conditions. Rent inflation has risen a little in Melbourne over the year in line with a decline in the vacancy rate, as strong population growth has absorbed the substantial additions to the dwelling stock. Meanwhile, rents are falling in Perth and, to a lesser extent, Brisbane. Consistent with this, the micro-level CPI data show that nationwide a larger proportion of rents are declining than at any point since at least 2001. Over the next few years, rent inflation is expected to stabilise, but remain well below average, as the additions to the dwelling stock get absorbed by population growth and economic conditions strengthen.

The prices of tradable items have declined over the year. Excluding volatiles, tradables inflation is at its lowest level since the mid 2000s. Final prices of tradable items have a large imported share, so world market prices and movements in the exchange rate are important drivers of these price changes (Graph 5.4). The 8 per cent appreciation of the import-weighted exchange rate over the past two years has assisted in containing cost pressures. However, domestic costs such as labour costs also influence tradable prices. Prices of retail items, which make up 90 per cent of the tradables basket (excluding volatiles) have been dampened by increased competition among retailers, partly in response to new entrants (Graph 5.8). Micro-level food price data indicate that in recent years, retailers have been lowering prices on a larger proportion of their products, but that these reductions in prices have been relatively small. Similar data on clothing prices suggest that seasonal variation in prices has increased substantially, as the average size of product price increases and decreases has more than doubled over the past 15 years.

Graph 5.8
Components of Retail Inflation*

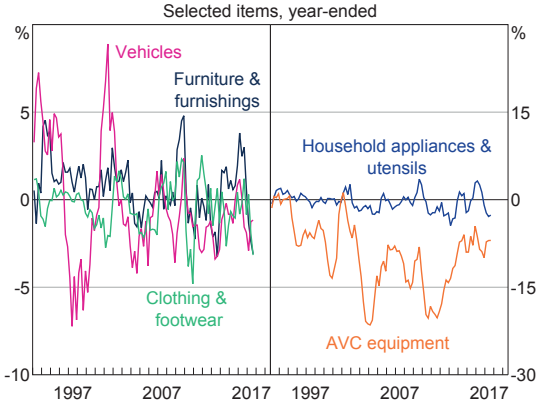


* Adjusted for the tax changes of 1999–2000
** Includes alcohol; excludes fruit and vegetables
Sources: ABS; RBA

Price declines in consumer durables have been broad based (Graph 5.9). Prolonged discounting has been a strategy employed by retailers to retain market share in an environment of below-average growth in discretionary spending on goods and increased competition from new entrants. Retailers also continue their efforts to contain costs, such as reducing their energy usage and using technology to increase efficiency. The decline in consumer durable prices has been a long-term phenomenon occurring across many countries; advances in technology, and growth in online shopping have all contributed to increased competition

Graph 5.9
Consumer Durables Inflation*

Selected items, year-ended



* Adjusted for the tax changes of 1999–2000

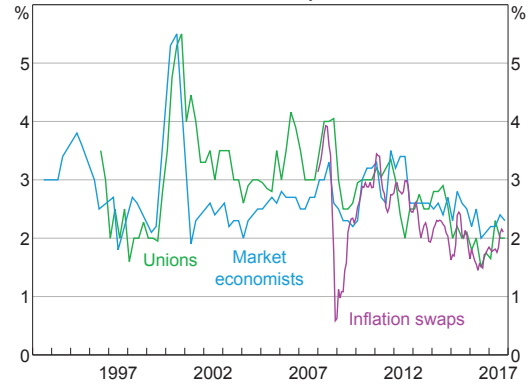
Sources: ABS; RBA

between retailers. The arrival of new foreign retailers could be an important influence on consumer durable prices over the next few years.

Measures of inflation expectations remain low, although most measures are consistent with the inflation target. Short-term inflation expectations have increased over the past year (Graph 5.10). Long-run Consensus expectations were unchanged at 2.5 per cent in October, consistent with other measures of long-term inflation expectations (Graph 5.11).

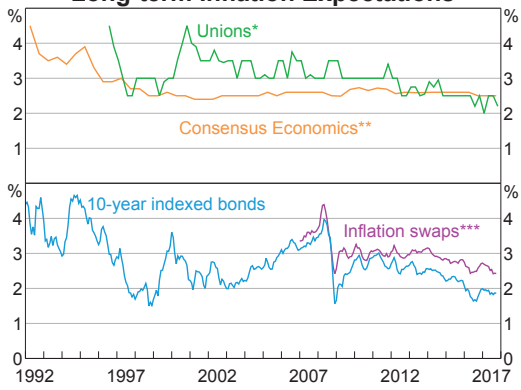
Graph 5.10
Short-term Inflation Expectations

Over the next year



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

Graph 5.11
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

Box D

Updated Weights for the Consumer Price Index

The December quarter 2017 Consumer Price Index (CPI) release will include updated weights for the individual goods and services in the index. It is necessary to update the weights periodically to reflect changes in household consumption patterns. The previous update to the CPI weights occurred in 2011. The Australian Bureau of Statistics (ABS) has recently released a paper that provides the updated weights that will be used in the December quarter release.[1] The key changes and the implications for the Bank's assessment of inflation are outlined below.

Changes to the Weighting Scheme

The CPI aggregates the prices of around 1000 items into a single index, which is designed to measure changes in the price of the average basket of goods and services acquired by households in capital cities. Each individual item is categorised into one of around 90 expenditure classes and then into 11 expenditure groups. The weights of the items in the CPI are largely derived from the ABS' Household Expenditure Survey (HES), which is conducted on a 5- or 6-yearly basis. The new weights are based on the survey conducted in 2015/16.

The CPI is a fixed-quantities Laspeyres-type index, which assumes that in the short run consumers do not adjust the quantities of goods and services that they purchase. The weight of each item is fixed in a base period at its expenditure share in the updated HES data. From the base period onwards, the effective weights of components change in line with relative price movements but do not change to reflect changes in the quantity of each item consumed. For example, the effective weight of audio, visual & computing (AVC) equipment in the CPI tends to decline in the years following a reweighting because AVC equipment prices have fallen relative to other goods. Conversely, the effective weight of tobacco has risen since the previous reweighting, as tobacco prices have increased faster than those for other goods.

In practice, however, households regularly adjust the quantities of goods and services that they consume, reflecting changes in preferences, household incomes and relative prices. As a result, the effective weight of an item in the CPI can deviate from the item's actual share in household expenditure until the next time that the CPI index is reweighted using updated HES data. Importantly, households tend to buy more of goods and services that have become relatively cheaper over time, which means that Laspeyres-type indexes like the CPI suffer from positive 'substitution bias'. This can lead to inflation being overstated when the expenditure weights are out of date.

Table D1 compares the expenditure weights of the 16th series CPI and the new 17th series CPI. Expenditure on housing – which includes rents, the cost of building new dwellings, utilities and maintenance costs – has the largest weight in both the new index and the previous index, accounting for over 20 per cent of the CPI basket. Food and non-alcoholic beverages account for around 16 per cent of household expenditure,

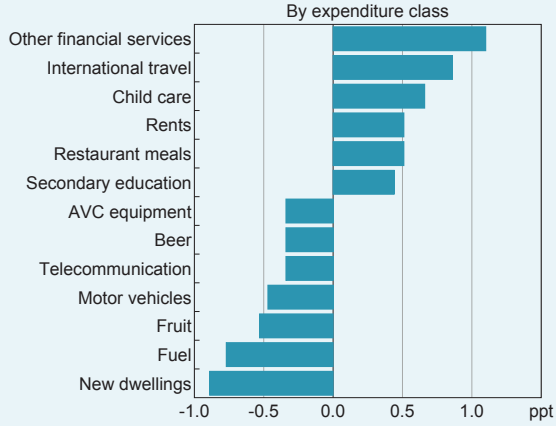
1 ABS (2017), 'Information Paper: Introduction of the 17th Series Australian Consumer Price Index', November.

while transport and recreation & culture account for a further 10 and 13 per cent respectively.

The changes in the base weights of expenditure groups between the 16th and 17th series are generally smaller than the changes that occurred when the index was reweighted in 2011.
The largest change in expenditure group weights in the 17th series is a decline in the weight of transport by 1.2 percentage points (Table D1), reflecting lower prices for both automotive fuel and motor vehicles (Graph D1). Meanwhile, the weight of education in the 17th series CPI is 1.1 percentage points higher. This increase was fairly broadly based across all types of education, and was driven by both higher costs and larger student numbers. The weight of childcare in average household expenditure also increased. There has been a further increase in spending on certain types of goods and services as incomes rise, including international travel and eating out. The weight of rents in the CPI has increased since 2011 because the share of people renting has increased. Meanwhile the weight of new dwelling purchases by owner-occupiers has declined, because an increase in the number of purchases has been offset by an increase in the share of attached dwellings, which are typically cheaper than houses.

The CPI weights are based on average expenditure behaviour. Expenditure patterns do, however, differ significantly between different households. For instance, lower-income households spend a larger proportion of their

Graph D1
Largest Changes in Base Weight*
By expenditure class



* 17th series base weight less 16th series base weight
Sources: ABS; RBA

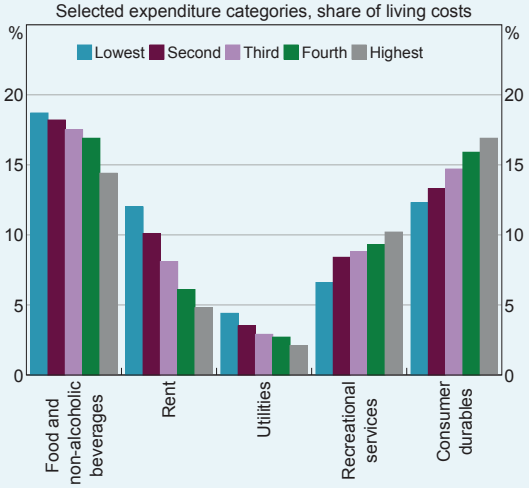
Table D1: Consumer Price Index – Base Period Expenditure Weights

	Per cent	
Expenditure Group	16th series (2011)	17th series (2017)
Housing	22.3	22.7
Food & non-alcoholic beverages	16.8	16.1
Recreation & culture	12.6	12.7
Transport	11.6	10.3
Furnishings, household equipment and services	9.1	9.4
Alcohol & tobacco	7.1	7.1
Insurance & financial services	5.1	5.8
Health	5.3	5.4
Education	3.2	4.3
Clothing & footwear	4.0	3.6
Communication	3.1	2.7
Total	**100.0**	**100.0**

Source: ABS

income on food and utilities and a smaller proportion on consumer durables and recreational services (Graph D2). The ABS has also published new weights that will apply to the Living Cost Indices from the December quarter that capture some of these differences.

Graph D2
Basket by Household Income Quintile*
Selected expenditure categories, share of living costs

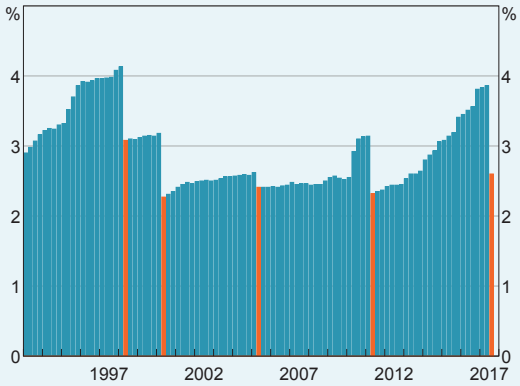


* Equivalised disposable household income from 2015/16 Household Expenditure Survey
Sources: ABS; RBA

Effective Weights and Substitution Bias

As noted above, the effective weights of goods and services change between base periods in line with changes in relative prices. Items that displayed either particularly strong or particularly weak price growth over the period 2011 to 2017 experienced large fluctuations in their effective weights. For example, the effective weight of tobacco rose from around 2½ per cent in 2011 to be almost 4 per cent by mid 2017 (Graph D3). Over this period, tobacco prices rose sharply, boosted by increases in the tobacco excise. However, in the 17th series CPI, the weight of tobacco in the CPI basket has been revised lower to be back around 2½ per cent, indicating that

Graph D3
Effective Weight of Tobacco*
Share of CPI

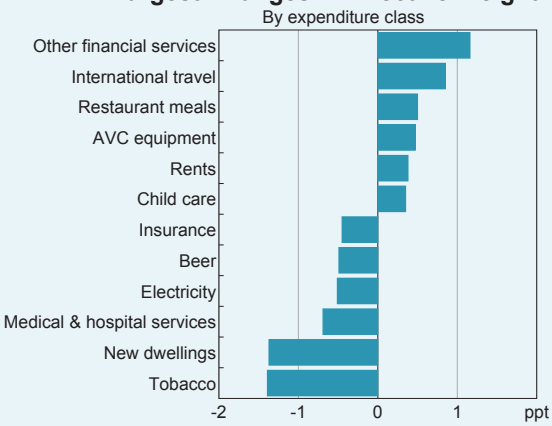


* Orange bars denote the introduction of a new CPI series
Sources: ABS; RBA

households have reduced the quantity of tobacco consumed as prices have risen. In contrast, the prices of AVC equipment declined over this period (noting that prices in the CPI are adjusted lower to reflect improvements in quality from technological advances). This saw AVC's effective weight towards the end of the 16th series CPI fall well below the actual expenditure share of AVC equipment. With the introduction of the 17th series, the effective weight on AVC equipment has increased, indicating that households have purchased more AVC goods (in number or quality) as prices have declined (Graph D4).

The 'substitution bias' that arises when weights are not updated becomes larger as CPI weights become more out of date and the effective weights diverge from the actual current expenditure shares. Analysis by the ABS of previous reweightings indicates that the average annual substitution bias in inflation is around 0.2 percentage points, but by the fifth year after reweighting the bias is typically somewhat larger. Consistent with this, the Bank estimates that substitution bias had reached around 0.4 percentage points for year-ended CPI inflation to the September quarter 2017.

Graph D4
Largest Changes in Effective Weight*



* 17th series base weight less effective weight in September quarter 2017
Sources: ABS; RBA

Substitution bias can also affect measures of underlying inflation, but not by as much as for measures of headline CPI inflation. The Bank estimates that average annual substitution bias in underlying inflation since 1992 has been around half as much as the substitution bias in headline inflation. Using the updated 17th series weights, the Bank estimates suggest that the substitution bias for measures of underlying inflation over the past year has been around 0.3 percentage points.

More Frequent Updates to the CPI in Future

To date, the 5- or 6-yearly release schedule of the HES has determined the schedule for updating the CPI. However, from the December quarter 2018, the ABS will update the CPI weights on an annual basis between HES surveys.[2] These updates will draw upon the Household Final Consumption Expenditure data from the Australian National Accounts. Annual updates to the component weights will then occur each December quarter, until the next HES survey is completed. This process will mean that the CPI better captures consumers' substitution between items, so the size of substitution bias in the CPI will be much lower, and the published measures of CPI and underlying inflation should be more accurate in the future. Nevertheless, the measured CPI will remain subject to other measurement issues, including lower-level substitution bias (for example, substitution between different brands), as well as biases related to quality adjustment and the introduction of new goods. The Bank supports the move to annual reweighting.

2 For more information, see ABS (2016), 'Information Paper: Increasing the Frequency of CPI Expenditure Class Weight Updates', July.

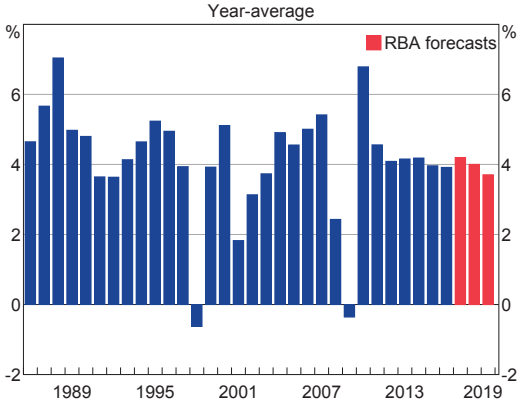
6. Economic Outlook

The International Economy

Global economic conditions have improved since mid 2016 across a broad range of economies. The near-term outlook for growth in Australia's major trading partners is a little stronger than at the time of the August *Statement on Monetary Policy*. Major trading partner growth is, however, still expected to ease a little over the next couple of years (Graph 6.1). In the medium term, growth in Australia's trading partners will depend on their potential output growth, which is difficult to estimate. Some long-term structural factors, such as the decline in working-age population in a number of important trading partners, including China, Japan and Korea, will place downward pressure on potential growth. On the other hand, sustained periods of stronger economic activity generally lead to stronger investment growth, which adds to an economy's productive capacity and potential growth over time; investment growth has already picked up in the major advanced economies and in the high-income economies in Asia relative to recent years. Furthermore, cyclically tight labour markets tend to induce higher labour force participation, which may add to labour supply and thus potential output; there is already evidence of this occurring in a number of advanced economies where participation rates of females and older workers have increased over the past decade.

In China, near-term growth is expected to be a little stronger than previously forecast, reflecting recent data. Statements made by Chinese officials at the 19th Party Congress foreshadow broad continuity in economic policy in the period ahead. In the near term, growth is expected to receive continued support from accommodative policy settings, but is still likely to slow gradually in the longer term for structural reasons, such as the declining working-age population. The east Asian economies (other than China and Japan) are expected to grow at around potential over the forecast period, supported by the improvement in the global economy and an expected pick-up in domestic demand.

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



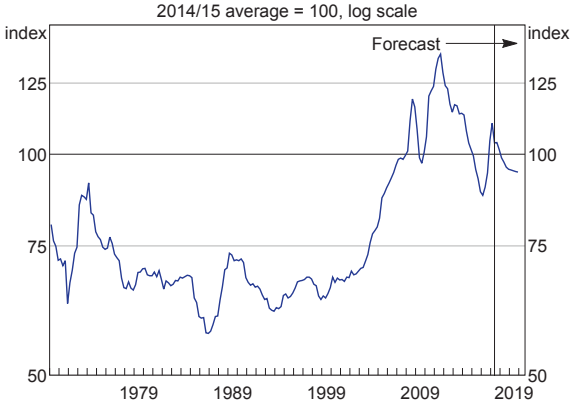
* Aggregated using total export shares
Sources: ABS; CEIC Data; RBA; Thomson Reuters

GDP growth in the major advanced economies is expected to be above potential growth over the next couple of years, partly because monetary policies are expected to remain largely accommodative (although in some cases, less so). Considerable uncertainty remains about the economic policies of the US administration, including the prospect of substantial tax reform resulting in fiscal stimulus.

Although still low, wage growth has increased in some of the major advanced economies that are close to, or at, full employment. Wage pressures are expected to increase gradually as spare capacity in these economies' labour markets declines further. This should put upward pressure on inflation in the next couple of years. However, uncertainty about potential output translates into uncertainty about how much spare capacity exists. If there is more capacity in these economies than projected, for example, inflation could rise more slowly than currently forecast, which would have implications for the path of monetary policy and possibly exchange rates.

Chinese steel demand is expected to be lower over the forecast period and further increases in low-cost supply of bulk commodities are in the pipeline. Consequently, the terms of trade are expected to decline, but to remain above their trough in early 2016 (Graph 6.2).

Graph 6.2
Terms of Trade
2014/15 average = 100, log scale

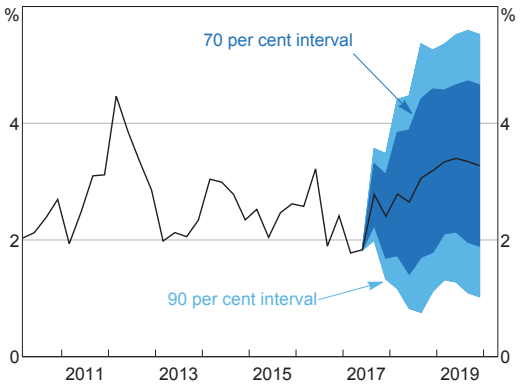


Sources: ABS; RBA

Domestic Activity

The forecast for domestic output growth is little changed from the August *Statement* (Graph 6.3; Table 6.1). Domestic GDP growth increased in the June quarter, in line with expectations, although there were some differences at the component

Graph 6.3
GDP Growth Forecast*
Year-ended



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

level. Growth looks to have been modestly slower in the September quarter, but is expected to have been around estimates of potential growth in year-ended terms. GDP growth should strengthen over the rest of the forecast period as the drag from mining investment comes to an end and public demand and non-mining business investment continue to support growth. Although economic growth is forecast to be above potential before 2019, it is expected to take some time for the economy to encounter broad-based capacity constraints.

The domestic forecasts are conditioned on a number of technical assumptions. The cash rate is assumed to move broadly in line with market pricing. This 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, which is around 3 per cent lower on a trade-weighted basis than in the August *Statement*. The forecasts are also based on the price of Brent crude oil being around US$63 per barrel, which is about 19 per cent higher than the assumption used in August and in line with futures pricing in the near term. The population aged over 15 years is assumed to grow by 1.6 per cent over the next few years.

Table 6.1: Output Growth and Inflation Forecasts[a]
Per cent

	Year-ended					
	Jun 2017	Dec 2017	Jun 2018	Dec 2018	Jun 2019	Dec 2019
GDP growth	1.8	2½	2¾	3¼	3½	3¼
Unemployment rate[b]	5.6	5½	5½	5½	5½	5¼
CPI inflation	1.9	2	2	2¼	2¼	2¼
Underlying inflation	2	1¾	1¾	1¾	2	2
	Year-average					
	2016/17	**2017**	**2017/18**	**2018**	**2018/19**	**2019**
GDP growth	2.0	2¼	2¾	3	3¼	3¼

(a) Technical assumptions include A$ at US$0.77, TWI at 65 and Brent crude oil price at US$63 per barrel; shaded regions are historical data
(b) Average rate in the quarter
Sources: ABS; RBA

Mining activity is expected to contribute positively to growth over the forecast period. While most of the decline in mining investment has already occurred, further small falls are anticipated as construction on liquefied natural gas (LNG) projects comes to completion. Mining investment has been revised slightly higher, reflecting cost overruns at some LNG projects. The level of mining investment should stabilise in the second half of next year; while very few new large projects are expected to commence, major mining firms are likely to invest more to maintain their existing productive capacity, although most of this activity is expected to occur outside the forecast period.

LNG exports are expected to contribute around ½ percentage point to GDP growth in 2017 and just above ⅓ percentage point to annual growth in each of the two subsequent years as existing plants ramp up production and new plants come online. The contribution has been revised slightly lower over the forecast period because some projects have experienced delays and the expected level of production has been revised lower at some other projects. Iron ore export volumes are forecast to rise only a little further in the period ahead as additional production capacity from Australia's low-cost producers comes on line.

Growth in non-mining activity is projected to pick up over the forecast period as a result of continued growth in household consumption and non-mining business investment. Public demand is also expected to support economic growth. In contrast, dwelling investment appears to have peaked earlier than previously anticipated. Although the significant pipeline of work still to be done should mean that the level of residential construction activity remains high over the next year or so, dwelling investment is not likely to contribute to GDP growth over the forecast period.

Household consumption growth is forecast to pick up a little, but to a rate that is lower than the average seen prior to the financial crisis. The small pick-up is supported by stronger growth in employment and the forecast gradual increase in wage growth, and implies a modest decline in the household saving ratio. The outlook for household income growth represents a significant uncertainty for the consumption forecasts.

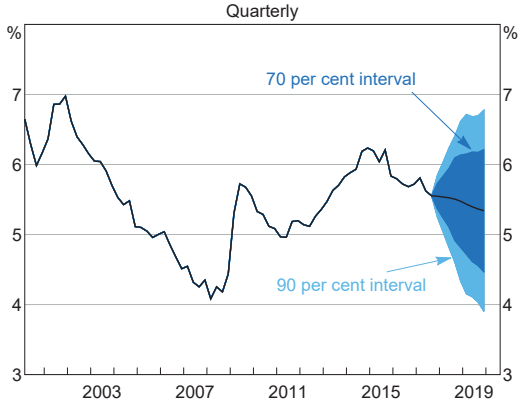
Non-mining investment is forecast to increase, supported by low interest rates, an increase in expected infrastructure activity, the expected pick-up in GDP growth and the diminishing impact of falling mining investment on other

sectors of the economy. Recent revisions to the national accounts data indicate that non-mining investment has been stronger than previously thought and has increased by almost 10 per cent since the start of 2016. As such, the level of non-mining investment is now higher compared with the previous *Statement* and there appears to be more momentum in growth than previously appreciated. These revisions have reduced some of the downside risk to the non-mining investment forecast and, given the relatively gradual increase that is expected, there is a risk that investment will pick up by more than forecast.

The recent strength in public investment is expected to continue, largely driven by transport and telecommunications infrastructure projects that are already underway or will start in the near future. Much of this work is being undertaken by the private sector for the public sector and liaison contacts have started to report that these public contracts have encouraged private sector investment in machinery and equipment. This suggests another source of upside risk to the non-mining business investment forecasts. Public consumption is being supported by the rollout of the National Disability Insurance Scheme and is forecast to grow at around its average since the early 1990s.

Employment growth has been revised a little higher in the near term because recent data and the signal from leading indicators of labour demand both suggest there has been more momentum in the labour market over recent months than previously anticipated. Employment is expected to grow a little faster than the working-age population over the rest of the forecast period, as GDP growth picks up. Consistent with this, the unemployment rate is expected to decline to around 5¼ per cent by the end of 2019 (Graph 6.4). Average hours worked are expected to increase a little and this should see broader measures of spare capacity,

Graph 6.4
Unemployment Rate Forecast*
Quarterly



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

such as the underemployment rate, decline as well. The participation rate, which has risen quite sharply over the past year, is expected to increase a little further as better labour market conditions encourage those who are marginally attached to the labour market to enter and older workers to delay retirement. This is expected to offset any small downward effect of ageing on the participation rate.

There has been little change to the wage price index forecasts since the August *Statement*. Over the next few years, wage growth is expected to rise gradually as spare capacity in the labour market is absorbed and as the adjustment to the decline in the terms of trade comes to an end. Indeed, the stronger labour market conditions over the past six months provide more confidence around this forecast. Business surveys and information from liaison suggest some industries are starting to find it difficult to attract suitable labour, though there is little evidence that this is translating into higher wage growth more generally. At the same time, wage growth in newly negotiated enterprise agreements has declined. Notwithstanding the expected pick-up, wage growth is expected to remain well below average because it is likely there will be some

spare capacity remaining in the labour market over the next few years, productivity growth is forecast to remain below average and the effects of any structural factors that might be currently weighing on wage growth will take time to dissipate.

There has been some reassessment of the outlook for average earnings in the national accounts (AENA). While it is volatile, growth in AENA has been much weaker than expected for a number of quarters and it is possible that compositional changes in the labour market (such as more growth in lower-income jobs) have had more effect on average earnings than anticipated. Consequently, the forecast recovery in AENA from late 2017 onwards has been pared back since the August *Statement*.

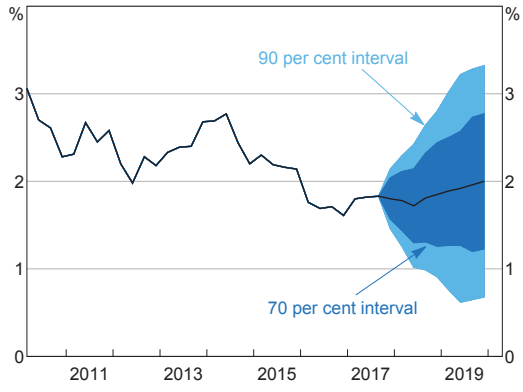
Inflation

The September quarter inflation data were a little lower than expected at the time of the August *Statement*; this was largely due to lower prices for volatile items such as fruit and vegetables. As such, the assessment of pricing pressures in the near term has not changed. However, inflation has been revised a little lower over the forecast period to allow for the upcoming reweighting of the CPI in the December quarter (See 'Box D: Updated Weights for the Consumer Price Index').

Underlying inflation is expected to remain steady at around 1¾ per cent until early 2019, before increasing to 2 per cent (Graph 6.5). Headline inflation is also expected to increase gradually, but to around 2¼ per cent. The near-term forecast is underpinned by a gradual pick-up in underlying price pressures. This is offset by the impact of the reweighting of the CPI, which will only gradually be incorporated into the year-ended inflation rate over the next four quarters.

The legislated tobacco excise increases are expected to add more than ¼ percentage

Graph 6.5
Trimmed Mean Inflation Forecast*
Year-ended



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

point to headline inflation in each of the next couple of years. An increase in fuel prices in the December quarter this year is expected to add a similar amount over the near term. Utilities price increases are also expected to be above average, although there is considerable uncertainty around this. The forecast improvement in the labour market is expected to lead to some build-up in unit labour cost pressures and thus support a gradual pick-up in underlying as well as headline inflation. However, working in the opposite direction, the continued entry of new foreign retailers into the Australian market is expected to constrain the ability of retailers to pass on higher costs, and therefore retail price inflation. Inflation expectations are expected to remain around current levels, while rent inflation is expected to remain well below average because of the continued increase in the supply of rental housing over the next couple of years.

Key Uncertainties

There are a number of key uncertainties surrounding the forecasts. For the global economy, the current expansion could be more self-sustaining than currently expected, particularly if investment growth gains

momentum, leading to higher potential output growth. On the other hand, it remains possible that escalating geopolitical tensions and increased global trade protectionism could derail the current economic expansion. The long-standing financial stability risks associated with high levels of debt in the Chinese economy could damage prospects for global and domestic growth, should they be realised.

Domestically, one of the key sources of uncertainty for the forecasts is the outlook for the labour market. This comes from two sources. First, it is not clear how much spare capacity there is in the labour market and how quickly it might decline, particularly given the recent strength in the participation rate. Second, it is unclear how much the expected decline in spare capacity will translate into building wage pressures. Both these factors affect the outlook for inflation and household income growth, which is a key driver of consumption and therefore the GDP growth forecast. In terms of assessing the GDP growth forecast, the risks around the outlook for non-mining business investment are now seen as being more positive than previously.

The Chinese economy and commodity prices

Accommodative policy settings (including robust growth in public spending) and stronger-than-expected residential construction have supported growth in the Chinese economy over the past year. Continued strength in residential investment, despite intensified efforts by the authorities to slow housing market activity and prices, could result in Chinese growth being stronger than expected. Although announcements made at the 19th Party Congress signalled little change in near-term macroeconomic policies, they hinted that the authorities might be willing to accept lower growth and reiterated the commitment to tackle financial sector vulnerabilities through tighter regulation. The implementation of a stricter approach to financial supervision, if carried out more aggressively than expected, could lead to tighter financial conditions and lower growth than currently forecast. However, at the same time, these measures could lower the longer-run risks of a sharp financial disruption or crisis, which would pose a much greater threat to Chinese growth and the global economy.

The uncertainty surrounding China's growth outlook has implications for Australian resource exports, commodity prices and the terms of trade. The decision by Chinese authorities to implement substantial cuts to steel production for environmental reasons over the next few months increases the likelihood of near-term volatility in Chinese iron ore and coking coal demand and bulk commodity prices. The heightened focus on environmental protection and efforts to combat air pollution apparent in announcements surrounding the 19th Party Congress also raise the prospect that such disruptions could become more frequent in the future. However, insofar as these policies affect the supply side as well as the demand side of commodity markets, through their effects on China's domestic production, they create uncertainty in both directions around the trajectory for the terms of trade.

Spare capacity in the labour market

There is considerable uncertainty in estimating how much spare capacity there is in the labour market currently and how far it will decline over the forecast period. Spare capacity is expected to decline a little because employment is expected to grow faster than the working-age population, and average hours worked are expected to increase. These developments should lead to a fall in both the unemployment rate and the

underemployment rate. However, the degree of spare capacity in the labour market also depends on how the participation rate responds to stronger labour demand.

The significant growth in employment over the past year has been accompanied by a notable rise in the participation of older workers and women aged 35–44 years, which has offset the downward pressure on the participation rate from the gradual ageing of the population. However, it is uncertain how much future employment growth will lead to further increases in the participation of particular groups, such as females, older and younger workers, migrants and temporary residents. The forecasts currently assume that the participation rate increases a little further, implying that the increase in participation from these groups is large enough to offset the effect of the ageing population. If this does not occur, the unemployment rate could be lower than currently forecast.

Growth in wages, household income and consumption

There is also uncertainty about how much wage growth will pick up in response to improved labour market conditions and the associated reduction in spare capacity. More firms have been indicating that they are finding it difficult to find suitable labour, which might lead to wage growth picking up more quickly than anticipated. On the other hand, the experience of low wage growth in many countries with tighter labour markets suggests that structural factors such as technological change and globalisation have had an important bearing on wage outcomes and could continue to do so for some time yet.

Uncertainty about wage growth translates into uncertainty about the growth in household income, which is one of the main determinants of consumption growth. It is not clear how resilient consumption growth might be to an extended period of low income growth. Consumption is expected to grow a bit faster than income over the forecast period, which is consistent with households viewing the current period of weak wage growth as temporary. If, however, households start viewing lower income growth as being more persistent, consumption growth could be somewhat lower than forecast. Weaker-than-expected growth in housing prices or changes in expectations about the likely path of interest rates could also lead to weaker consumption growth than is currently forecast.

Household indebtedness is high and debt levels relative to income have continued to edge higher because household credit growth has continued to outpace income growth. Steps taken by regulators have seen the growth in riskier types of lending to households moderate, but some risks remain. For example, a highly indebted household sector is likely to be more sensitive to changes in income or wealth, which could have implications for consumption growth. Also, consumption growth could be weaker for a time if indebted households choose to pay down debt more quickly rather than spend additional income.

Inflationary pressures

Given the importance of wage costs for businesses, an increase in wage growth would be expected to lead to a pick-up in cost pressures over time. There is considerable uncertainty about the size and timing of how wage cost pressures might pass through to consumer prices. The pass-through of wage costs is likely to be larger for CPI components that embody a larger labour component, such as many household services, and may take longer for components of the CPI that are facing heightened competitive pressures, such as

consumer durables. Another consideration is that stronger-than-expected productivity growth could dampen the impact of rising wages on business's labour costs. Heightened competitive pressures and their effect on the ability of businesses to pass on cost pressures have been a feature of Australian inflation since around 2010. In theory, a change in competition should lead to lower margins but, after some period, the dampening effect of this adjustment on inflation should dissipate. Difficulty forecasting the persistence and intensity of competitive pressures presents another significant uncertainty for the inflation forecasts.

As always, the inflation forecasts have been conditioned on the assumption of no change in the Australian dollar exchange rate, which means that the exchange rate poses an additional uncertainty to the outlook for inflation, particularly for goods with a large imported component.

Business investment

Recent revisions to the national accounts indicate that non-mining investment growth has been stronger than previously thought. These revisions have removed some of the downside risks to non-mining investment discussed in previous *Statements*. Over the forecast period, non-mining investment is forecast to continue increasing, but the pace of the pick-up is still expected to be relatively gradual and less than what has been typical in previous expansions. As such, there is a risk that investment will pick up by more than is forecast, although leading indicators currently do not suggest that this is likely in the near term. One area of uncertainty relates to government infrastructure spending. Public investment growth is forecast to continue and much of this work has been done by the private sector for the public sector, which has supported business conditions over the past year or so. More recently, liaison contacts have reported that contracts to complete public infrastructure works have begun to support their own private investment in machinery and equipment. It is therefore possible that this infrastructure work generates larger flow-on effects and boosts private business investment by more than currently thought.

RESERVE BANK OF AUSTRALIA