

# Statement on Monetary Policy

NOVEMBER 2019



RESERVE BANK OF AUSTRALIA



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# Overview

The Australian economy is gradually coming out of a soft patch. GDP growth has been recovering since its low point last year; it picked up a little in the first half of 2019 and moderate growth is expected over the remainder of the year. Growth is expected to reach 2¾ per cent over 2020 and around 3 per cent by the end of 2021. This outlook is largely unchanged from three months ago, and is supported by the low level of interest rates, recent tax cuts, ongoing spending on infrastructure, the upswing in housing prices in some markets and a brighter outlook for the resources sector.

The labour market has been resilient to this period of slow growth. In particular, employment has continued to expand noticeably faster than growth in the working-age population. Labour supply has increased to meet rising demand, with the participation rate at record highs in recent months. The unemployment rate has been broadly steady at around 5¼ per cent for some months. It is expected to decline only gradually over the next couple of years, to a little below 5 per cent. At this level, the unemployment rate will still be somewhat short of the central estimate of the rate consistent with full employment, of around 4½ per cent.

Inflation remains low and steady. CPI inflation was 0.3 per cent in the September quarter and 1.7 per cent over the year; the outcomes for trimmed mean inflation were similar, at 0.4 per cent in the quarter and 1.6 per cent over the year. Inflation is expected to pick up in the period ahead, but only gradually, to be close to 2 per cent over both 2020 and 2021.

These outcomes have occurred in the context of a global economy that has slowed and where the outlook has also eased. Ongoing trade and technology disputes have weighed on global trade and investment. Nonetheless, in the major advanced economies, labour markets are tight and wages growth has picked up, though inflation remains low. Given this low inflation, central banks in a number of economies have eased policy in recent months in response to the risks to the outlook. More recently, financial market sentiment has improved a little and expectations of further monetary policy easing have been scaled back. Financial conditions both globally and in Australia remain accommodative; bond yields and credit spreads are low, and equity prices have been rising.

In China, the trade-related tensions have added to existing domestic factors that were already contributing to an easing in growth, including earlier measures to address risks from high debt. The authorities have introduced a range of limited stimulus measures to counter the slowing in growth. These policy measures have been tilted towards steel-intensive activities, including public infrastructure projects; this has supported Chinese steel production and, in turn, demand for Australian bulk commodities, even as Chinese growth more broadly has slowed. This has been positive for iron ore prices and, together with the effects of past supply disruptions, has resulted in Australia's terms of trade holding up a little higher than earlier expected.

Domestically, a defining feature of economic developments over the past several years has been very slow growth in household income. Growth in labour income has picked up a little in recent quarters, after being weak for a number of years. However, this has been offset by weak farm incomes resulting from the drought, a downturn in housing-related business income, and ongoing strong growth in tax payments. The payment of the low- and middle-income tax offset is expected to temper the latter trend over the second half of 2019.

Recent developments show that a protracted period of weak income growth will eventually induce households to adjust their spending patterns, though this can take a while. This possibility has been flagged for some time as a risk to the outlook for consumption growth. Together with the downturn in the housing market, slow income growth has contributed to a considerable slowdown in consumption lately. Consumption grew by only 1½ per cent over the year to the June quarter. In nominal terms, growth in retail spending has been steady at a low rate, but rising prices have implied that the volume of retail sales declined over the year to the September quarter. Food prices have been boosted by the effect of the drought, while consumer durables prices have seen some pass-through of the earlier depreciation of the exchange rate. Some households have responded by switching to cheaper products or spending less on other things. Consumption growth is expected to pick up gradually in the period ahead, but the timing of the turnaround, the speed of its trajectory and the influence of the housing market on it are key uncertainties for the outlook.

The established housing market is turning around, especially on the east coast. Housing prices have been rising in most capital cities other than Perth. Some other indicators, such as auction clearance rates, have also been higher than earlier in the year. This turnaround has

come sooner and faster than had previously been expected. Housing loan approvals have been increasing over recent months, although this is yet to translate into faster growth in housing credit. As was the case following earlier episodes of declining interest rates, most borrowers initially maintain their loan payments as mortgage interest rates fall, so their debt amortises faster than otherwise. Mortgage interest rates are now at record low levels. Competition for the most creditworthy borrowers remains strong.

It is uncertain how quickly the turnaround in the established market will flow through to new housing construction. Dwelling investment has declined significantly in recent quarters and indications from building approvals are that this could continue for a while yet. Lower mortgage rates and higher prices for comparable established properties are yet to spur a pick-up in overall activity in the market for new homes, though greenfield land sales have ticked up recently. It is possible that the pipeline of existing work to be done will provide less support to activity than expected, and hence that dwelling investment declines a bit faster than expected, in the near term. If this should occur, it would sow the seeds of a sharper recovery in dwelling investment further out.

Recent developments have shown that dynamics in the housing market can have more pervasive effects than we had expected. The decline in housing prices and turnover weighed on household spending decisions and housing-related inflation in the prices of new homes. It has also reduced unincorporated business income related to the housing industry and measures of the activity involved in buying and selling homes.

Business investment is expected to increase at a moderate pace over the next few years. The wind-down of the mining investment boom is largely complete, so mining investment is expected to contribute to this growth. Public

investment spending is expected to remain at a high level but to contribute less to overall growth than it had in recent years. The lower exchange rate has encouraged services and manufacturing exports and reduced imports, thereby supporting growth. Resource exports have been recovering from earlier supply disruptions.

Recent outcomes show that the labour market can be more resilient to periods of slow growth than is sometimes appreciated, but labour supply can also vary considerably, with material implications for wages growth. Employment growth is forecast to remain above growth in the working-age population over the period ahead. However, this is likely to reduce unemployment only gradually, and so spare capacity is expected to remain in the labour market over the next couple of years. Consistent with this outlook, wages growth is low and shows little sign of picking up. Private sector wages growth is expected to remain close to its current rate, having picked up marginally over the past couple of years. In the public sector, wages growth is expected to continue to be constrained by government wages caps. Faster wages growth would be needed for inflation to be sustainably within the 2–3 per cent target range.

The low inflation outcome in the September quarter was in line with the Bank's expectation three months ago. Higher prices for food and consumer durables, as noted above, were offset by weak housing-related inflation, including rents as well as the prices of newly built homes. Electricity prices also declined in the September quarter, as a result of government initiatives.

Looking forward, ongoing slow wages growth is likely to keep domestic inflation pressures contained. Over time, the downward pressure on inflation from housing-related prices should wane. However, this is likely to be offset by a decline in inflation as the effects of the earlier

exchange rate depreciation and the effect of the drought on food prices wash through.

In recent months, the Reserve Bank Board's deliberations have taken place in a context of monetary policy already being accommodative, with further stimulus being delivered in June and July. Interest rates globally are also very low, and many central banks have reduced their policy rates in recent months in response to concerns about downside risks to growth, in an environment where inflation is already low.

At the same time, spare capacity remains in the Australian economy, and inflation is below the medium-term target band. Wages growth is also low, and it is increasingly clear that lower unemployment is needed to generate wages growth that is consistent with sustainably achieving the inflation target. These considerations pointed to a case for further easing. While rising asset prices and increased borrowing are expected outcomes of lower interest rates, the Board assessed that the current level of risk in household balance sheets and the financial system did not outweigh this case for easing. The Board also judged that there was not a case to hold some stimulus in reserve to address potential future shocks, because experience has shown that the level, not the change, in interest rates is the key driver of demand.

In discussing the policy decision in October, the Board was mindful that rates were already very low and that each further cut brings closer the point at which other policy options might come into play. It also took into account the possibility that further easing could unintentionally convey an overly negative view of the economic outlook, or that the usual channels of policy transmission might be less effective at low interest rates. That said, the Board still assessed that lower rates would support the economy via a lower exchange rate, higher asset prices and a boost to aggregate household disposable

income. Accordingly, it reduced the cash rate at the October meeting, to 0.75 per cent.

At its November meeting, the Board considered an updated set of forecasts. These forecasts imply some progress towards the medium-term inflation and full employment goals, but this progress is expected to be only gradual. The Board also recognised that global financial markets appear to have passed a trough of pessimism. In light of these circumstances and having cut the cash rate by  $\frac{3}{4}$  percentage points over the past six months, to a new low of 75 basis points, the Board judged that it was appropriate to hold rates steady at its November meeting. This allows time to assess the effects of the recent easing of monetary policy as well as global developments. Given the outlook, the Board is prepared to ease monetary policy further if needed to support sustainable growth in the economy, full employment and the achievement of the medium-term inflation target over time. ✎



# 1. The International Environment

Global economic developments continue to be influenced by the US–China trade and technology disputes. The associated increase in policy uncertainty has weighed on global trade, investment and manufacturing activity, although consumption growth has been relatively resilient (Graph 1.1). As a result, major trading partner growth has slowed a little further, and is expected to remain around its recent pace over the next two years. There are more signs that the slowing in export-oriented sectors is spilling over to the service sectors. Employment growth in the major advanced economies remains above growth in working-age population, but has eased recently; overall, labour market conditions still remain tight.

Financial market conditions remain accommodative. Several major central banks have eased monetary policy further in response to slowing growth, downside risks and subdued inflation. Yields on government and corporate bonds are around historic lows in many

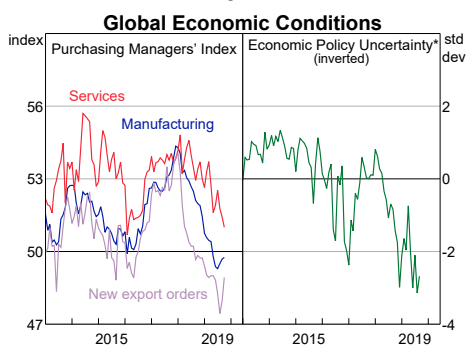
countries. Global equity prices have risen, and are near record highs in the United States. Measures of financial market volatility are generally below long-term averages. Financial conditions in emerging market economies have also eased a little. The combination of low volatility, low bond yields and buoyant prices of riskier assets suggests that market participants continue to expect that the policy stimulus that has been delivered by central banks will sustain the global economic expansion.

## Trade and technology disputes have escalated ...

The US–China trade and technology disputes have escalated further since August with both countries raising tariff rates. As a result, the average tariff rates between the two countries have increased substantially to around 20 per cent, which has now fully reversed the earlier decline in tariff rates since the early 1990s (Graph 1.2).

Nevertheless, tensions have eased a little more recently: negotiations have resumed and a preliminary partial agreement was reached in October that has postponed some of the scheduled tariff increases. Even so, the prospects for a comprehensive trade agreement are uncertain and there is a risk of further escalation. The US administration is still set to impose a 15 per cent tariff on almost all remaining imports from China from mid December and China has threatened further tariff increases in response.

**Graph 1.1**



\* Standard deviation from 2014 to 2018 average  
Sources: Markit; RBA; [www.policyuncertainty.com](http://www.policyuncertainty.com)

Other trade tensions have emerged, with some countries using trade policy to address broader political disputes; this includes Japan and South Korea, which have restricted their bilateral trade in some strategic products, including certain key semiconductor materials. A decision by the United States about increasing tariffs on automotive imports from a number of countries is due in November.

### ... lowering the growth outlook and increasing downside risks

Major trading partner growth is expected to be around 3½ per cent in 2019 and 2020, before increasing a little in 2021 (Graph 1.3). This is a little lower than forecast in the *August Statement on Monetary Policy* because of the escalation in the US–China trade and technology disputes, a further weakening in business investment indicators and growing signs of spillovers to service sectors and labour markets. The outlook for 2019 and 2020 has been revised down successively since late last year and the cumulative downward revisions to trading partner growth have amounted to around ¼–½ percentage point. Growth appears to have slowed by more than earlier expected because the protracted nature of the US–China disputes has raised policy uncertainty and weighed on investment by more than was initially anticipated. While monetary policy has become

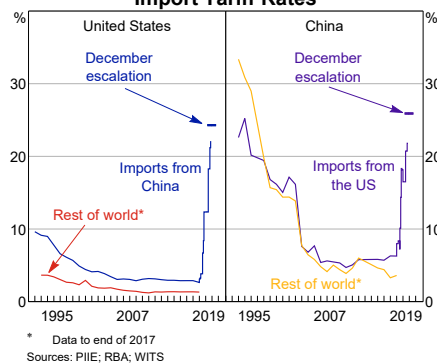
more accommodative across a range of economies, fiscal policy in the advanced economies has been broadly neutral this year and is expected to remain so next year.

While the outlook is for moderate global growth, downside risks remain. There is a high degree of uncertainty about the future evolution of the US trade disputes with China and other economies; further escalations pose significant downside risks and, conversely, resolutions of the disputes, even if partial, would support global growth. There is also a risk that the spillovers to service sectors and labour markets could be larger than expected. The form and timing of the United Kingdom's exit from the European Union (Brexit) remains a key additional source of uncertainty about the outlook for Europe.

A key question for the outlook for the Australian economy is how the global risks play out, particularly for China and how their policy response could affect China's demand for Australian exports. To date, Chinese policies to support their economy have been relatively steel intensive and have increased demand for bulk commodities from Australia. More broadly, the resolution of global risks and policy responses to their effects, including the recent decisions to ease monetary policy in a number of economies, could also affect the exchange rate and commodity prices, both of which affect domestic activity and inflation in Australia. Any indirect effects on businesses' investment intentions could also be a factor for the domestic growth forecasts.

**Graph 1.2**

**Import Tariff Rates**



### In China, activity indicators continued to moderate

In China, economic conditions eased in the September quarter, driven by slower growth in domestic demand. So far, the US–China trade and technology disputes have had a limited effect on overall economic activity in China. Tariffs imposed to date have led to a material decline in exports to the United States, but

exports to other destinations have been broadly stable, and targeted monetary and fiscal easing has partly offset the effect of weaker exports by boosting domestic expenditure. Nonetheless, the associated uncertainty is likely to be affecting business decisions and thus contributing to medium-term downward pressures on growth.

In the September quarter, growth in activity indicators was mixed (Graph 1.4). Growth in retail sales declined, reflecting weakness in car sales, while growth in fixed asset investment increased a little. Infrastructure investment rebounded, reflecting measures taken by the authorities to support public spending on transportation and energy infrastructure projects, while growth in manufacturing investment eased.

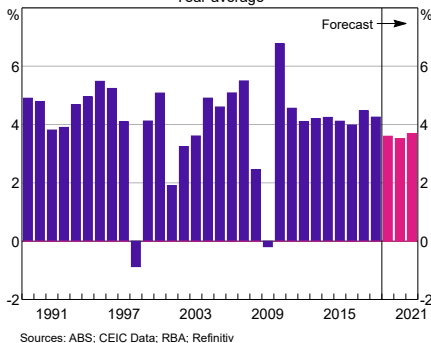
Industrial sector indicators have remained subdued in recent months: growth in the output of industrial products increased slightly, but falling producer prices have weighed on industrial profits. The output of construction materials has remained elevated, supported by growth in construction-related demand (Graph 1.5). Steel production moderated slightly in September, but remains high, reinforced by recent falls in bulk commodity prices that have supported steel producers' margins.

Conditions in Chinese property markets continued to be mixed in the September quarter (Graph 1.6). Official measures of property prices suggest that growth has moderated in recent months, while non-official measures continue to indicate notably weaker price growth. Property sales were little changed in the quarter, but spending on construction and fittings increased. The authorities increased their scrutiny of real estate financing and reaffirmed their commitment that real estate will not be used to stimulate the economy in the short term.

Producer prices declined in the quarter to be around 1 per cent lower over the past year, driven by falling prices for raw materials and

**Graph 1.3**

**Australia's Major Trading Partner Growth**  
Year-average



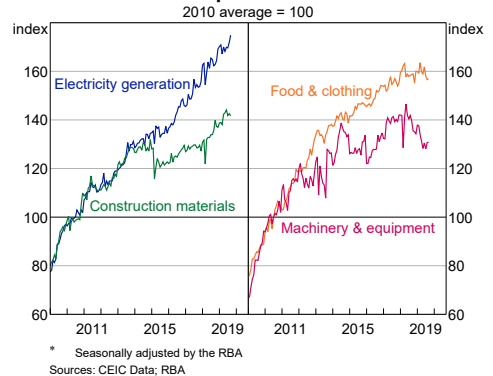
**Graph 1.4**

**China – Activity Indicators\***



**Graph 1.5**

**China – Gross Output of Selected Products\***



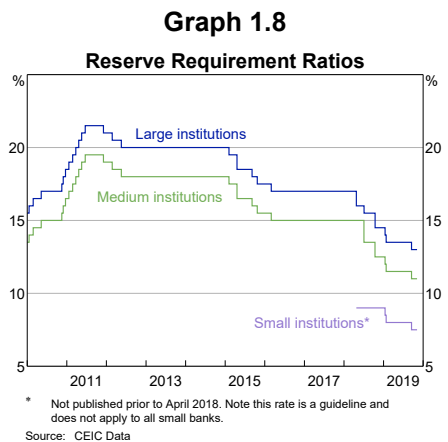
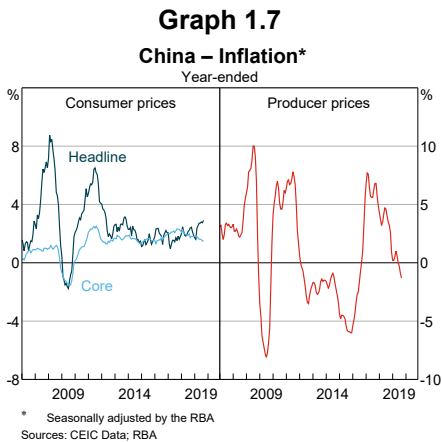
manufactured goods (Graph 1.7). Core consumer price inflation also continued to ease. Headline inflation increased slightly as a large rise in pork prices – a result of continued supply shortages caused by the African swine fever outbreak – was largely offset by lower inflation for other food and non-food items.

### Chinese authorities have responded with further targeted policy easing

Chinese policymakers have announced additional targeted measures to support economic growth and the health of smaller banks, which have encountered liquidity pressures in recent months and are important

providers of financing to micro and small-sized enterprises. Since September, the People’s Bank of China (PBC) has reduced reserve requirement ratios (RRRs) by 50 basis points for all financial institutions and by an additional 100 basis points for a subset of smaller banks (Graph 1.8). The PBC estimates that the lower RRRs will inject an additional CNY900 billion of liquidity into the banking system (around 1 per cent of GDP). Also, the interest rate on the PBC’s medium term lending facility – that provides funding to banks – has declined by 5 basis points. In addition, the PBC has announced reforms to benchmark lending rates to improve the transmission of monetary policy (see Box A: Recent Reforms to Lending Rates in China). Following earlier policy easing, growth in total social financing has stabilised, reflecting steady bank credit growth, a pick-up in the growth of securities financing and a slowing in the contraction of off-balance sheet financing (Graph 1.9).

In August, the State Council announced a package of policies to boost consumption, which included measures to ease restrictions on car purchases, extend retail hours and encourage financial institutions to provide credit to consumers purchasing green energy products. Similar to last year, local governments will be allocated a portion of their 2020 special bond issuance quota before they are formally



approved by the National People’s Congress in March, which should help to support infrastructure spending. The authorities have emphasised that recent policy easing measures are not intended to stimulate the real estate sector.

### Economic activity has slowed in most of the major advanced economies amid ongoing policy uncertainty

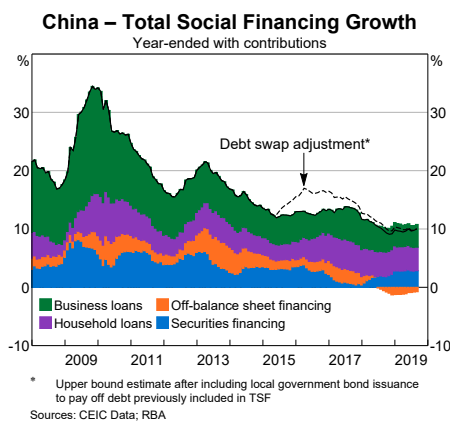
Growth in the major advanced economies was strong over 2017 and the first half of 2018, but has eased since then due to weaker investment in the United States and the euro area (Graph 1.10). Investment decisions in these economies have been affected by the increase in policy uncertainty and weaker external demand, particularly from China. Manufacturing activity in the major advanced economies has slowed sharply and the weakening in conditions appears to have been spreading to the service sectors recently. However, consumption growth has been resilient, aided by strong employment growth. Labour market conditions remain strong but there have been signs of easing recently. In particular, employment growth and forward-looking indicators of labour demand have slowed; further slowing in employment growth presents a downside risk to the growth outlook, particularly as it would suggest a lower

trajectory for both wages and incomes growth, with feedthrough into consumption growth. Monetary policy has become more accommodative, supporting growth, but fiscal policy has been largely neutral.

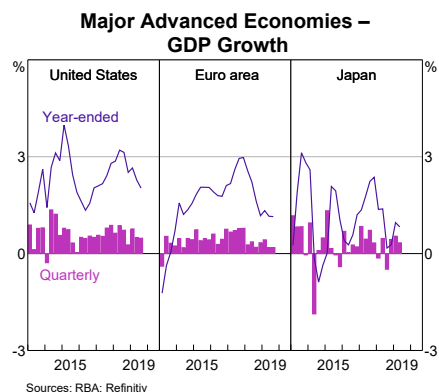
In the United States, GDP growth has slowed to around trend this year. This is largely because business investment growth has eased, due to the trade dispute and the waning effects of the 2018 tax cuts. Investment intentions declined further in the September quarter (Graph 1.11). Manufacturing activity has declined since mid 2018, while conditions in service sectors have eased more recently, to around average. Meanwhile, consumption growth has remained resilient and dwelling investment contributed to growth in the September quarter (Graph 1.12). The growth outlook for the United States for 2019 and 2020 has been lowered slightly reflecting a somewhat weaker business investment outlook, the further escalation in the US–China disputes over recent months and some expected moderation in consumption growth.

Growth has slowed significantly in the euro area since early 2018 to a little below trend pace. Growth remained subdued in the September quarter, driven by further weakness in exports and investment. Weak external demand has weighed on production in the manufacturing

**Graph 1.9**



**Graph 1.10**



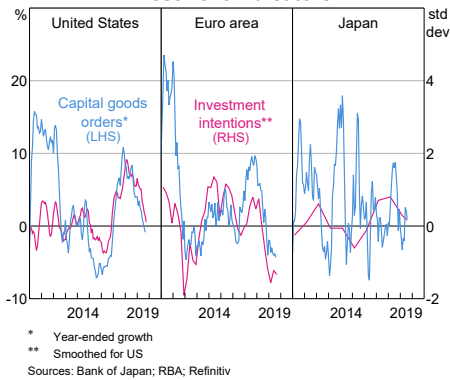
sector. Production in the German automotive industry has been particularly weak; it stalled after new emission testing standards were introduced last year and has not recovered since. Weak export growth to the United Kingdom has added to the subdued conditions given that the United Kingdom is the second largest destination for euro area exports. Investment growth has slowed and measures of investment intentions point to investment growth remaining subdued. There are signs that the weakness is spreading to the service sectors. In the United Kingdom, economic activity, particularly investment, has slowed since

2016 and survey measures of business activity and investment intentions are around their lowest in a decade (Graph 1.13). Private consumption in the euro area and the United Kingdom has remained resilient, consistent with the still tight labour markets. Euro area growth is expected to remain below trend next year due to subdued external demand and a modest easing in consumption growth, while the outlook for the United Kingdom remains dependent on the resolution of the Brexit uncertainty.

In Japan, growth in the middle of this year was supported by a frontloading of consumption ahead of the consumption tax increase in October. However, external demand, particularly from Asia, has been weak, which has been reflected in a substantial easing in conditions in the manufacturing sector. Aggregate investment and investment intentions remain relatively strong, partly because labour shortages are prompting investment in labour-saving equipment. Growth is expected to slow in late 2019 and early 2020 to be below trend because of persistent weakness in external demand, tighter fiscal policy following the consumption tax increase, and the resulting slower consumption growth.

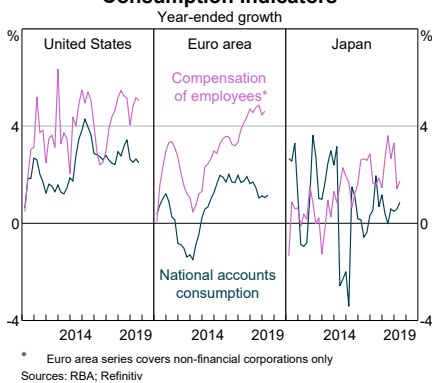
**Graph 1.11**

**Major Advanced Economies – Investment Indicators**



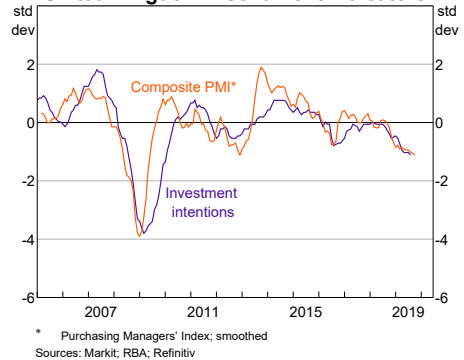
**Graph 1.12**

**Major Advanced Economies – Consumption Indicators**



**Graph 1.13**

**United Kingdom – Sentiment Indicators**



## Labour market conditions are still tight although they have eased a little

Employment growth has remained above working-age population growth, unemployment rates have declined further and wages growth has remained around its recent high pace. However, there are signs that labour market conditions have started to ease in major advanced economies following the slowing in GDP growth. The slowing in employment has been particularly evident in the manufacturing sector (Graph 1.14). More recently, employment growth in the service sectors has also softened in some economies. Vacancy rates and survey-based measures of firms' employment intentions have plateaued, consistent with labour market conditions not tightening further (Graph 1.15). In the United Kingdom, employment growth had been relatively resilient but it has eased recently.

## Inflation remains low in the major advanced economies

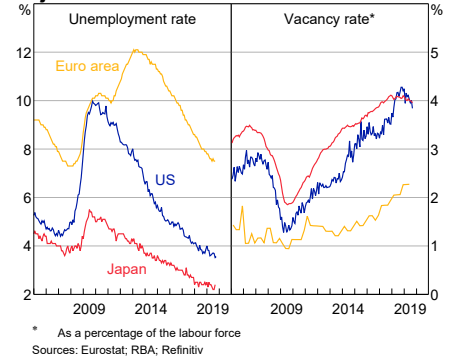
Inflation is below target in the major advanced economies, albeit to varying degrees (Graph 1.16). Core inflation in the euro area and Japan has been little changed in recent months and remains low; inflation in Japan is expected to increase temporarily by up to 0.5 percentage points in year-ended terms following the

consumption tax increase. Over the past six months, the US Federal Reserve's (Fed's) preferred measure of core inflation, in annualised terms, has been around the target of 2 per cent for headline inflation; the increase in US core goods inflation this year is likely to have reflected, in part, the effect of the higher tariffs on imports from China.

Market-implied measures of long-term inflation expectations have declined this year, particularly in the euro area, where they are the lowest in a decade. In contrast, economists' long-term inflation expectations (as reflected in survey data) have been stable around 2 per cent in the United States and euro area, and short-term

**Graph 1.15**

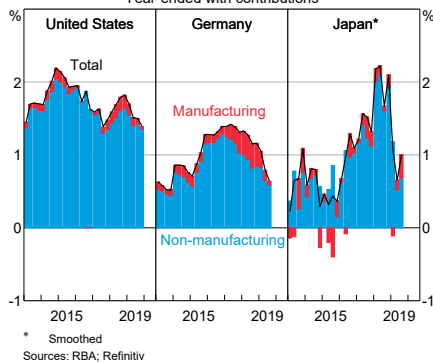
### Major Advanced Economies – Labour Market



**Graph 1.14**

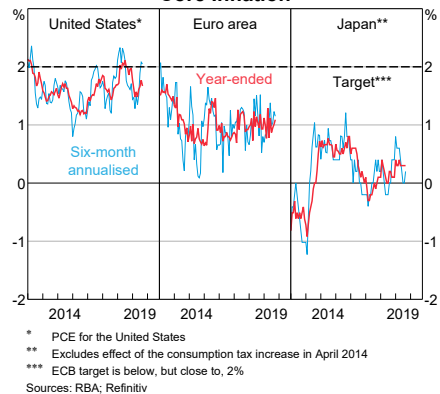
### Advanced Economies – Employment Growth

Year-ended with contributions



**Graph 1.16**

### Major Advanced Economies – Core Inflation



consumer inflation expectations have increased in the United States and Japan in recent months.

### Central banks have eased policy in recent months, although expectations for further easing have been scaled back

Several central banks have eased policy further recently in response to a deteriorating outlook for economic growth in an environment of subdued inflation. Market expectations for additional easing have been scaled back in recent weeks as concerns about some key downside risks have abated somewhat. Current market pricing suggests that the Fed is expected to lower its policy rate further in the first half of 2020, while most other central banks are expected to leave rates around current low levels for some time (Graph 1.17).

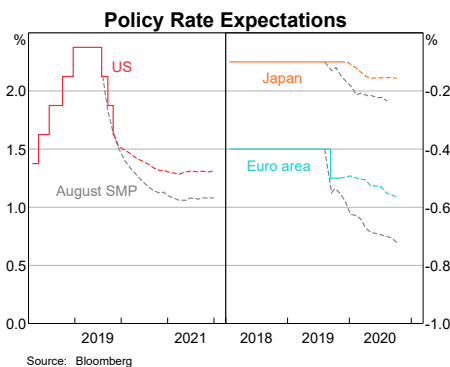
The Fed has lowered its policy rate by a cumulative 75 basis points (to 1.5–1.75 per cent) since it began easing policy in July. Fed Chair Powell has reiterated that the US economy continues to perform well, and that these reductions in policy rates have been a response to subdued inflation and downside risk to the global growth outlook. Powell described current policy settings as appropriate and noted that it would take a material change in the outlook to adjust policy settings further.

The European Central Bank (ECB) left policy settings unchanged in October, having

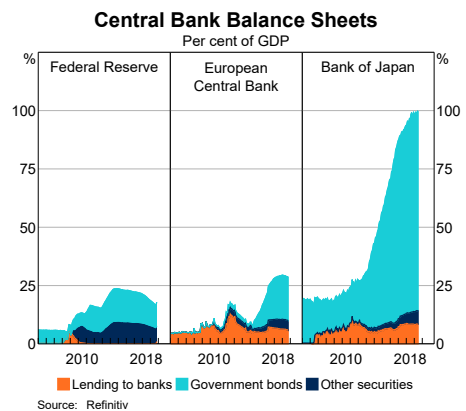
announced a package of stimulus measures at its September meeting. This package included: lowering the deposit rate by 10 basis points to –0.5 per cent; introducing a tiered system of reserve remuneration to lower the portion of banks’ excess reserve holdings that are subject to the negative deposit rate; renewing asset purchases; and easing the conditions of its targeted long-term refinancing operations. ECB officials stated that these measures were introduced in response to inflation running persistently below the ECB’s target (of close to, but below, 2 per cent), protracted weakness in euro area growth and downside risks to the outlook. The Governing Council committed to purchase government and private sector securities until shortly before it increases its policy rate and not to lift rates until there is a sustained increase in inflation (Graph 1.18).

The BoJ left its policy settings unchanged in October but signalled that it may provide further policy stimulus if there is evidence of a loss of momentum in inflation towards the 2 per cent target. In late September, the BoJ announced that it plans to increase purchases of short-term bonds and reduce purchases of long-term bonds in an effort to steepen the yield curve. The BoJ noted that a steeper yield curve could mitigate the effects of negative yields on long-term institutional investors, such as pension

**Graph 1.17**



**Graph 1.18**





funds and life insurance companies, and improve the transmission of monetary policy to the real economy.

The Reserve Bank of New Zealand (RBNZ) left its policy rate unchanged at 1.00 per cent at its September meeting, while noting that the 50 basis point rate cut in August was having the desired effect on retail lending rates and the exchange rate. Market participants expect the RBNZ to lower the policy rate by a further 25 basis points by early next year.

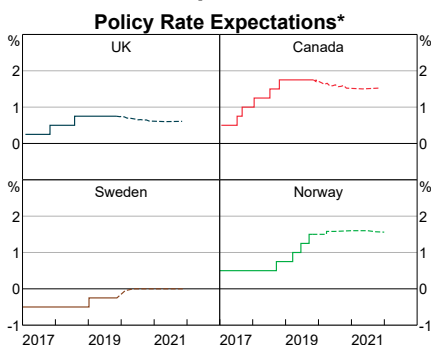
A number of other central banks in advanced economies have left policy rates unchanged in recent months, including the Bank of Canada, Bank of England (BoE) and Swedish Riksbank, while Norges Bank increased rates in September (Graph 1.19). All have noted that inflation is close to target and their economies are judged to be operating close to potential. However, they have also emphasised that the future path of policy remains uncertain, reflecting risks to the global economic outlook and uncertainty as to how these might transmit domestically. The BoE has also noted that future policy remains dependent on the nature of the United Kingdom's exit from the European Union.

## Government bond yields remain low; a large share are trading with negative yields

Government bond yields in advanced economies have increased slightly since the August *Statement* but remain near historic lows in a number of countries (Graph 1.20). Since late 2018, bonds yields have declined substantially, and a large share of bonds issued in advanced economies are now trading with a yield below zero (Graph 1.21). The governments of some European countries have been issuing short-term government bills with negative yields since 2011, as has the Japanese government since 2014, when policy rates in these countries first fell close to zero. More recently, governments have been issuing debt at negative yields for longer maturities, and some governments have been able to borrow at negative interest rates for 30 years or more. A few highly rated corporations have also issued bonds with yields below zero.

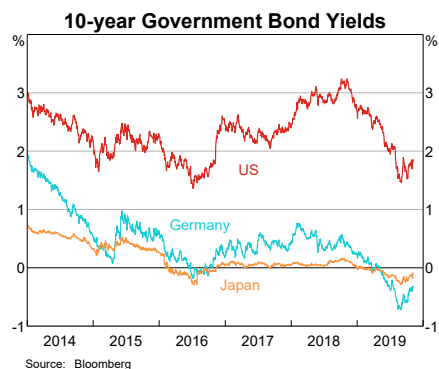
There are a number of reasons for investors to hold negative-yielding securities. Many institutional investors, such as life insurance companies and defined benefit pension funds, operate under mandates or are required by regulation to hold highly rated, long-duration assets, even at negative yields. Some are prepared to hold negative-yielding securities where they are considered to have superior

**Graph 1.19**



\* Expectations for the UK and Canada are derived from OIS curves, expectations for Sweden and Norway are central bank forecasts  
Sources: Bloomberg; Norges Bank; Sveriges Riksbank

**Graph 1.20**



Source: Bloomberg

liquidity characteristics (including during periods of heightened risk aversion). Other investors may expect rates to fall even further below zero, or may opt to invest in fixed income securities (even with low or slightly negative interest rates) to hedge against the risk of prolonged deflation. Some foreign buyers may also be able to earn positive returns on negative-yielding bonds due to the currency basis; this is the extra compensation received for lending currencies that are in high demand (such as the US dollar) in exchange for other currencies (such as the Japanese yen).

### The cost of funding for corporations remains low

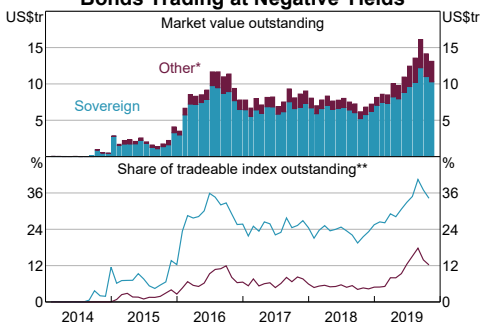
Yields on corporate bonds remain low, reflecting both low government bond yields and narrow credit spreads (Graph 1.22). Demand for corporate bonds has remained robust, driven by strong appetite for higher yields compared with government securities and expectations that corporate default rates will remain low. In China, the improvement in financial conditions for corporations in part reflects the targeted policy easing directed to smaller banks, which in turn direct relatively more of their lending to private enterprises than larger banks. This policy easing has reduced banks' funding costs, which can be

passed on to corporations in the form of lower lending rates.

Global equity indices have traded mainly within a 5–10 per cent range for the past six months after increasing strongly in the early part of the year, and are now at record highs in the United States (Graph 1.23). Valuation metrics that compare prices to earnings or book value are around historical averages, though equity risk premiums (the excess inflation-adjusted yield on equities compared to bonds) appear somewhat higher than longer-term averages, in part reflecting the unusually low levels of real sovereign bond yields. Market analysts expect profitability of corporations to remain sound, despite some recent slowing in earnings growth.

**Graph 1.21**

#### Bonds Trading at Negative Yields

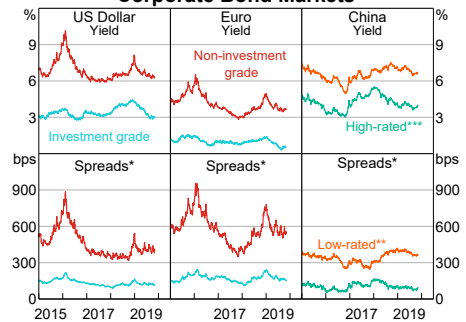


\* Includes corporate, quasi/foreign government, and securitised  
 \*\* Share of outstanding securities in ICE Data's Global Fixed Income Index as at October 2019

Source: ICE Data is used with permission

**Graph 1.22**

#### Corporate Bond Markets

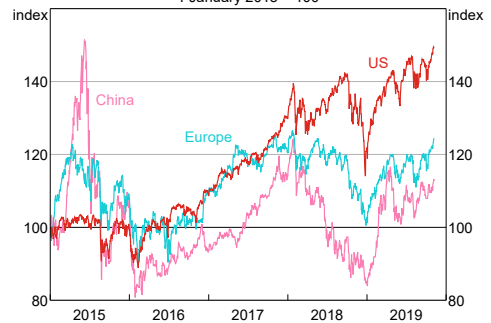


\* Spread to equivalent maturity government bond yield  
 \*\* Based on five year AA- domestically rated bond  
 \*\*\* Based on five year AAA domestically rated bond  
 Sources: Bloomberg, CEIC Data, ICE Data is used with permission

**Graph 1.23**

#### Equity Prices

1 January 2015 = 100



Source: Bloomberg

The cost of borrowing in short-term US dollar money markets (over and above expected policy rates) has risen in recent months, partly reflecting an increase in Treasury bill issuance after the debt ceiling was suspended in the United States (Graph 1.24). In mid September, US dollar repo rates increased sharply, which spilled over to some other short-term rates and resulted in the effective fed funds rate briefly exceeding the top of the Fed’s target range. The sharp rise in repo rates appears to have been largely driven by a rise in the net demand for US dollars in money markets, due to high corporate tax payments as well as the increased issuance of debt by the US Treasury, in an environment of declining bank reserves. The Fed responded to these pressures by injecting additional short-term liquidity into the repo market and increasing the stock of bank reserves via purchases of Treasury bills. It expects these measures to remain in place through the new year, in order to facilitate the fed funds rate remaining within the target range set by the Federal Open Market Committee.

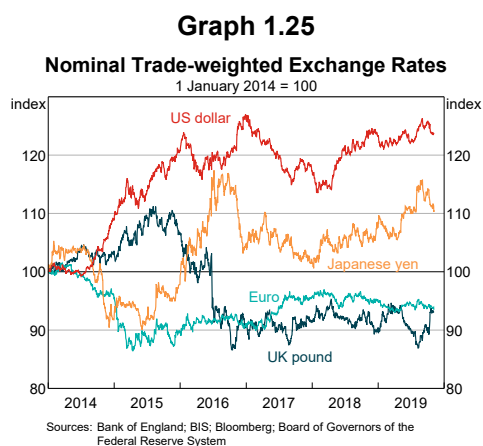
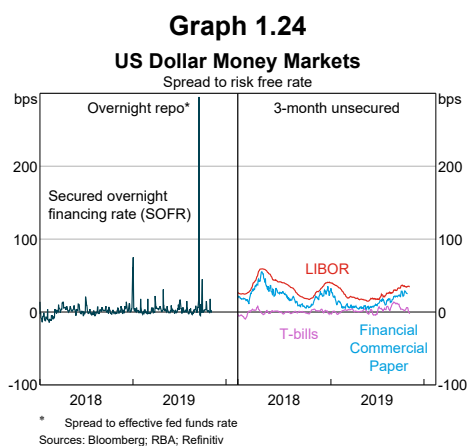
### Movements in the exchange rates of the major currencies are mixed

The US dollar has been little changed in recent months, having appreciated over the past two years on a trade-weighted (TWI) basis

(Graph 1.25). The euro is also little changed on a TWI basis; there has been little reaction since the announcement of additional stimulus measures by the ECB in September. In contrast, the Japanese yen has depreciated since the previous *Statement*, largely reversing the sharp appreciation that occurred in August alongside an increase in financial market uncertainty. The UK pound has appreciated sharply from earlier in the year, as the likelihood of a ‘no-deal’ Brexit declined. The UK Parliament has agreed in principle to a withdrawal agreement bill and the exit deadline has been extended to 31 January 2020.

### The Chinese renminbi has been relatively stable in recent months following depreciation earlier in the year

Movements in the Chinese renminbi remain responsive to developments in the US–China trade and technology disputes. After depreciating through 7 yuan per US dollar in August, the renminbi has appreciated somewhat in recent weeks against the US dollar and on a TWI basis (Graph 1.26). While China’s foreign currency reserves have been stable at around US\$3 trillion, in recent months, the authorities have generally set the daily fixing rate at a level that signals support for the



renminbi. The PBC has also reduced liquidity in the offshore renminbi money market, which makes it more expensive to sell renminbi in the forward market. Over the past year or so, and in contrast to early 2016, the currency has also been supported by an increase in China's net portfolio inflows alongside the inclusion of Chinese bonds and equities in benchmark indices that are widely tracked by global portfolio managers (Graph 1.27).

### In east Asia, the decline in global trade continues to weigh on growth

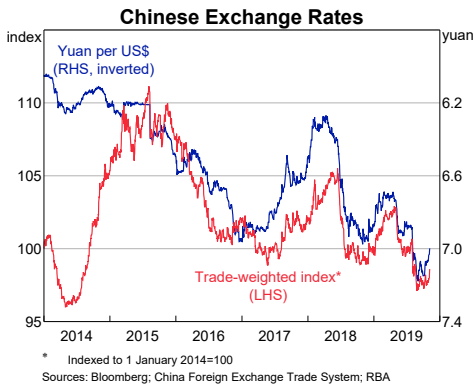
Weak external demand has continued to weigh on growth in east Asia. The outlook for the region remains subdued, particularly for the high-income economies, despite support from

monetary and fiscal policies. The escalation in the US–China trade dispute is likely to have a material impact on the region given its integration in global supply chains, especially, those involved in Chinese export production.

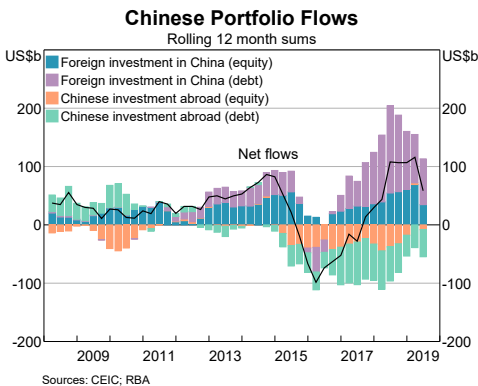
Merchandise export values have continued to decline (Graph 1.28). The export weakness has been mainly concentrated in South Korea and Singapore; these two economies are key exporters of memory integrated circuits, which have experienced large price declines due to oversupply and weak global demand. Exports to the United States have been boosted in some economies as trade has been diverted from China as a result of the higher tariffs. Export volumes and industrial production have tentatively stabilised since May at around year-ago levels (Graph 1.29). Surveyed business conditions and new export orders have picked up in some economies in recent months, but remain below average levels.

GDP growth in east Asia continued at a subdued rate in the September quarter, particularly in the more export-oriented economies in the region (Graph 1.30). Investment has declined and consumption growth has slowed over the past year in the more export-oriented economies (Graph 1.31). Political unrest has weighed additionally on activity in Hong Kong. Governments in the region have taken steps to support

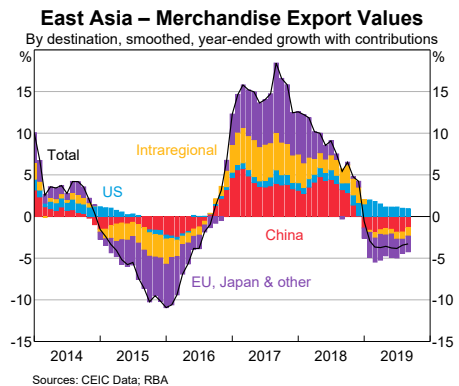
**Graph 1.26**



**Graph 1.27**



**Graph 1.28**



growth. The South Korean government has increased spending this year and a further large increase is proposed for next year. Growth has been more resilient in the less export-oriented economies, especially Indonesia, supported by steady consumption growth. Activity has picked up in some economies, such as Vietnam, because production of some exports to the United States has relocated from China.

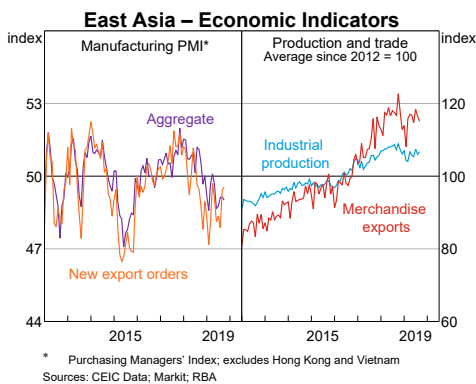
Monetary policy has become more accommodative in response to lower growth and low inflation in the region (Graph 1.32). Inflation has declined in South Korea partly due to the slowdown in growth and despite stronger wage growth since 2018 following substantial minimum wage increases. Inflation has also

declined to below the target band in the Philippines following tighter monetary policy in 2018 and more subdued food prices this year. In Indonesia, inflation is around the midpoint of the inflation target range, supported by easing policy and relatively resilient domestic demand. In Malaysia, inflation has increased this year because of base effects from changes in consumption taxes a year ago.

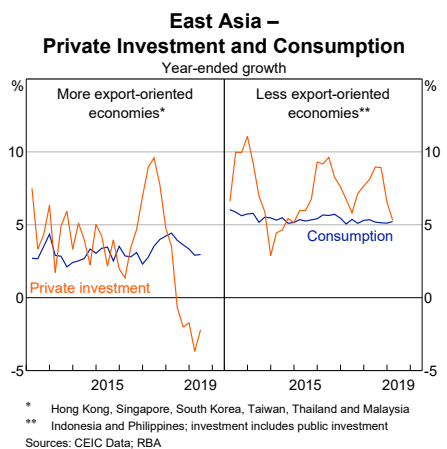
### Indian authorities have eased policy further to support growth

Indian economic growth declined further in the June quarter, reflecting a broad-based slowdown in domestic demand (Graph 1.33).

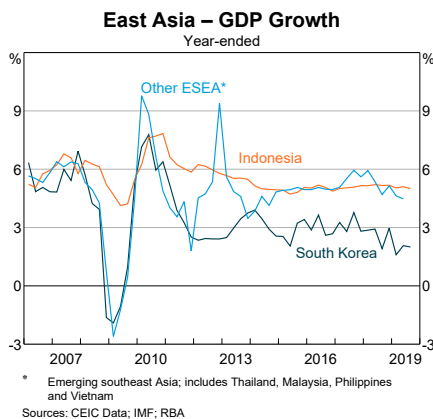
**Graph 1.29**



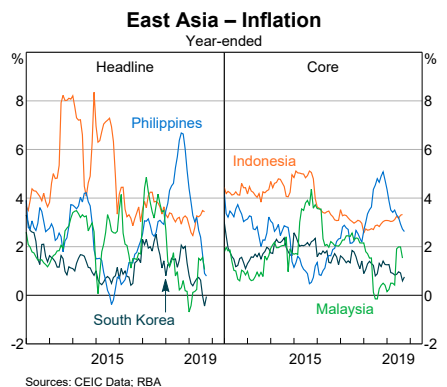
**Graph 1.31**



**Graph 1.30**

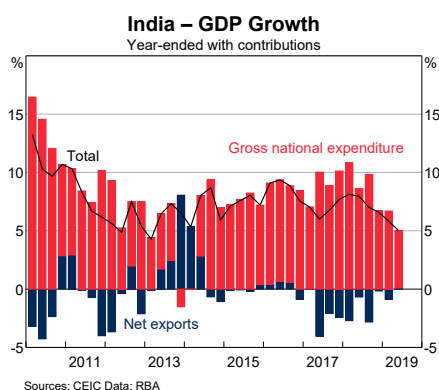


**Graph 1.32**

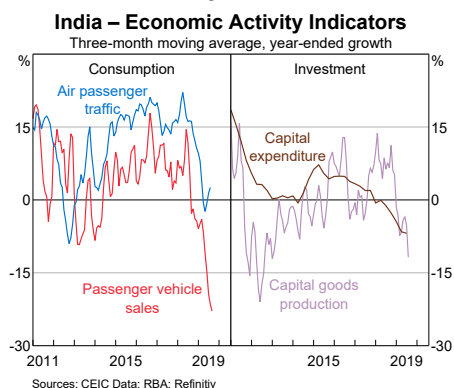


Domestic demand has softened at the same time that regulators have given more attention to bad debts on lenders' balance sheets; these institutions have therefore had to clean up their balance sheets, which has weighed on credit growth. Timely indicators suggest that consumption and investment have remained weak in recent months; car sales have continued to fall and growth in air passenger traffic remains subdued (Graph 1.34). Production and imports of capital goods have also declined markedly and capital expenditure has contracted further. In September, headline inflation increased to be in the middle of the Reserve Bank of India's (RBI's) target band, reflecting rapid inflation in food and beverage prices, while core inflation has been steady.

**Graph 1.33**



**Graph 1.34**



The Indian Government has announced a number of measures in recent months to support growth. Most significantly, the government reduced the base corporate tax rate from 30 per cent to 22 per cent, and lowered the tax rate applicable to new manufacturing companies from 25 per cent to 15 per cent. Other measures announced included lifting a ban on government purchases of new vehicles, consolidating 10 state-owned banks into four to support lending activity and cancelling a planned tax increase on foreign portfolio investors. The RBI reduced its policy rate by a further 25 basis points in October, taking the cumulative easing in the policy rate this year to 135 basis points.

### Accommodative global financial market conditions have supported emerging financial markets

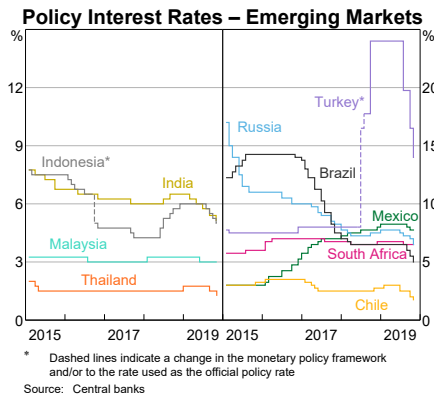
Like the RBI, many other emerging market central banks have lowered their policy rates this year, in response to the weaker external growth outlook, subdued domestic inflationary pressures and reduced external financing risks (Graph 1.35). Policy easing has contributed to declines in yields on government bonds denominated in local currencies and increases in equity prices (Graph 1.36). The currencies of most emerging market economies have been little changed against the US dollar in recent months. Argentina is a notable exception where financial market conditions have deteriorated further. Government bond yields have risen, the Argentine peso has depreciated and capital controls have been tightened as political developments raise concerns that the government may postpone or restructure debt repayments.

### Oil prices have been volatile in recent months

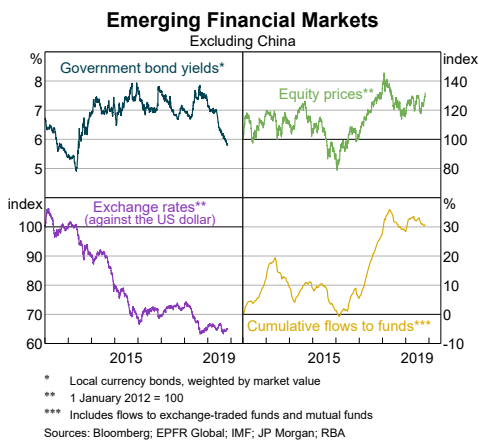
Oil prices increased sharply in mid September following attacks on Saudi Arabian oil assets,

which affected around 5 per cent of global oil supply (Graph 1.37). However, oil prices subsequently retraced this fall because oil production was restored faster than initially expected, according to Saudi authorities and market reports. More broadly, increases in US oil production and concerns about the outlook for oil demand stemming from more moderate global growth have weighed on oil prices, which remain around 15 per cent below their recent peak in mid May.

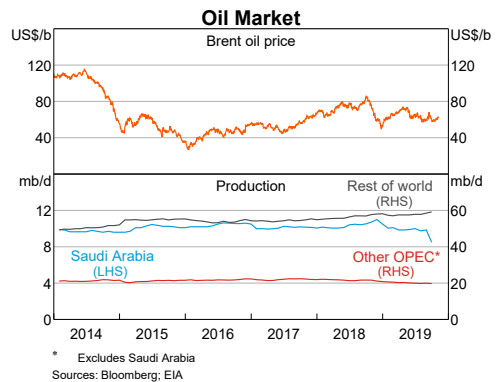
**Graph 1.35**



**Graph 1.36**



**Graph 1.37**



**Bulk commodity prices have been driven by Chinese policies and global supply developments**

Iron ore prices are 13 per cent higher than a year ago, in part because of ongoing strength in Chinese steel production as a result of policy measures to support the Chinese economy (Graph 1.38; Table 1.1). Recently announced measures to accelerate and increase infrastructure investment by local governments over the next year suggest that the outlook for Chinese iron ore demand remains fairly positive. A portion of global supply also remains offline, following production disruptions in Brazil earlier in the year, although the restoration of some supply has weighed on prices in recent months. The ongoing US–China trade and technology disputes have also contributed to price volatility in recent months.

Australian thermal coal prices have declined over recent months because seaborne supply, including from Australia, has increased (Graph 1.39). Global demand has also been softer, in part because electricity generators have been substituting away from coal to gas in response to a decline in global spot prices for gas over the past year. Coking coal prices have also declined, partly reflecting some weakness in demand from Asian economies.

**Table 1.1: Commodity Price Growth<sup>(a)</sup>**

	Since previous <i>Statement</i>	Over the past year
Bulk commodities	-12	-12
– Iron ore	-13	13
– Coking coal	-16	-39
– Thermal coal	-5	-35
Rural	2	-4
Base metals	4	-2
Gold	-1	22
Brent crude oil <sup>(b)</sup>	8	-13
RBA ICP	-5	-5
– Using spot prices for bulk commodities	-7	-11

(a) Prices from the RBA Index of Commodity Prices (ICP); bulk commodity prices are spot prices

(b) In US dollars

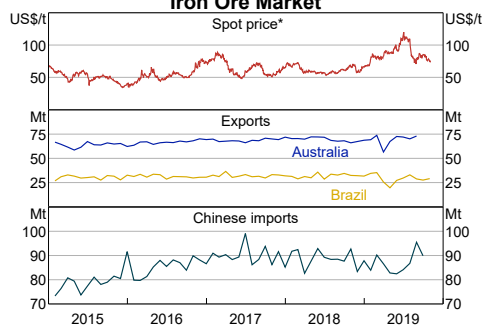
Sources: Bloomberg; IHS Markit; RBA

Base metal prices are generally higher since the previous *Statement* (Graph 1.40). Zinc, lead and nickel prices have increased following some supply disruptions. Prices for Australian rural exports have been mixed over the previous three months. Lower pork production in China and strong demand from the United States has supported beef and lamb prices, although lamb prices have declined from their peak partly because of a seasonal increase in Australian supply. Wool prices have decreased because of softer demand from China.

Based on partial data, Australian export prices (including the prices of non-commodity exports) are expected to have increased in the September quarter, which suggests Australia's terms of trade have remained at a high level. ✎

**Graph 1.38**

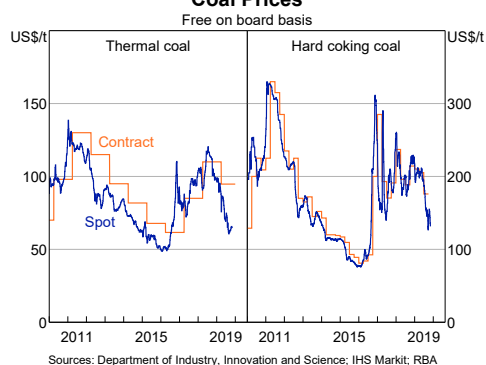
**Iron Ore Market**



\* 62% Fe Fines index; free on board basis  
Sources: ABS; Bloomberg; CEIC Data; RBA

**Graph 1.39**

**Coal Prices**



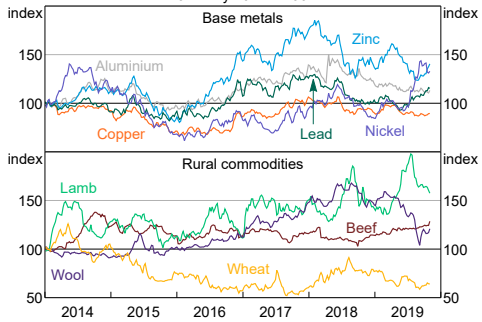
Sources: Department of Industry, Innovation and Science; IHS Markit; RBA



### Graph 1.40

#### Base Metal and Rural Prices

January 2014 = 100



Sources: Bloomberg; Landmark; MLA; RBA



## Box A

# Recent Reforms to Lending Rates in China

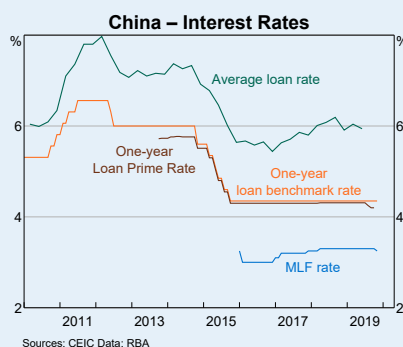
In August, China's State Council and the People's Bank of China (PBC) announced that the Loan Prime Rate (LPR) would become the new reference rate for lending in China and reformed how it is calculated. The PBC expects these changes to strengthen the transmission of administered policy rates to lending rates in the real economy. This is consistent with the authorities' objective of moving to a monetary policy framework that is more focused on using interest rates as the instrument of policy than direct control of the supply of money and bank credit. These changes are also important steps in the ongoing transition towards market-based pricing of financial products and greater competition in the banking industry, which has been underway for more than two decades.

### The Loan Prime Rate will now be the reference rate for lending by Chinese banks ...

The LPR is the interest rate banks charge their most creditworthy customers. Up until now, it has been calculated as the average of quotes submitted by a panel of 10 banks, expressed as a multiple of the equivalent-term official benchmark lending rate (for example, 0.9 times the benchmark lending rate) and it was not generally used as a reference rate for pricing the loans of banks' other customers. Changes to the official benchmark rate required approval by the State Council and no adjustments had been made since 2015. As a result, the LPR did not vary much (Graph A.1).

Under the new arrangements, an expanded panel of 18 banks will submit quotes for the rate they offer their most creditworthy customers on one-year loans, expressed as a spread to the one-year rate offered by the PBC through the medium-term lending facility (MLF; for example, 100 basis points above the MLF rate). Changes to the MLF rate do not require State Council approval. The LPR will be calculated as the average of these quotes (excluding the highest and lowest quotes) and the result will be published on the 20th of each month. The spread between the LPR and MLF is generally determined by a range of factors, including bank funding costs, the demand for loans and the pricing of credit risk associated with lending to banks' best customers. The PBC has also introduced a five-year LPR that will be calculated and published in the same way as the one-year LPR. The eight banks added to the panel include regional, rural, foreign and private banks. These banks were chosen on the basis of several criteria, including the volume of their lending activity, their loan

**Graph A.1**



pricing frameworks, and the extent of their lending to micro and small enterprises. The PBC expects the panel will expand further in the future.

The new framework requires that all new bank loans be priced relative to the LPR. The spread between the LPR and the interest rates charged on individual loans to businesses and households will reflect the demand for loans, the lending term and bank's assessment of the credit risk of these borrowers.

The main objectives of the new framework are to improve the transmission of monetary policy, increase competition for business loans among financial institutions and encourage banks to improve their pricing of risk. By linking the interest rate on all new loans to the MLF (via the LPR), the interest rate decisions of the PBC will flow through directly to the rates paid by businesses and households. It may also enhance competition in loan pricing, which could lead to a decline in the spread between the LPR and the MLF over time. The PBC had been concerned that banks were implicitly coordinating on a floor in loan rates, which meant that declines in market rates and bank funding costs were not being reflected in lending rates. The new arrangements may help to increase competition and break the implicit floor on lending rates. Finally, the new LPR framework could encourage banks to improve their ability to independently price the risk of different borrowers, potentially increasing their willingness to lend to higher-risk borrowers.

Meanwhile, some additional restrictions have been introduced for mortgage loans, reflecting the authorities' longstanding desire to avoid policies that lead to overheating in the housing market. In particular, the interest

rate on first mortgages cannot be lower than the LPR, and the interest rate on second and subsequent mortgages must be at least 60 basis points above the LPR. Local PBC branches and sub-branches may increase these floors according to the conditions of the housing market in their jurisdictions. The relevant LPR term is that which best reflects the term of the loan, and mortgage loans will only be able to be repriced on a minimum cycle of one year, to slow the transmission of any potential monetary easing to the housing market.

### ... but it will take time for the effects to become apparent

Banks have started to price a range of their products based on the LPR, including mortgages, corporate loans, floating rate bonds, asset-backed securities, currency swaps and interest rate swaps. However, the PBC has recognised that it will take time for banks to adjust to the new arrangements and has set a timetable for implementation. By the end of September, 30 per cent of new loans should have referenced the LPR, which should increase to 50 per cent by the end of December, and 80 per cent by the end of March 2020. The PBC will monitor compliance with the new arrangements through each bank's quarterly macroprudential assessment, a review mechanism used by the PBC in recent years to monitor lending activity and control systemic financial risks.

Since the new framework was announced, the LPR has declined by 11 basis points and now sits 15 basis points below the old official benchmark lending rate, while the MLF rate has declined by 5 basis points.

The short-term stimulatory impact of these reforms is likely to be quite limited, because

loans linked to the LPR represent only a small proportion of the total stock of outstanding loans and this will only increase gradually. A rough estimate suggests that over the coming year a little less than a third of any fall in the LPR will flow through to the average interest rate on non-mortgage loans, while the impact on mortgage interest rates will be even smaller, reflecting their longer maturities. As a result, to date, the reaction to the reforms in debt and equity markets has been limited.

Because the LPR reflects the return that banks will receive on their lending to customers, it will be influenced by banks' funding costs. For example, the PBC expects cuts to reserve requirement ratios announced in September will release CNY 900 billion worth of liquidity, which is likely to place downward pressure on interbank market rates. While this will reduce funding costs, the change will be small, because Chinese banks are largely funded by deposits rather than interbank borrowing and benchmark deposit rates remain unchanged.

The reforms could weigh on the net interest margins of Chinese banks in the short term. Loan rates are expected to decline in response to any targeted easing by the PBC. Also, greater competitive pressures should gradually weigh on interest rates charged to borrowers. However, banks' deposit rates are informally guided by published benchmark rates, which have not changed since 2015, when the explicit ceiling on deposit rates was abolished. This could be a concern for some smaller banks that have come under stress in recent months. Despite this, a number of large banks have stated that they expect the impact on margins to be manageable. ✎



## 2. Domestic Economic Conditions

Over the past year, growth in the Australian economy has been slow because of soft consumption growth and declines in housing activity and business investment. Economic growth was, however, stronger over the first half of 2019 than it was over the second half of last year. Although partial data suggest that weakness in household spending has persisted, conditions in the established housing market have improved and employment growth has remained strong. Recent monetary policy easing and the tax offset will support growth in household disposable income in the second half of 2019.

### Growth in the domestic economy has increased but remains modest

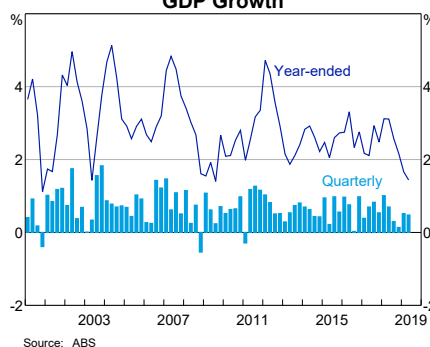
Real GDP growth was stronger in the first half of 2019 than it was over the second half of 2018, mostly because of stronger growth in resource exports. Growth remains modest overall though: GDP growth of 1.4 per cent over the year to the June quarter was the slowest rate of growth in the past decade (Table 2.1) (Graph 2.1). Private domestic demand contracted by 0.3 per cent over the year (Graph 2.2). This was driven by declines in housing activity and mining investment, as well as slower growth in consumption.

### Household consumption growth has been weak

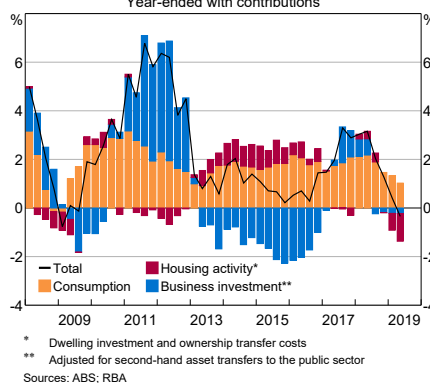
Household consumption grew by 0.4 per cent in the June quarter and by 1.4 per cent over the year. Growth for all consumption categories

except health slowed relative to the previous year, although the slowdown was more noticeable for discretionary components like furnishing & equipment, motor vehicles, and recreation & culture (Graph 2.3). The broad-based slowdown in consumption is consistent with several years of low growth in household

**Graph 2.1**  
GDP Growth



**Graph 2.2**  
Private Domestic Demand Growth  
Year-ended with contributions



**Table 2.1: Demand and Output Growth**

Per cent

	June quarter 2019	March quarter 2019	Year to June quarter 2019	Share of GDP 2018/19
GDP	0.5	0.5	1.4	100
Domestic demand	0.3	0.1	1.0	98
– Consumption	0.4	0.3	1.4	56
– Dwelling investment	–4.4	–2.2	–9.1	6
– Mining investment	2.4	–1.2	–11.6	3
– Non-mining investment	–1.1	0.3	1.5	9
– Public consumption	2.7	0.9	6.2	19
– Public investment	–3.2	0.1	1.4	5
Change in inventories <sup>(a)</sup>	–0.5	–0.1	–0.7	n/a
Exports	1.4	1.9	2.9	24
Imports	–1.3	–0.2	–2.8	22
Mining activity <sup>(b)</sup>	1.6	2.3	–1.0	15
Non-mining activity <sup>(b)</sup>	0.3	0.3	1.8	85
Farm GDP	–2.4	0.5	–8.3	2
Non-farm GDP	0.5	0.5	1.7	98
Nominal GDP	1.2	1.6	5.4	n/a
Terms of trade	1.5	3.1	8.9	n/a

(a) Contribution to GDP growth

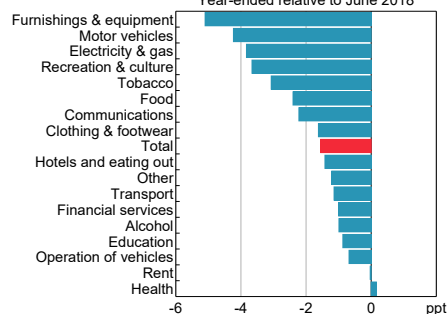
(b) RBA estimates

Sources: ABS; RBA

income and the sharp decline in the housing market since 2017. Bank estimates suggest that these developments are likely to have each accounted for roughly half of the recent decline in consumption growth.

Timely indicators suggest that household consumption growth remained weak in the September quarter. Year-ended growth in retail sales values has been relatively steady over recent quarters, however, this has been almost entirely driven by retail price inflation resulting from exchange rate pass-through and drought-related increases in food prices (Graph 2.4). Retail sales volumes decreased by 0.1 per cent in the September quarter and by 0.2 per cent over the year, the lowest rate of growth since 1991. Sales

volumes declined in most states in the September quarter.

**Graph 2.3****Change in Consumption Growth**  
Year-ended relative to June 2018

Sources: ABS; RBA



Sales volumes of durable items, such as clothing, furniture, hardware, garden supplies and electronics strengthened a little in the September quarter, which may reflect reductions in the cash rate and the low and middle income tax offset (LMITO) supporting consumption at the margin. Car sales, which are an indicator of household discretionary spending, decreased by 1.5 per cent in the September quarter. Contacts in the Bank’s business liaison program suggest that year-ended growth in retail sales values was broadly unchanged in October.

### Household disposable income growth remained subdued

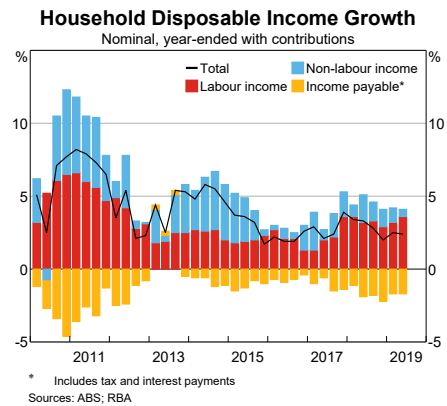
Household disposable income grew by 0.3 per cent in the June quarter and year-ended growth remained modest at 2.4 per cent (Graph 2.5). Growth in the number of employees has recently supported growth in labour income, which grew by 1.2 per cent in the quarter to be 5 per cent over the year, around the fastest pace since 2012. However, non-labour income declined by 0.3 per cent in the quarter and year-ended growth slowed further, to 0.9 per cent.

The decline in non-labour income partly reflected further declines in income from unincorporated businesses resulting from the

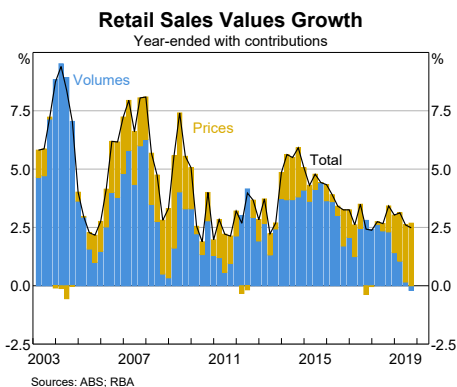
persistence of the drought and the ongoing decline in residential construction activity (Graph 2.6). The absence of temporary insurance payments related to weather events that were received by households in the previous two quarters also weighed. Growth in social assistance payments, and rental and financial income remained low. Non-labour income is not expected to pick up over the coming year.

By contrast, growth in household disposable income is expected to be boosted in the period ahead by the recent monetary policy easing lowering household interest payments, and lower tax payments. Tax paid is expected to have declined in the September quarter as households have received the LMITO; this

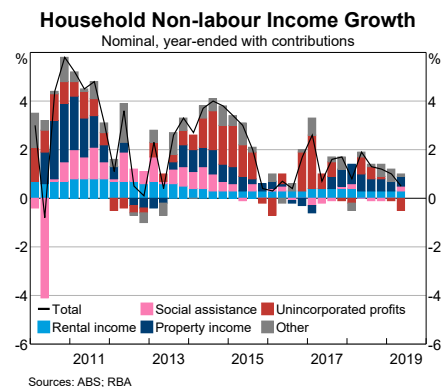
**Graph 2.5**



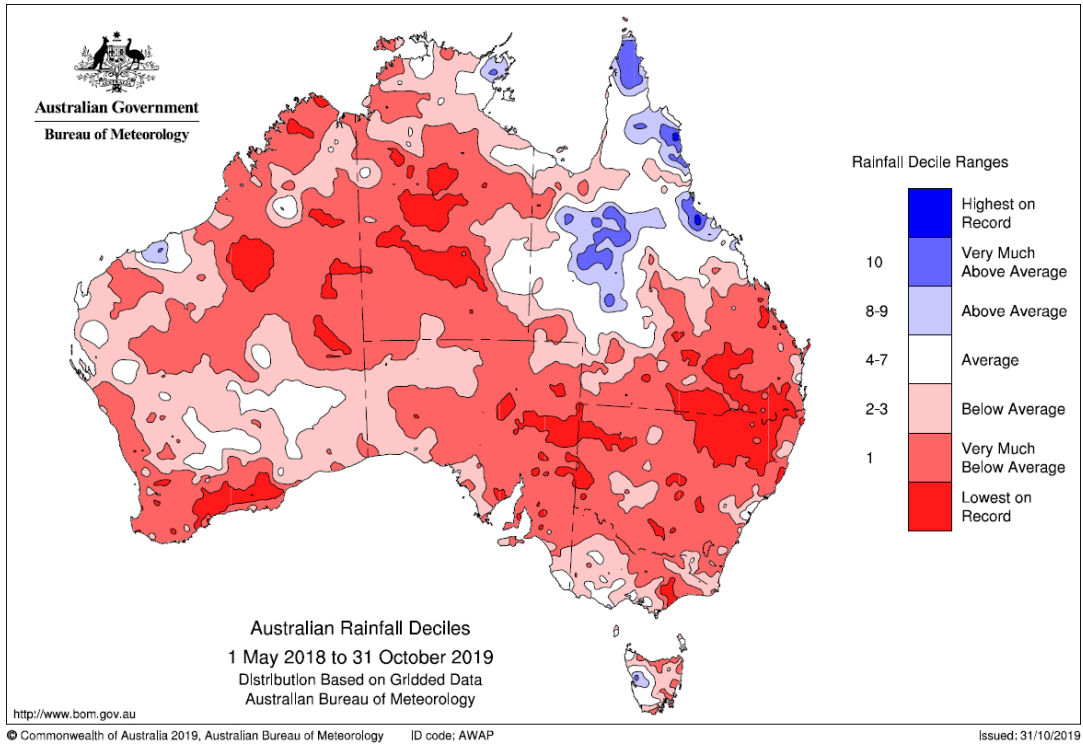
**Graph 2.4**



**Graph 2.6**



**Figure 2.1: Australian Rainfall Deciles**



compares with strong growth in tax paid which weighed on household disposable income growth in the June quarter. Over recent years, consumption growth has remained stronger than disposable income growth so the household saving ratio has declined.

### Drought conditions continue to weigh heavily on the farm sector

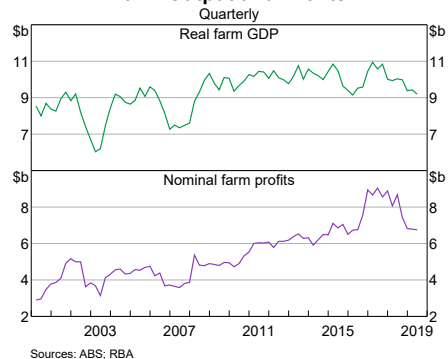
Drought conditions have persisted across much of Australia, particularly in the Murray–Darling Basin (Figure 2.1). The dry conditions have led to very low levels of stored water and soil moisture, which has reduced farm output and increased input costs. Consistent with this, farm GDP has declined by around 8 per cent since the middle of 2018, while nominal farm profits have fallen by over 20 per cent (Graph 2.7). Rural exports also decreased in the June quarter, with the decline broadly based across all components,

and partial data suggest the weakness continued into the September quarter.

The outlook for the farm sector remains challenging. Forecasts by the Australian Bureau of Agricultural and Resource Economics and Sciences suggest that farm production will decline further in 2019/20, reflecting reduced

**Graph 2.7**

### Farm Output and Profits



production of livestock, wool and summer crops. The smaller national herd and flock size is likely to weigh on rural exports for some time until producers are able to rebuild livestock numbers. The most recent climate outlook published by the Bureau of Meteorology indicates that drier-than-average conditions are expected across most of Australia until at least the end of the year.

### Dwelling investment declined further

Private dwelling investment declined by more than 4 per cent in the June quarter, to be 9 per cent lower over the year. Although the decline was broad based across states and dwelling types, the large decline in investment in higher-density dwellings in New South Wales in the quarter was notable (Graph 2.8).

Residential building approvals declined further in the September quarter, to be around 35 per cent below their peak in 2017. To date, the decline in dwelling investment has been much smaller than the decline in building approvals because a large volume of dwellings is still under construction. There was a small pick-up in building approvals in the month of September, mainly due to higher-density projects in the Australian Capital Territory and Queensland. Greenfield land sales have improved a little over recent months in most

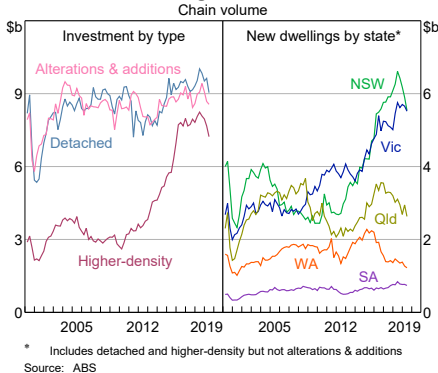
states but remain well below previous peaks. Completions of existing projects are expected to outpace approvals of new dwellings for some time (Graph 2.9). The turnaround in the established housing market in some regions has not yet translated into a pick-up in pre-sales of new houses and apartments for most developers, according to information from the Bank's business liaison program.

### The turnaround in the established housing market in Sydney and Melbourne has continued

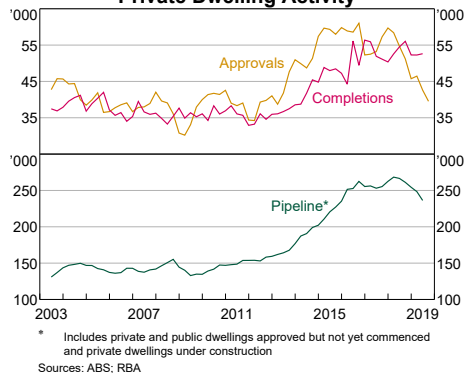
The fall in housing prices over 2017 and 2018 was an important reason behind weakness in consumption and dwelling investment. After stabilising midyear, housing price growth has picked up in Sydney and Melbourne, although conditions vary considerably across the country (Graph 2.10). Conditions in established markets appear to be firming in Brisbane and to have troughed in Adelaide. The pace of housing price growth has picked up in regional Australia in recent months. However, housing prices in Perth and Darwin declined further over the September quarter to be around their 2006 levels.

Other indicators of housing market conditions have strengthened in recent months, primarily in Sydney and Melbourne, where auction

**Graph 2.8**  
Dwelling Investment



**Graph 2.9**  
Private Dwelling Activity



**Table 2.2: Growth in Housing Prices**

Percentage change, seasonally adjusted

	October	September	August	July	Year-ended	Growth over previous five years
Sydney	1.2	1.1	1.0	0.0	-2.6	20
Melbourne	2.0	1.6	1.3	0.3	-1.0	28
Brisbane	0.6	0.2	0.2	0.3	-1.3	8
Adelaide	0.3	0.1	-0.1	-0.2	-0.9	10
Perth	-0.3	-0.5	-0.4	-0.6	-8.8	-21
Darwin	0.3	-0.2	-1.2	0.4	-9.2	-30
Canberra	0.5	0.7	0.8	0.0	2.0	23
Hobart	0.5	0.0	0.4	0.3	2.5	39
Capital cities	1.2	1.0	0.7	0.2	-2.4	15
Regions	0.4	0.3	0.1	0.0	-1.9	12
Australia	1.0	0.8	0.6	0.2	-2.3	14

Sources: CoreLogic; RBA

clearance rates have picked up further and vendor discounts and days on market have declined from recent highs (Graph 2.11). Nationally, the share of households expecting housing prices to rise over the coming year has increased in recent consumer surveys.

Available evidence suggests that the national housing turnover rate has increased over recent months. Auction volumes have started to turn around in both Sydney and Melbourne, as has the number of properties sold at auction, and

new listings have picked up. Rental vacancy rates increased in several cities over the June quarter, but generally remain below their long-term average. The vacancy rate in Sydney rose sharply to reach its highest level in 16 years, but it has begun to moderate more recently.

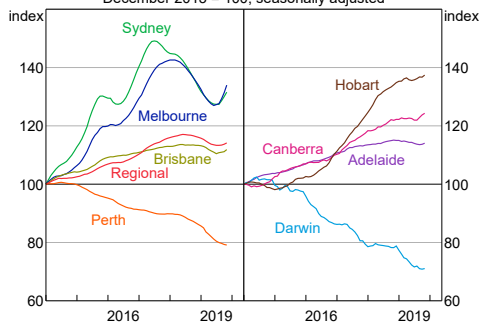
**Mining activity has picked up since the start of the year**

Mining investment picked up by 2.4 per cent in the June quarter, following several quarters of

**Graph 2.10**

**Housing Prices**

December 2013 = 100, seasonally adjusted

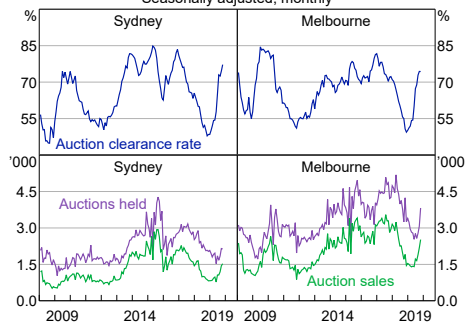


Sources: CoreLogic; RBA

**Graph 2.11**

**Auction Market Indicators**

Seasonally adjusted, monthly



Sources: APM; CoreLogic; RBA; REIV

declines associated with the extended wind-down in LNG project construction. According to the most recent Australian Bureau of Statistics (ABS) Capital Expenditure (Capex) survey, mining firms expect to increase investment in 2019/20 for both buildings & structures and machinery & equipment (Graph 2.12). Information from the Bank’s liaison program and company announcements also suggest that resource firms are likely to increase investment over the next couple of years to sustain and, in some cases, expand, production. Mining profits have also increased strongly over the past year, which could add further support to investment.

Resource export volumes increased by 2.4 per cent in the June quarter, to be 2 per cent higher over the year. Growth in the quarter was driven by an increase in exports of LNG, as recently completed LNG projects continued to ramp-up production (Graph 2.13). Coal exports also increased in the quarter, underpinned by strong demand for coking coal from India and an increase in thermal coal exports to China. Iron ore exports recovered from supply disruptions including Tropical Cyclone Veronica in late March.

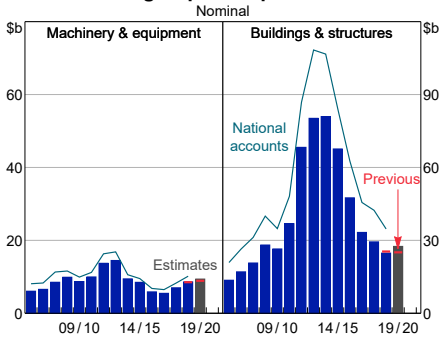
## Service and manufactured exports have been supported by a depreciation of the Australian dollar

Australia’s service and manufactured exports have continued to grow steadily, supported by a depreciation of the Australian dollar over the past year or so, reasonable growth in Australia’s major trading partners and, in the case of service exports, an increase in student and visitor arrivals. Manufactured exports increased by around 12 per cent over the year to the June quarter 2019, underpinned by strong growth in exports of scientific instruments and medicinal & pharmaceutical products (Graph 2.14).

An increase in export volumes and higher export prices (led by iron ore), combined with a decline in import values, resulted in a further

**Graph 2.12**

### Mining Capital Expenditure\*

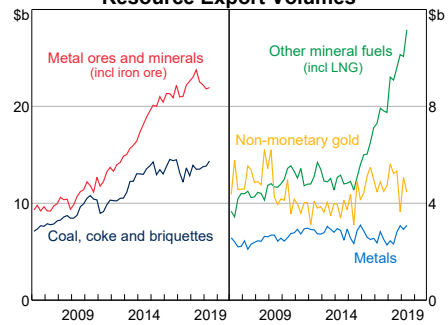


\* Estimates are firms’ expected capital expenditure; adjusted for past average differences between expected and realised spending

Sources: ABS; RBA

**Graph 2.13**

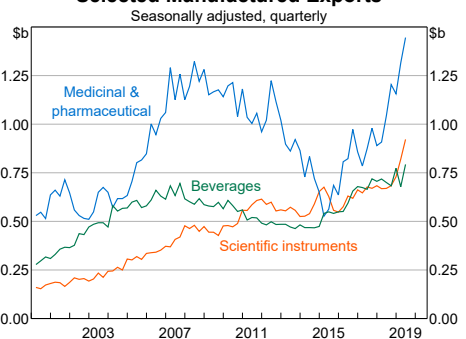
### Resource Export Volumes



Sources: ABS; RBA

**Graph 2.14**

### Selected Manufactured Exports



Sources: ABS; RBA

increase in the trade surplus in the June quarter to 4 per cent of GDP – its highest since 1959 when quarterly data begin (Graph 2.15). Partial data suggest the trade surplus will remain elevated in the September quarter. The increase in the trade surplus in the June quarter, alongside a narrowing in the net income deficit, also resulted in Australia’s first current account surplus since 1975.

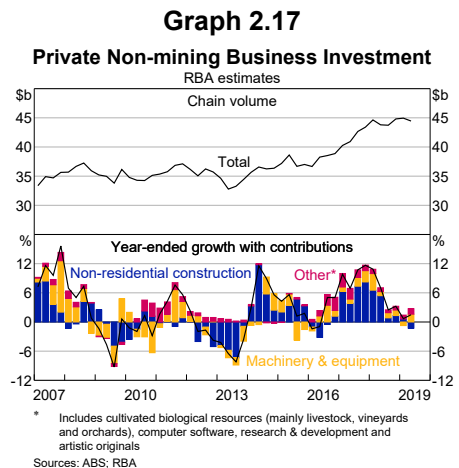
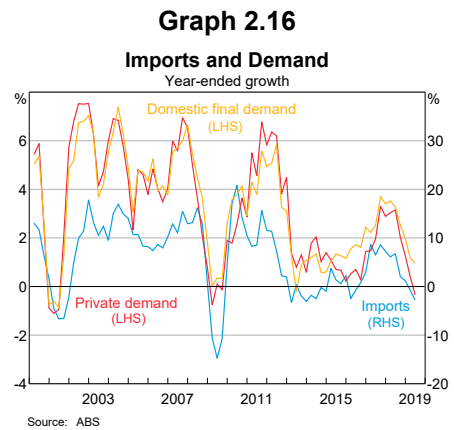
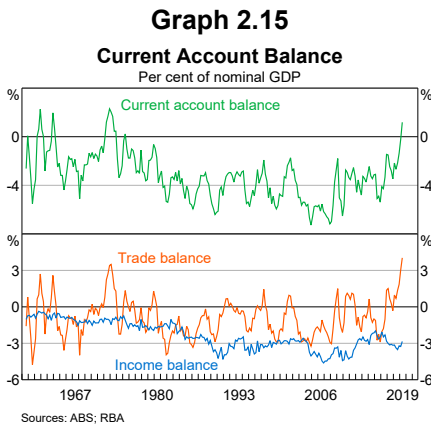
### Imports have declined alongside slower growth in domestic demand

Import volumes decreased by 1.3 per cent in the June quarter, to be 2.8 per cent lower over the year. The recent decline in imports has been broad based and is consistent with slower growth in domestic final demand, particularly private sector demand, which is relatively more import-intensive (Graph 2.16). The depreciation of the Australian dollar over the past year has increased the relative price of imports, which has also weighed on import demand. Partial data suggest that import volumes declined a little in the September quarter.

### Non-mining investment has expanded at a modest pace over the past year

Private non-mining business investment declined by 1 per cent in the June quarter, to be 1.5 per cent higher over the year (Graph 2.17). A

large part of the easing in growth over the past year has been driven by a moderation in non-residential construction activity, following a period of strong growth over 2017 and the first half of 2018. However, the level of construction activity remains elevated, both for infrastructure investment (particularly roads and renewable electricity generation projects) and buildings (particularly short-term accommodation, offices and industrial buildings). Investment in machinery & equipment has grown moderately over the past year; an increase in investment by service industries, including professional & technical services, has offset declines across goods-related industries, particularly transport, postal & warehousing.

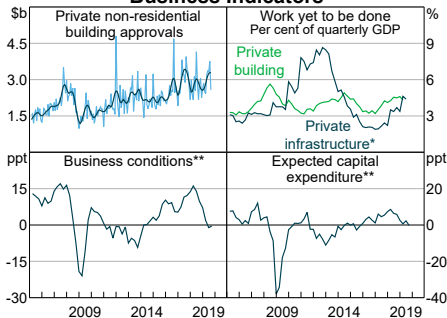


Forward-looking indicators have been mixed but generally suggest that non-mining investment will expand at a moderate pace. Private non-residential building approvals have trended higher over recent months, led by approvals for office and other commercial buildings (Graph 2.18). The pipelines of both buildings and private infrastructure work yet to be done remain elevated. These indicators suggest ongoing support for non-residential construction activity over the next year or so.

Investment intentions for 2019/20 reported by non-mining firms in the Capex survey suggest non-mining business investment may ease; however, the Capex survey does not cover all industries or all types of investment (Graph 2.19). The decline in reported business investment intentions was particularly concentrated in the construction industry, consistent with the recent slowing in non-residential construction activity (Graph 2.20). Investment intentions in other non-mining industries remain broadly positive, particularly in the utilities, transport, postal & warehousing and rental, hiring & real estate industries. Survey measures of business conditions and expected capital expenditure remain around long-run average levels, but well below their high levels in early 2018.

**Graph 2.18**

**Business Indicators**

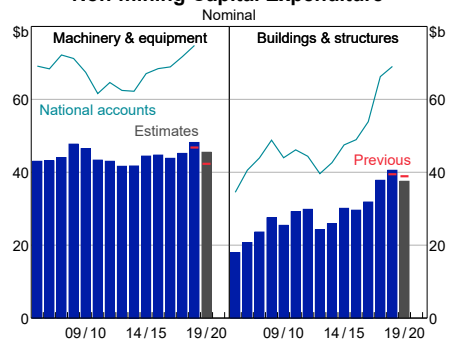


\* Excludes resources and other heavy industry  
 \*\* Non-mining; NAB survey; net balance, deviation from long-run average  
 Sources: ABS; NAB; RBA

**Public consumption strengthened**

Public demand increased by 1.5 per cent in the June quarter and by 5.2 per cent over the year. Growth was driven by public consumption, which increased by 6.2 per cent over the year (Graph 2.21). This reflected growth in consumption at both the federal and state levels, underpinned by the ongoing rollout of the National Disability Insurance Scheme (NDIS) and spending on aged care. Public consumption was boosted in the quarter by some temporary factors, such as expenditure associated with the federal election and remediation work following floods in central Queensland.

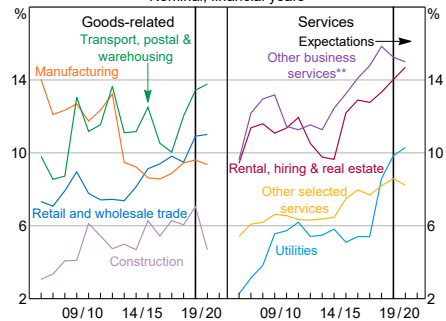
**Graph 2.19**  
**Non-mining Capital Expenditure\***



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

**Graph 2.20**

**Capital Expenditure by Industry\***



\* Non-mining industries included in the ABS capital expenditure (Capex) survey; expectations are firms' estimates of capital expenditure; adjusted for past average differences between expected and realised spending  
 \*\* Includes information media & telecommunications, finance & insurance, and professional, scientific & technical services  
 Sources: ABS; RBA

In contrast, public investment slowed further, declining by 3.2 per cent in the quarter; year-ended growth eased to 1.4 per cent. Investment by state and local governments declined in the quarter, because a number of infrastructure projects were completed and there was lower investment in energy projects in South Australia and Victoria. Other forms of government spending such as social assistance have been broadly unchanged for several years.

Taxation revenue from the household sector has grown strongly over the past few years, and taxation revenue from other sources has also grown (Graph 2.22). As a result, there has been a trend reduction in the underlying cash deficit in the consolidated set of government budgets over recent years and government saving has increased.

### Employment growth remains strong ...

Employment grew by around 90,000 in the September quarter (Graph 2.23). Employment has increased at an annualised rate of around 2½ per cent over the past three years, and the employment-to-population ratio is at its highest level since 2008. Both full-time and part-time employment have contributed in roughly equal parts to employment growth over the past six months, although full-time employment has

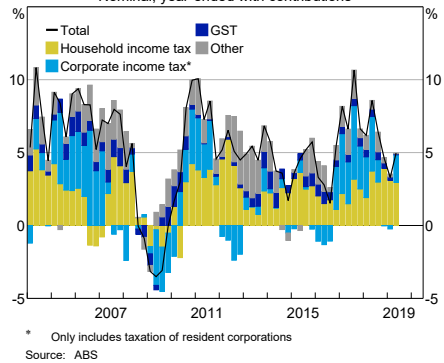
accounted for most of the growth over the past few years. Despite the relative strength in full-time employment growth, average hours worked have declined because full-time workers on long hours are working less, especially those that are self-employed.

Strong employment outcomes have occurred despite weaker growth in economic activity from mid 2018 as well as softer signals from leading indicators of labour demand (see Box B: Industry Insights into Productivity Growth). Leading indicators of labour demand point to around average employment growth in the near term (Graph 2.24). Indicators of job advertisements are lower than one year ago. Employment intentions in the NAB survey and

**Graph 2.22**

**Taxation Revenue Growth**

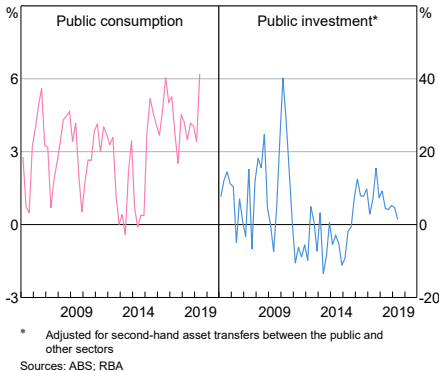
Nominal, year-ended with contributions



**Graph 2.21**

**Government Spending Growth**

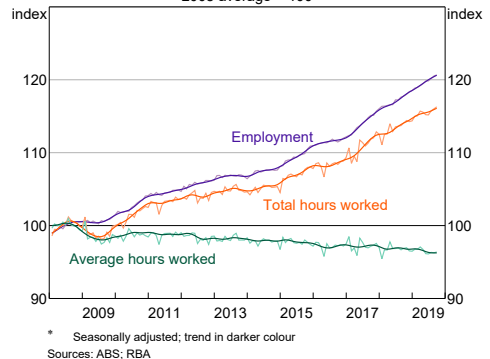
Year-ended



**Graph 2.23**

**Employment and Hours Worked\***

2008 average = 100





the Bank's liaison program have also declined over the past year, but remain above long-run averages. Job vacancies have declined slightly since earlier in the year, but remain at a relatively high level as a share of the labour force.

Employment growth continued to be concentrated in the household services sector (Graph 2.25). Health care & social assistance and education & training have been the main contributors to employment growth. The increase in health-related employment appears to have been fairly broad based but, in recent years, growth has been particularly pronounced for aged & disabled carers and nurses. Alongside the structural rise in health-related employment as a result of the ageing in the population, part of the increase is likely to be related to the rollout of the NDIS. By contrast, the construction industry's share of total employment has fallen recently following strong growth over the previous few years. Construction employment vacancies declined a little over the three months to August and information from the Bank's liaison program shows that employment intentions for firms exposed to residential construction are weak.

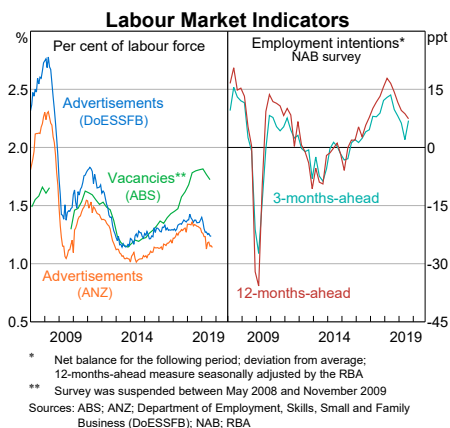
## ... and continues to be met by a rise in labour supply

Much of the strength in employment growth over the past three years has been matched by higher labour force participation and the participation rate is around record highs. The increase in the participation rate over the past six months has been larger than the average 'encouraged worker' response to employment growth would suggest, but is within the bounds of historical experience over recent decades. The rise has been broadly based across most states – although the increase in NSW has been notable – and comprises females aged 25–64 years and older workers of both sexes (Graph 2.26). Alongside structural longer-run increases in participation, these groups tend to increase their labour supply noticeably when demand for labour is strong.

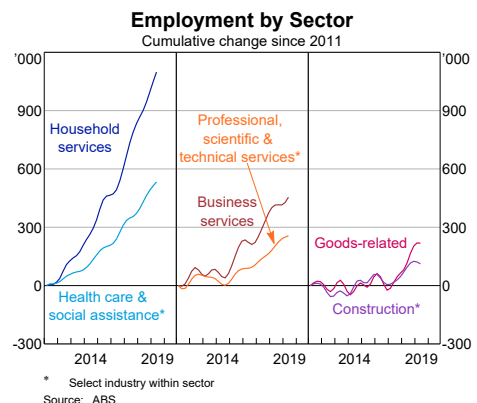
## The unemployment rate remains unchanged

The unemployment rate has been around 5¼ per cent since April (Graph 2.27). Over the past year or so, unemployment rates have increased across most states, with Western Australia a notable exception. The share of underemployed workers – who want and are available to work additional hours – has increased a little recently. As a result, a broader

**Graph 2.24**



**Graph 2.25**

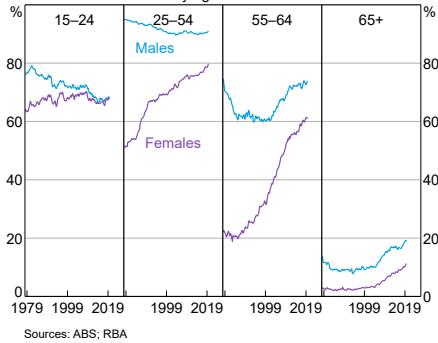


measure of labour market underutilisation, which captures both the hours sought by the unemployed and the additional hours that underemployed people would like to work, has increased over the past six months or so, consistent with the recent increase in the share of part-time workers. Ongoing spare capacity in the labour market has been reflected in modest wages growth. ↗

**Graph 2.26**

**Participation Rate**

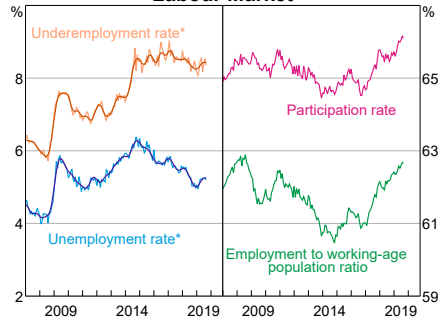
By age and sex



Sources: ABS; RBA

**Graph 2.27**

**Labour Market**



\* Heads-based measures; trend rates in darker shade  
Source: ABS

## Box B

# Industry Insights into Productivity Growth

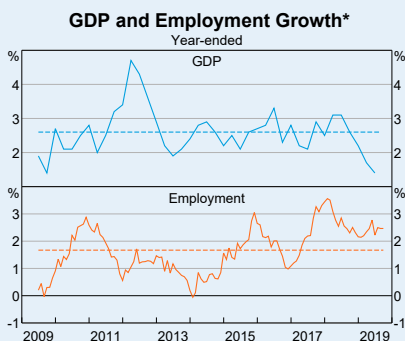
Over recent times, employment growth has been stronger than the Bank expected. At the same time, GDP growth has been weaker than expected and below estimates of potential growth (Graph B.1). This is an unusual combination of outcomes; typically, GDP growth exceeds employment growth but the reverse has been true lately. Labour productivity growth – defined as growth in output per worker or per hour worked – has therefore been negative (Graph B.2).

Conceptually, labour productivity captures the efficiency with which an industry employs labour to produce economic output. When interpreting changes in labour productivity growth, there are a couple of measurement challenges that can cause productivity growth to deviate from its conceptual definition. First, the output in non-market industries – such as health care & social assistance and education & training – is difficult to measure, especially over short periods of time. This is because services in

health and education are often provided for free or at subsidised prices and so there are not many market transactions.<sup>[1]</sup> Second, cyclical factors may cause short-term changes in labour productivity to deviate from the underlying rate of productivity growth. For example, labour market conditions tend to lag the cycle in economic activity. This means that productivity tends to decline when demand is weaker than expected because growth in output declines by more than growth in inputs.

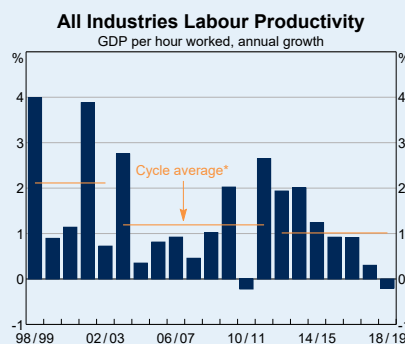
Because of this, productivity is often analysed over longer periods of time. Doing so removes most short-term cyclical effects and some of the measurement error associated with estimating output for some industries. Indeed, since the end of 2010, labour productivity growth has been broadly unchanged relative to the previous economic cycle, averaging around 1 per cent per year. In both these cycles, these outcomes were mostly driven by strong

### Graph B.1



\* Dashed line is the decade average  
Sources: ABS, RBA

### Graph B.2



\* Cycles are defined by the ABS as the average between productivity growth cycle peaks; last cycle remains incomplete  
Sources: ABS, RBA

labour productivity in the mining sector as new production came online after the investment boom. This notwithstanding, the more recent decline in productivity growth is notable and warrants closer examination.

To do this, it is useful to examine productivity growth at the industry level.<sup>[2]</sup> Labour productivity growth can be decomposed into changes resulting from labour reallocation *between* industries and those resulting from changes in productivity *within* individual industries. In particular, labour productivity growth – measured as output per hour – can be decomposed into the sum of the following two effects:

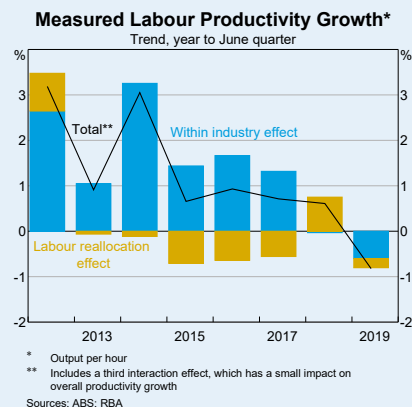
1. The *within-industry productivity growth effect* – equal to the sum of productivity growth in individual industries, weighted by each industry’s share of total output in the previous period. The within-industry effect isolates the impact of productivity growth within each industry on total economy productivity growth. If one industry had strong productivity growth, this would increase the within-industry effect, especially if the industry was large.
2. The *labour reallocation effect* – equal to the change in each industry’s share of total hours worked weighted by its relative level of productivity in the previous period. The labour reallocation effect isolates the impact on productivity growth of a shift in labour resources between industries. For example, if activity shifted towards an industry with relatively high productivity (such as mining), labour reallocation would add to overall productivity growth.

The results from this decomposition imply that the labour reallocation effect has not contributed much to the recent decline in productivity growth (Graph B.3). In Australia,

the movement of workers into and out of the mining industry has tended to drive labour reallocation effects over the past decade; even though the mining sector accounts for only a small share of the workforce it has a much higher level of productivity than other parts of the economy. For example, the reallocation of workers away from the mining industry as the production phase of the mining boom got underway over 2013–17 subtracted from productivity growth.

The small labour reallocation drag may seem surprising given the observed strength of employment growth in the health care and education industries, where measured productivity is below the economy-wide average. However, labour reallocation effects depend on where labour has reallocated from. In the past, workers in the health care and education industries have tended to come from industries with an even lower level of measured productivity, such as retail or accommodation & food services. Such transitions would tend to support overall productivity growth in the economy. On the other hand, workers transitioning from outside the labour force to the health care

**Graph B.3**

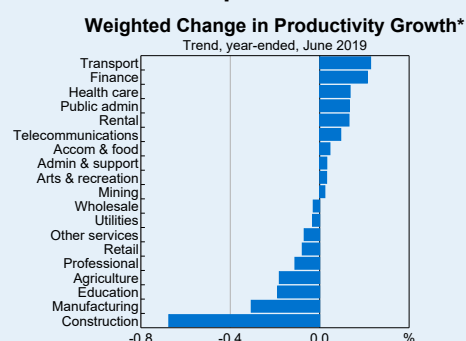


and education industries would tend to weigh on overall labour productivity growth, because the share of the labour force employed in industries with higher measured productivity declines.

Instead, it has been within-industry productivity growth effects that have driven the recent decline in productivity growth, in particular the decline in productivity growth in the construction industry (Graph B.4). The fall in productivity growth in the construction industry reflects larger-than-expected declines in dwelling investment at the same time as hours worked in the industry have increased, though at a slowing pace. Since its peak in the September quarter of 2018, residential building investment has fallen by almost 10 per cent. A possible explanation here is that there has been more than the usual degree of labour hoarding in the construction industry. For example, in the most recent cycle, larger construction firms may have decided to hold onto employees in the expectation that residential construction

activity will pick up again in the near future as underlying demand outstrips new home building. At the same time, small businesses (0–20 employees) in the construction sector – which comprise 70 per cent of the industry’s total employment – may have opted to focus on other aspects of the business in response to the cyclical downturn in residential construction rather than exiting the industry altogether. ✎

**Graph B.4**



\* Weighted by each industry’s share of total output in June 2018; bars sum to the within-industry productivity growth effect; productivity is measured as output per hour  
Sources: ABS; RBA

## Endnotes

[1] The Australian Bureau of Statistics has recently undertaken a project on developing enhanced output measures for some household services (see Annabel J (2019), ‘Enhancing Measures of Non-market Output in Economic Statistics: A Roadmap’, *Australian Bureau of Statistics*).

[2] This analysis uses the Australian Bureau of Statistics’ ‘experimental’ *Labour Account* data because it uses industry classifications that align closely with the measurement of value-added by industry in the national accounts.



## 3. Domestic Financial Conditions

The reductions in the cash rate this year have resulted in more accommodative financial conditions for households and large businesses. Financial markets have priced in some chance that the cash rate will be reduced by a further 25 basis points in 2020. Government and corporate bond yields have declined over 2019 across all maturities and remain around historic lows. Consistent with the low level of the cash rate, banks' funding costs have declined to historically low levels, as have housing and business interest rates.

There has been a pick-up in approvals for housing loans in recent months alongside the stronger conditions in some housing markets. However, the increase in approvals has not yet translated into a material increase in the growth of housing credit. To date, the pick-up in new borrowing has been accompanied by faster repayment of existing loans. This is consistent with historical experience that only a small share of borrowers on variable-rate mortgages actively adjust their scheduled repayments in the months following interest rate reductions. Growth in business debt has decreased and small businesses' access to funding remains difficult. Australian equity prices have increased in recent months, in line with international markets, to be around the historically high levels reached in July. The value of the Australian dollar remains around its lowest level in some years.

### The cash rate has been reduced by 75 basis points this year

Following the reductions at the June and July Board meetings, the cash rate target was

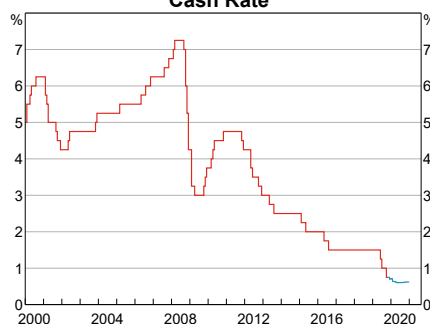
lowered by a further 25 basis points in October, to 0.75 per cent. Financial markets have priced in some chance that the cash rate will be lowered by a further 25 basis points next year (Graph 3.1).

### Government bond yields remain around their historic lows

Yields on Australian Government Securities (AGS) declined over much of 2019 to reach historic lows, and have remained around these levels in recent months (Graph 3.2). This is in line with developments in yields on government bonds in other advanced economies, which have remained low against the backdrop of ongoing trade disputes, expectations for slower global growth, subdued inflation and widespread monetary policy easing. After declining for several years, the spread between US Treasury and AGS yields has been stable since early 2019; the AGS 10-year yield is currently around 60 basis points below the 10-year US Treasury yield.

**Graph 3.1**

**Cash Rate\***



\* Data from November onwards are expectations derived from interbank cash rate futures  
Sources: ASX; Bloomberg

## Short-term money market spreads have been little changed

Following a significant decline over the first half of this year, bank bill swap (BBSW) rates increased a little relative to overnight indexed swaps (OIS) in recent months. Spreads of interest rates to OIS in the markets for repurchase agreements (repo) and 3-month foreign exchange (FX) swaps also declined since early 2019 and were broadly unchanged over recent months (Graph 3.3). For tenors of less than one month, the implied cost of obtaining Australian dollars in the AUD/USD FX swap market fell sharply relative to OIS in September for a period (Graph 3.4). This reflected an increase in net demand for US dollars in money markets, which sharply increased short-term US dollar repo rates in mid September (see ‘The International Environment’ chapter). Meanwhile, the cash rate continued to trade at the Reserve Bank Board’s target.

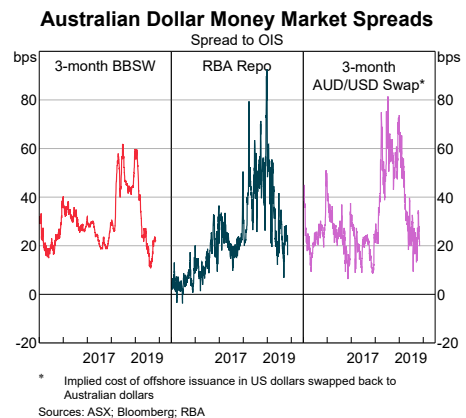
## Banks’ demand for new wholesale funding remains low

Australian banks have issued around \$75 billion of senior unsecured bonds since the beginning of the year, which is about a quarter less than the average of the past few years. Issuance in net terms, which takes into account maturing bonds, has been negative (Graph 3.5). In the

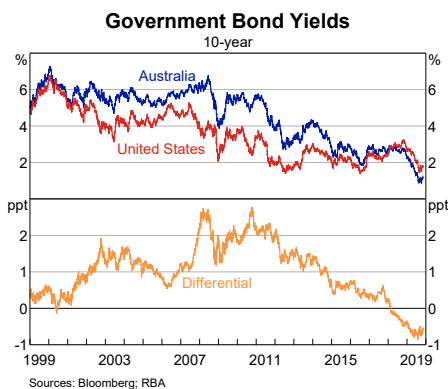
September quarter, over three-quarters of the total value of bank bonds were issued in the domestic market, where pricing has been a little more favourable than the cost of raising funds in offshore markets (after accounting for hedging costs).

The low issuance of unsecured bonds is in part because major banks have increased their issuance of Tier 2 hybrid securities significantly in recent months, issuing \$12 billion worth of these instruments after the Australian Prudential Regulation Authority (APRA) announced an increase in major bank capital requirements in July. Hybrid securities have both equity and debt features and can be used to fulfil a part of

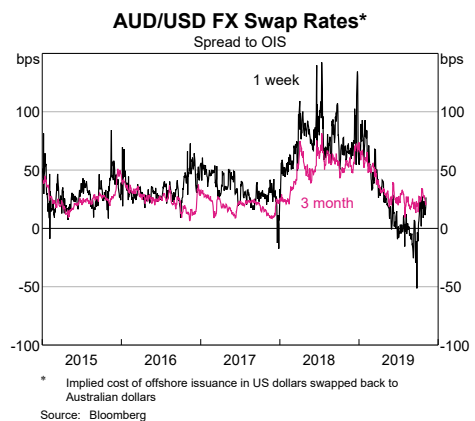
**Graph 3.3**



**Graph 3.2**



**Graph 3.4**





regulatory capital requirements. To date, pricing of these recently issued hybrids has been within the range of similar hybrids in recent years.

Issuance of asset-backed securities (ABS) fell back a little in the past quarter, following very high issuance in the June quarter, driven by issuance of residential mortgage-backed securities (RMBS) (Graph 3.6). A number of firms issued their first public asset-backed securities in the past few months.

### Banks' funding costs are at historic lows

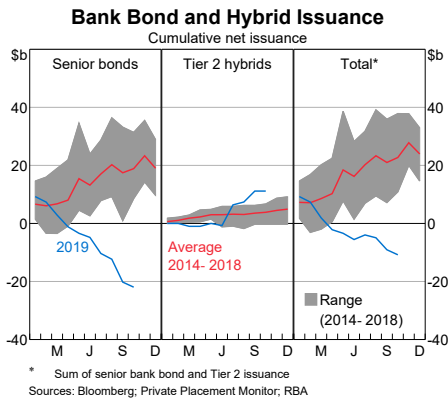
Banks' (non-equity) funding costs have declined significantly in 2019, reflecting the effect of

actual and expected reductions in the cash rate on wholesale funding costs and deposit rates and, to a lesser extent, narrower spreads on wholesale debt (Graph 3.7). Bank bond yields have fallen sharply in 2019, driven primarily by declines in the risk-free reference rates (Graph 3.8). The spreads of major bank bond yields to reference rates ticked up slightly over recent months, but remain lower than at the beginning of the year.

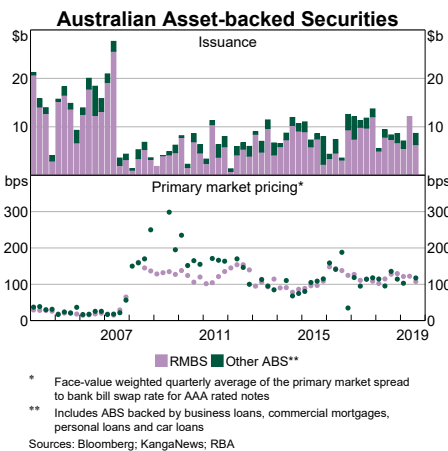
### Retail deposit rates have declined to historic lows

Banks have passed through most of the reductions in the cash rate to a wide range of retail deposit rates. Following the cumulative 75 basis point reduction in the cash rate this

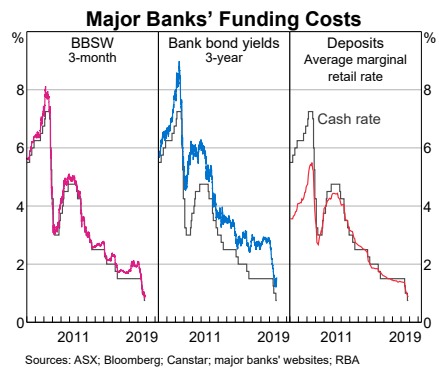
**Graph 3.5**



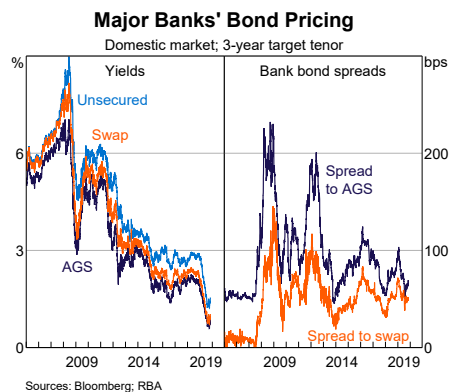
**Graph 3.6**



**Graph 3.7**



**Graph 3.8**



year, banks are estimated to have lowered the interest rates on at-call retail deposits by an average of 60 to 70 basis points. The major banks are estimated to have decreased their term deposit rates by around 90 basis points since the beginning of the year. However, as is typical, the interest rates on most transaction accounts (which are usually close to zero) did not change following the reductions in the cash rate.

Following the reductions in the cash rate, the major banks are estimated to be paying very low interest rates (between zero and 50 basis points) on around one-quarter of their deposit funding, compared with around 10 per cent previously. Most deposits (by value) in Australia currently receive interest over 1 per cent.

### Deposits are the largest source of bank funding

The composition of the banks' funding has been little changed over the past year, with domestic deposits estimated to comprise around 55 per cent of banks' total funding liabilities (including equity) (Graph 3.9).

The Reserve Bank revised its estimates of the funding composition of banks when improved data became available with the new Economic and Financial Statistics (EFS) collection (see 'Box C: Updates to the Financial Aggregates'). The share of funding from deposits is about 55 per cent, which is a bit lower than the previous estimate (of around 60 per cent). Nevertheless, the rise in deposit funding since the financial crisis is still evident in the revised series, and deposits account for close to twice the share of funding obtained from wholesale debt markets.

### Housing lending rates have also declined to historic lows

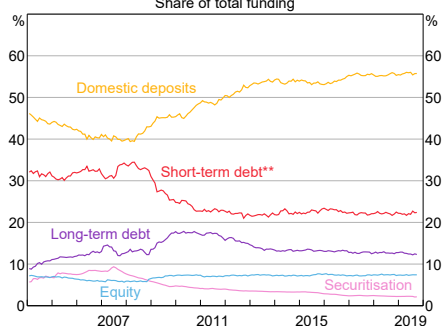
A large share of the recent monetary policy easing has been passed through to mortgage

rates paid by households. Following the cumulative 75 basis point reduction in the cash rate this year, lenders have lowered their standard variable rates (SVRs) on housing loans by an average of 60 basis points (Graph 3.10; Table 3.1). Moreover, estimates suggest that the average rate paid on outstanding variable-rate loans has declined by an additional 5 basis points or so, reflecting two trends. First, rates on new and refinanced loans tend to be lower than for existing loans amid strong competition for high-quality borrowers. Second, switching from interest-only loans to (lower-rate) principal-and-interest loans has also contributed. If these two trends continue, the average rate paid could decline further in coming months. Cumulatively, average mortgage rates paid would then have declined by almost the same amount as the cash rate has since mid year.

The extent of pass-through from the cash rate reductions to lower SVRs was similar across different types of banks. Lenders decreased their SVRs for investor interest-only (IO) loans by more than for other types of housing loans.

Between May and September – which is the latest month for which data are currently available – the average interest rate paid on outstanding variable-rate loans in the Securitisation Dataset decreased by around

**Graph 3.9**  
Funding Composition of Banks in Australia\*  
Share of total funding



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

\*\* Includes deposits and intragroup funding from non-residents  
Sources: ABS; APRA; Bloomberg; RBA; Refinitiv; Standard & Poor's

**Table 3.1: The Cash Rate and SVRs**

Basis points

	Cash rate change	Average SVR change
November 2011	-25	-24
December 2011	-25	-25
May 2012	-50	-37
June 2012	-25	-21
October 2012	-25	-19
December 2012	-25	-20
May 2013	-25	-25
August 2013	-25	-26
February 2015	-25	-26
May 2015	-25	-21
May 2016	-25	-23
August 2016	-25	-12
June 2019	-25	-23
July 2019	-25	-21
October 2019	-25	-15

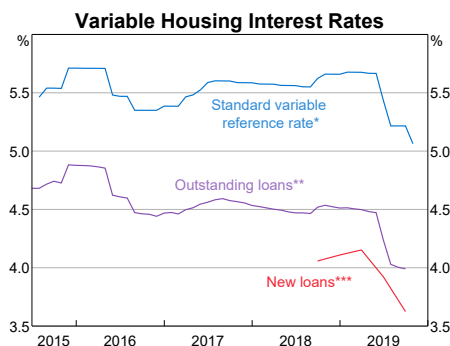
Sources: Major banks' websites; RBA

50 basis points. This compares with a 50 basis point reduction in the cash rate and a 44 basis point reduction in SVRs over this same period. Over the past few months, the interest rate paid on IO loans decreased by more than that paid on other housing loans, consistent with the larger decreases in banks' SVRs for investor IO

loans (Graph 3.11). Nonetheless, mortgage rates on IO loans remain well above those on principal-and-interest (P&I) loans.

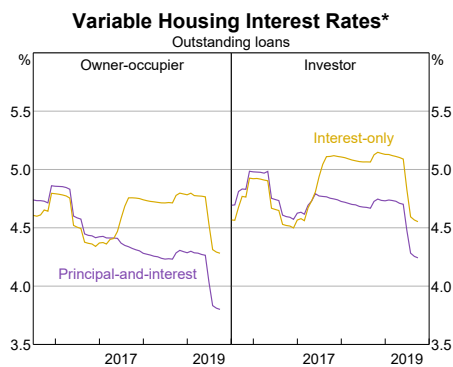
Housing interest rates paid had already been drifting lower prior to the reductions in the cash rate and SVRs. This downward drift – over and above movements in SVRs – has continued over

**Graph 3.10**



\* Data to October; average across major banks' rates;  
 \*\* Data to September; average of securitised loans weighted by institution housing credit share  
 \*\*\* Data to September; quarter average of new lending rates based on APRA data  
 Sources: APRA; major banks' websites; RBA; Securitisation System

**Graph 3.11**



\* Data to September; average of securitised loans, re-weighted using housing credit shares  
 Sources: APRA; RBA; Securitisation System

recent months (see 'Box D: The Distribution of Variable Housing Interest Rates'). Again, there are two reasons for this. First, the average interest rate on new loans – to new borrowers or to existing borrowers that refinance their loans with another institution – remains lower than that on outstanding loans. This has been a feature of the market for some time. Consistent with this, liaison with the major banks, mortgage brokers and non-authorised deposit-taking institutions (non-ADIs) indicates that competition for high-quality borrowers remains strong. Furthermore, competition for these borrowers also means that well-informed households with existing loans have been approaching their current lenders to request a reduction in their interest rate.

The second reason for the drift lower in outstanding variable rates is that households are continuing to switch from IO loans to P&I loans (which tend to have lower interest rates). Many households are doing so before their IO period expires. In the first half of 2019, around \$50 billion of IO loans were switched to P&I loans at the major banks (equivalent to around 5 per cent of the outstanding stock of housing credit at the major banks). Just under one-third of these loans were switched prior to the expiry of their IO period. This switching is estimated to have decreased outstanding interest rates by about 3 basis points over the past year.

Advertised interest rates on fixed-rate housing loans also continued to decline. The major banks reduced their owner-occupier 3-year fixed rates by an average of 100 basis points over the past year. This is consistent with lower rates on interest rate swaps, which are often used as a pricing benchmark for these loans.

### **To date, households have not reduced their mortgage payments**

The decreases in interest rates paid following the reductions in the cash rate mean that required mortgage payments for households with

variable-rate mortgages – which account for around 80 per cent of the stock of outstanding housing credit – have declined. It is likely to take some time, however, for households to respond to mortgage rate reductions by lowering their scheduled payments. Indeed, historical evidence suggests that only a small share of borrowers actively adjust their scheduled payments in the months following an interest rate reduction.

It is possible that borrowers will reduce their scheduled payments in response to the decline in interest rates to a lesser extent than they have in the past. In particular, if there is a reduced appetite for debt among households, depending on cash-flow constraints, they would be less inclined to reduce their payments (both scheduled and unscheduled) in the face of lower interest rates. In that case, the additional cash flows they receive via lower interest rates will be used to pay down mortgages faster than otherwise, at least for a period. At the same time, however, it has become easier for lenders to communicate with their customers about their ability to reduce their scheduled payments and for customers to accept such offers – via online banking applications and emails. Moreover, borrowers do not need to reduce scheduled payments to avail themselves of their additional available cash flows after a reduction in their mortgage rates. Offset accounts (which are more prominent than they have been in the past) and redraw facilities enable households to change their spending patterns even if they choose to maintain their scheduled payments. Many households are ahead on their mortgages and have offset and/or redraw balances that will grow more rapidly to the extent that scheduled payments are unchanged in the face of lower interest rates.

### **Housing loan approvals have increased over the past few months**

Consistent with stronger conditions in some housing markets, housing loan approvals have

**Table 3.2: Financial Aggregates**

Percentage change<sup>(a)</sup>

	Three-month-ended annualised		Six-month-ended annualised	
	Jun 2019	Sep 2019	Mar 2019	Sep 2019
Total credit	1.6	2.8	3.3	2.2
– Housing	2.6	3.0	3.3	2.8
– Owner-occupier housing	4.1	5.4	4.8	4.8
– Investor housing	–0.3	–1.1	0.4	–0.7
– Personal	–4.6	–5.3	–3.8	–4.9
– Business	0.9	3.7	4.4	2.3
Broad money	2.4	3.3	5.0	2.8

(a) Seasonally adjusted and break-adjusted

Sources: ABS; APRA; RBA

increased since May (Graph 3.12). This has been driven largely by a sharp increase in owner-occupier approvals, although investor loan approvals have also increased. The increase has been broadly based across states and banks.

### Credit growth has slowed in 2019, but stabilised in recent months

Total credit growth has slowed over the past year, driven by both housing and business credit, to be around 2¼ per cent on a six-month-ended annualised basis, although growth rates have stabilised in recent months (Graph 3.13;

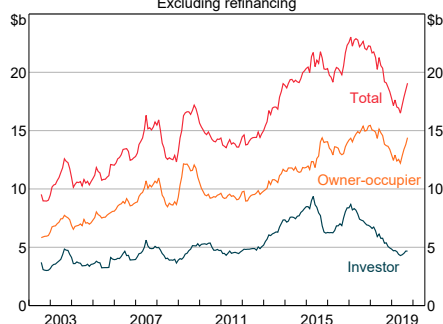
Table 3.2). The implementation of the new EFS collection has not changed the Reserve Bank’s assessment of growth in credit for Australian households and businesses (see ‘Box C: Updates to the Financial Aggregates’).

To date, the increase in owner-occupier loan approvals over the past few months is not evident in materially higher credit growth. Growth in housing credit extended to owner-occupiers has stabilised to be around 4¾ per cent in six-month-ended annualised terms (Graph 3.14). The divergence between owner-occupier loan approvals and housing

**Graph 3.12**

#### Housing Loan Approvals\*

Excluding refinancing



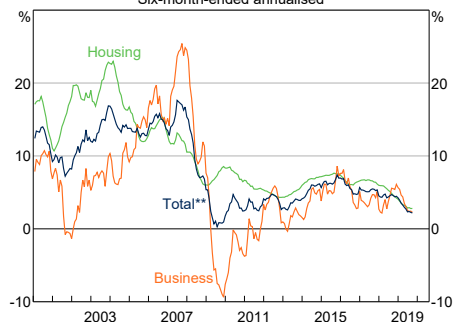
\* Seasonally adjusted and break-adjusted

Sources: APRA; RBA

**Graph 3.13**

#### 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

credit for owner-occupiers implies that the increase in new loans has been accompanied by faster repayment of existing loans. This is consistent with the behaviour of borrowers during the period of monetary policy easing from 2011 to 2016, when housing credit growth increased only gradually following increases in loan approvals.

The stock of housing credit for investors continued to decline a little further in September, despite recent increases in investor loan approvals. Credit extended by the major banks to investors continued to contract.

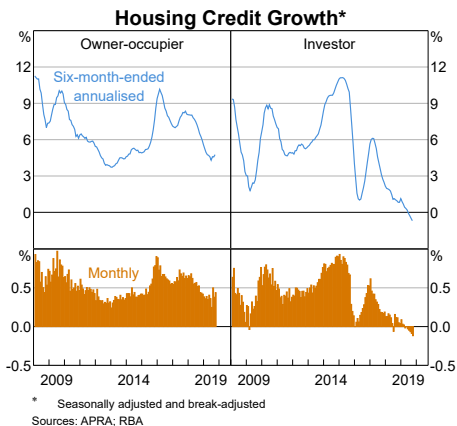
### Growth in business debt slowed in recent months

Despite accommodative funding conditions for large businesses, growth in business debt decreased in September on a six-month-ended annualised basis. This was driven by slower growth in 'other' (syndicated) lending (by entities that do not report to APRA) and a further decline in the growth in borrowing from ADIs (that is, business credit) (Graph 3.15).

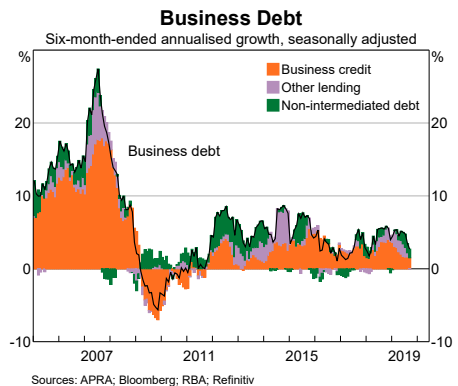
Business loan approvals have fluctuated around the same level since 2016. Loan approvals for commercial property are elevated, reflecting approvals from the major banks and foreign banks (Graph 3.16). Loan approvals for

residential property are no longer declining, following a few years of consistent declines. Liaison indicated that given weak demand – particularly from housing investors currently – it is hard for residential property developers to meet banks' lending conditions on pre-selling a sufficient number of apartments. In response, developers are obtaining finance from non-ADIs that typically accept a lower rate of pre-sales in exchange for other conditions (such as lower loan-to-valuation ratios). Loan approvals in a range of other industries have been mixed over recent months.

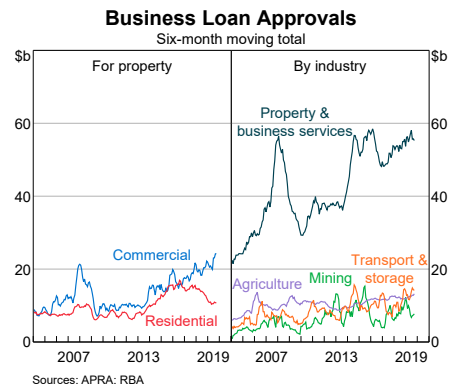
**Graph 3.14**



**Graph 3.15**



**Graph 3.16**



## Small businesses' access to funding remains difficult

Lending to small businesses has been unchanged over the past year or so. Small businesses have reported in surveys that their access to finance has become more difficult over this period. This is consistent with liaison, in which banks reiterated that their appetite to lend to small businesses has not changed. However, they appear to be applying the more onerous responsible lending rules required for consumer lending to some small business lending. Banks note that the additional verification of income and expenses now required for housing lending has been extended to many small businesses, particularly where there is no clear separation of personal and business finances. In particular, it has become increasingly difficult for small business owners to provide the evidence required by banks that they can service a loan, as their income tends to be volatile.

## Interest rates on business loans have declined to historic lows

Interest rates on loans to large businesses – which tend to move with BBSW rates – are estimated to have declined over the past six months and are at very low levels (Graph 3.17).

Lending rates on outstanding loans to small businesses decreased by around 40 basis points following the reductions in the cash rate in June and July (the latest data available are for the September quarter). Advertised rates on residentially secured small business loans decreased by around 35 basis points since May.

## Australian equity prices have increased this year

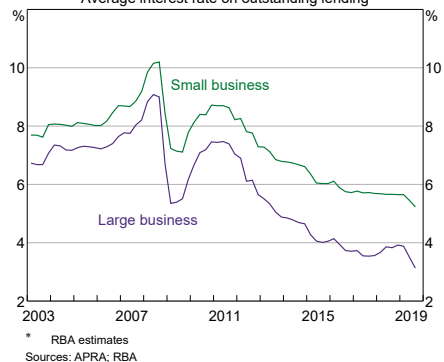
The ASX 200 is around 20 per cent higher than at the start of 2019, and has performed broadly in line with overseas markets when dividend payments are taken into account (Graph 3.18).

Market volatility was around its long-run average in recent months.

The rise in share prices since the start of the year has been broadly based (Graph 3.19). The healthcare sector has performed particularly strongly. Share prices of resource companies have increased by around 15 per cent, supported by higher iron ore and oil prices, although in recent months both commodity prices and resource stocks have declined somewhat. Banks' share prices have increased by around 10 per cent since the beginning of the year.

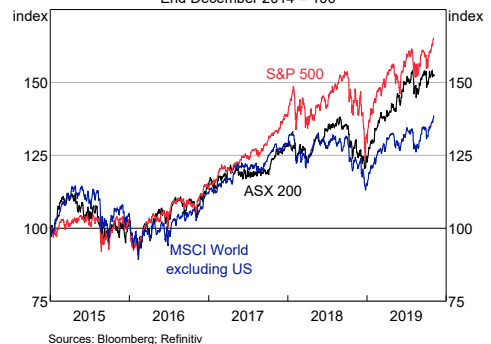
Merger and acquisition (M&A) activity has continued to be strong in recent months; recent deals have been announced in the resources,

**Graph 3.17**  
**Variable Business Lending Rates\***  
Average interest rate on outstanding lending



**Graph 3.18**

**Total Return Indices**  
End December 2014 = 100



manufacturing and agriculture industries (Graph 3.20).

### Profits of listed companies are higher than a year ago

Aggregate underlying profits of ASX 200 companies were 8 per cent higher in the first half of 2019 compared with the same period in 2018 (Graph 3.21). The increase reflected higher earnings primarily for energy, mining materials and healthcare companies. Underlying profits growth for the energy and mining materials sectors was strong, driven by increases in both sales volumes and realised prices.

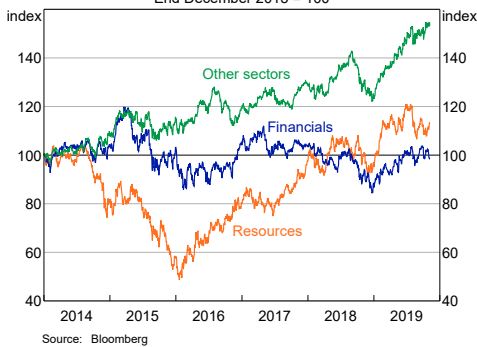
Resources firms continued to return capital to shareholders in the first half of 2019.

Underlying profits for the financial sector were little changed relative to the first half of 2018, with a decline in earnings at diversified financial corporations offset by an increase in earnings among insurers. Banks' underlying profits were flat in the half.

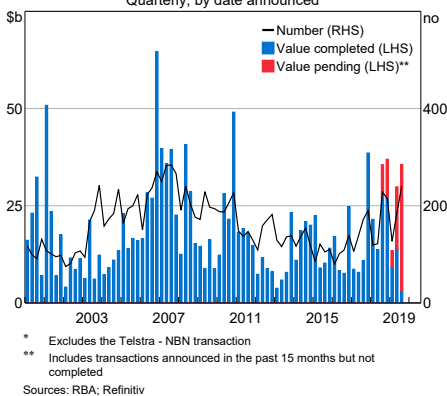
Underlying profits for listed companies outside the resources and financial sectors declined slightly compared with the same period last year. The real estate and utilities sectors, along with some construction-exposed industrial companies, reported weaker profits, while profit results within the consumer sector were mixed. The healthcare sector posted strong profits growth, supported by increased demand for health services.

At an aggregate level, Australian listed firms' dividend payments were above average in late 2018 and early 2019 (Graph 3.22). The high level of dividend payments in the past year has been concentrated among mining firms, which returned cash to shareholders following major asset sales. Outside of the energy and materials sector, dividend payments were broadly in line with underlying profits. Share buybacks, which tend to be much smaller than dividends, were also elevated in late 2018, although they

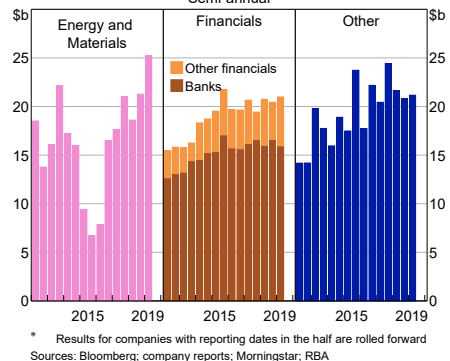
**Graph 3.19**  
Australian Share Prices  
End December 2013 = 100



**Graph 3.20**  
M&A by Listed Australian Companies\*  
Quarterly, by date announced



**Graph 3.21**  
ASX 200 Underlying Profits\*  
Semi-annual





declined substantially in the first half of 2019. As with dividends, the high value of buybacks in late 2018 was driven by mining firms.

### The Australian dollar is around its lowest level in some years

The Australian dollar has depreciated by around 10 per cent over the past couple of years on a trade-weighted (TWI) basis and against the US dollar (Graph 3.23). This depreciation has been broad based against the currencies of Australia’s trading partners. Over this period, government bond yields in Australia have declined by more than those in major markets. This is consistent with policy rate expectations in Australia falling by a greater extent than those in other economies (some of which already had policy rates at very low levels). Following a sharp decline in August, the RBA Index of Commodity Prices is close to levels observed over the past few years. Taken together, these developments are consistent with the Australian dollar being around its lowest level for some years on a TWI basis.

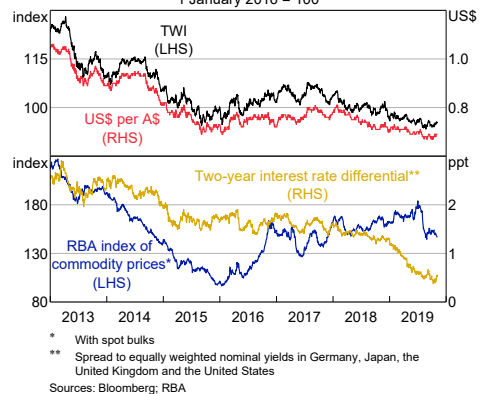
### Australia was a net lender of capital in the June quarter

Gross capital outflows exceeded capital inflows in the June quarter, consistent with Australia

recording its first quarterly current account surplus since June 1975 (Graph 3.24) (see ‘Domestic Economic Conditions’ chapter). At a sectoral level, outflows from superannuation funds and other investment funds increased. There were also modest outflows from the government and mining sectors. These outflows were partly offset by inflows to the non-mining private sector (mainly in the form of foreign direct investment) and, to a lesser extent, the banks.

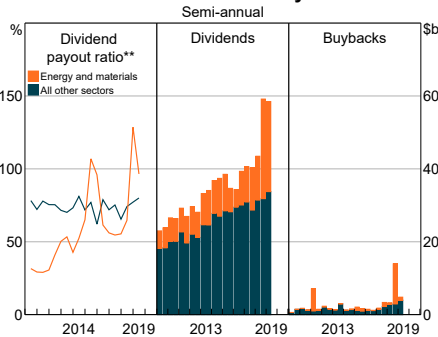
The value of Australia’s net foreign liability position remains around its lowest level since 2002. However, over this period, the

**Graph 3.23**  
**Australian Dollar**  
1 January 2016 = 100



**Graph 3.22**

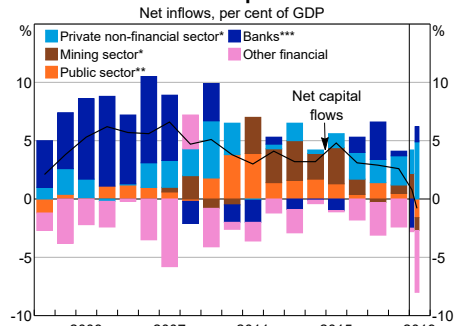
**ASX Dividends and Buybacks\***



\* Dividend payout ratio and dividends are for ASX 200 firms; buybacks are for all ASX-listed firms.  
\*\* Dividends paid as a percentage of underlying profits  
Sources: Bloomberg; Company Reports; Morningstar; RBA

**Graph 3.24**

**Australian Capital Flows**



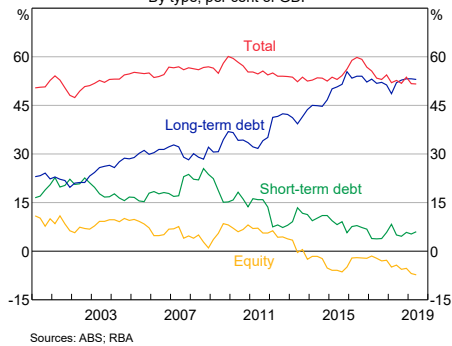
\* Prior to 2007 the mining sector is included in the private non-financial sector  
\*\* Excludes official reserves and other RBA flows  
\*\*\* Adjusted for US dollar swap facility in 2008 and 2009  
Sources: ABS; RBA

composition of Australia's stock of foreign liabilities and assets has changed significantly. An increase in net long-term debt liabilities has been offset by a decline in net short-term debt liabilities (Graph 3.25). In addition, Australia has moved to a net foreign equity asset position, largely reflecting the accumulation of offshore equity holdings by the superannuation sector. The value of the net foreign equity asset position has also increased over recent years due to returns on foreign equities outperforming returns on Australian equities and a depreciation of the Australian dollar (which supports the value of unhedged offshore equity holdings). ↗

**Graph 3.25**

**Net Foreign Liabilities**

By type, per cent of GDP



## Box C

# Updates to the Financial Aggregates

Credit and money, otherwise known as the financial aggregates, are important indicators of households' and businesses' financial activity. The Reserve Bank compiles and publishes estimates of the financial aggregates in Australia. Since July 2019, these have been based on an improved data collection known as the Economic and Financial Statistics (EFS) collection.<sup>[1]</sup>

The credit aggregates measure funds borrowed by Australian households and businesses from financial intermediaries. Total credit includes housing credit, business credit and personal credit (such as credit cards). The monetary aggregates measure banknotes and coins held by households and businesses, and 'money-like' instruments – such as deposits – that households and businesses hold with financial institutions.

Over the past few years, the Australian Prudential Regulation Authority (APRA), the Australian Bureau of Statistics and the Reserve Bank have worked to modernise the existing data collected from banks and other reporting financial institutions and used to compile the financial aggregates (and a number of other measures of financial institutions' activities and performance). The new EFS collection has more precisely defined data, including for loans, which are now better classified by their purpose, rather than by the type of collateral or nature of the borrower.

While the new EFS collection has resulted in more comprehensive and accurate estimates of the credit and money aggregates, it has

not changed the Reserve Bank's assessment of the *growth rates* of credit or money. While there are noticeable changes to the *levels* of housing credit, personal credit and money aggregates, these are not material when measured as a share of GDP or disposable income. The level of business credit was largely unchanged.

### Growth rates are similar under the new collection

Credit growth has not been affected in any noticeable way by the move to the new EFS collection in July 2019 (Graph C.1). We know this because between March and June 2019, banks and other institutions reported using the old and new data collections in parallel.

During this period, extensive data quality assessments and engagement with industry were undertaken to ensure that the new financial aggregates based on the EFS collection provide a good indication of developments in financial activity.

### The level of housing credit is estimated to be a little lower

The new definitions and more comprehensive guidance in the EFS collection led to a shift in the estimated *levels* of the outstanding stocks of several aggregates between June and July 2019.<sup>[2]</sup> Banks and other institutions reclassified around \$25 billion of housing credit as personal credit, reflecting the definitions and guidance around loan purpose (Graph C.2). For example, in the previous collection, topping up a housing loan to buy a car may

have been recorded as a housing loan. However, such loans are now recorded as personal loans if the predominant purpose of the loan is personal finance, such as buying a car.

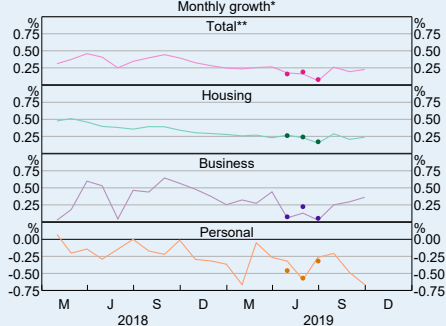
The estimate of the level of housing credit is also lower by around \$30 billion due to more accurate measurement of housing credit extended by non-authorized deposit-taking institutions (non-ADIs). Recent legislative changes led many non-ADIs to register with APRA and, therefore, report data on their lending activities. Previously, the financial aggregates included an estimate of lending

by non-ADIs that did not report to APRA. This estimate was based on lending by a smaller sample of these lenders, scaled up by an estimate of their share in total lending. The more comprehensive and more accurate sample of non-ADI lenders in the new data suggests that the earlier estimate was too high. The estimates based on the EFS data continue to suggest that non-ADIs account for less than 5 per cent of housing lending.

### Some owner-occupier loans were reclassified as investor loans

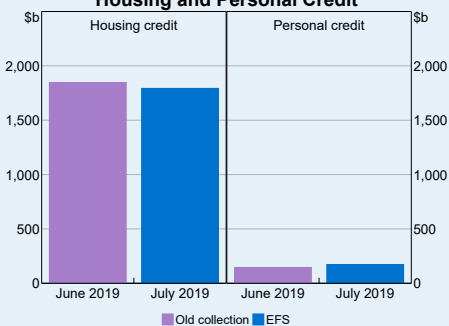
The composition of housing credit has also changed with the new EFS collection. Investor housing credit as a share of total housing credit increased by 5 percentage points (Graph C.3). This is because owner-occupier housing loans are now defined as loans for the principal place of residence only, such that a borrower can generally only have one owner-occupier loan. This is not necessarily how banks and other institutions had previously recorded housing loans, which may have resulted in some loans previously recorded as owner-occupier – for example, a loan for a holiday house – being reclassified as investor loans under the new EFS collection.

**Graph C.1**  
Credit Growth by Sector



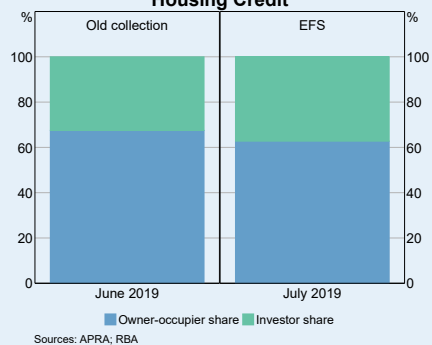
\* Seasonally adjusted and break-adjusted; lines are the actual financial aggregates with EFS data starting in July; dots are EFS growth rates during the parallel run period  
\*\* Includes housing, personal and business credit  
Sources: APRA; RBA

**Graph C.2**  
Housing and Personal Credit



Sources: APRA; RBA

**Graph C.3**  
Housing Credit



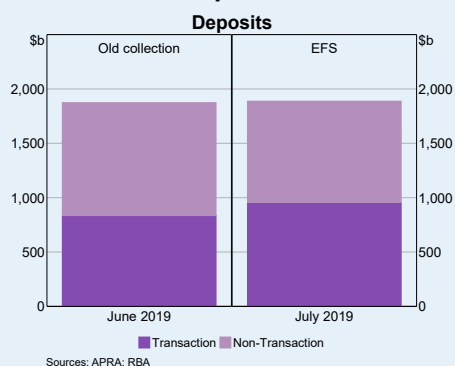
Sources: APRA; RBA

## There has also been some reclassification within the monetary aggregates

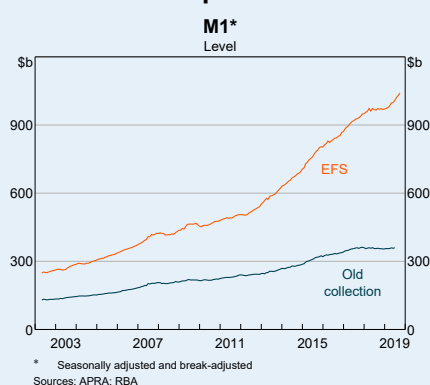
The monetary aggregates can be broken down into currency (that is, banknotes and coins held by the private sector), transaction deposits (which can be easily used to make payments) and non-transaction deposits (such as term deposits). The EFS collection resulted in \$120 billion in non-transaction deposits being reclassified as transaction deposits, as the collection more accurately defines deposits by their type (Graph C.4). For example, in the previous collection, reporting institutions had classified deposits in some online savings accounts as non-transaction deposits.

In addition, the definition of M1 has been expanded to fully capture the more liquid forms of money. Previously, M1 included only currency and chequing accounts at banks. M1 now includes currency and all transaction deposits at banks, credit unions and building societies (Graph C.5).<sup>[3]</sup> This new definition has also been applied to the historical data for M1. ✂

### Graph C.4



### Graph C.5



## Endnotes

- [1] For more information see Bank J, K Durrani and E Hatzvi (2019), 'Updates to the Financial Aggregates', RBA *Bulletin*, March. Available at <<https://www.rba.gov.au/publications/bulletin/2019/mar/updates-to-australias-financial-aggregates.html>>.
- [2] Consistent with usual practice, the growth rates for July were adjusted for the effects of these level changes. The Reserve Bank publishes growth rates (which are break-adjusted) and the levels of the credit aggregates (which are not adjusted) in Statistical Tables D1 and D2 on the RBA website. Growth rates should not be calculated from data on the level of credit.

- [3] See Bank J, K Durrani and E Hatzvi (2019), 'Updates to the Financial Aggregates', RBA *Bulletin*, March. The Reserve Bank publishes five different monetary aggregates: currency, the money base, M1, M3 and broad money. These measures differ in the types of instruments that are included. For example, M1 contains only the most liquid forms of money such as banknotes and current deposits (i.e. funds that can be easily used to make payments), whereas broad money also includes term deposits and short-term debt securities issued by financial institutions in Australia. Available at <<https://www.rba.gov.au/publications/bulletin/2019/mar/updates-to-australias-financial-aggregates.html>>.



## Box D

# The Distribution of Variable Housing Interest Rates

This box discusses the considerable variation in mortgage rates paid across different borrowers and how this distribution has changed over the past two years.

Very few borrowers actually pay mortgage rates as high as the standard variable rate (SVR). Rather, borrowers are generally offered, or negotiate, a discount relative to this reference rate. These discounts can be significant, with the lowest advertised rates being materially below the SVR, and a small share of borrowers paying even lower rates still. The average discount to the SVR for existing owner-occupier loans with variable mortgage rates is currently around 120 basis points. On average, new borrowers receive a further discount of around 30 basis points on owner-occupier variable-rate mortgages. That is, they tend to pay an interest rate that is around 150 basis points below the SVR. These discounts vary, in part, according to the creditworthiness of individual borrowers or the riskiness of the loan.

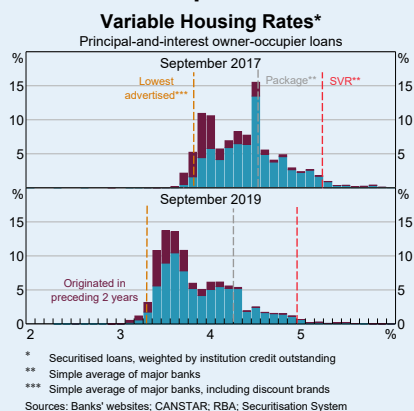
The interest rates paid by most borrowers fall between the lowest advertised rate and the SVR. This was the case two years ago and remains true currently. In 2017, it was common for borrowers to have paid a rate that was close to the so-called 'package rate'.<sup>[1]</sup> By contrast, in 2019, a larger share of borrowers are paying rates below package rates.

Graph D.1 shows the distribution of variable interest rates for owner-occupier loans with principal-and-interest repayments extended

by banks.<sup>[2],[3]</sup> This is the most common mortgage type in Australia, accounting for about 55 per cent of all home loans. The distribution of interest rates paid for other types of variable-rate loans has evolved similarly over the past two years.

Most households are paying lower mortgage rates now than borrowers were paying two years ago. In other words, there has been a downward shift in the distribution of interest rates over the past two years. This reflects three factors. First, there is the pass-through of the reductions in the cash rate this year to SVRs, and so to all variable-rate mortgages. On average, the banks have passed through 60 basis points of the 75 basis point reduction in the cash rate to their SVRs. (The data in graph D.1 do not include the October 2019 cash rate cut.) Second, new variable-rate loans are typically offered at lower interest rates than outstanding variable-rate

**Graph D.1**



loans, even for borrowers with similar characteristics. (This can be seen for owner-occupier principal-and-interest loans by the maroon-shaded bars in both panels of Graph D.1.) On average, for owner-occupiers with variable-rate loans, interest rates on new loans are currently around 30 basis points below those of existing loans. Similar discounts for new loans are evident for other loan types, such as investor and interest-only loans. Indeed, households obtaining new loans, refinancing existing loans, or negotiating a better deal with their existing lender, tend to receive lower rates than existing borrowers that do not alter their original loan arrangements. This reflects strong competition among lenders for high-quality borrowers. Liaison with banks, mortgage brokers and non-ADIs confirms that well-informed households with existing loans are approaching their current lenders to request a reduction in their interest rate.

Third, borrowers are continuing to switch from interest-only loans to principal-and-interest loans, which have a lower interest rate (Graph D.2). This is true of both borrowers with owner-occupier and investor

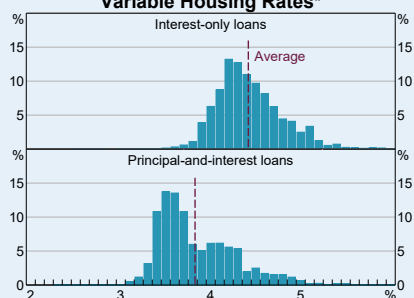
loans. Over the past two years, the interest-only share of the stock of loans outstanding has declined from around 40 per cent to 20 per cent.

In combination, the second and the third factors have lowered the average mortgage rate on variable-rate loans by a further 5 basis points (over and above the changes in SVRs) over the past six months or so. Both factors could lead to further small reductions of average mortgage rates in the period ahead.



**Graph D.2**

**Variable Housing Rates\***



\* Weighted by lender credit outstanding  
Sources: RBA; Securitisation System

**Endnotes**

- [1] A typical package mortgage product has additional features beyond the ‘basic’ mortgage (such as an offset account) and may be bundled with other products (such as a credit card).
- [2] The distribution of interest rates is sourced from the Securitisation Dataset, which provides a monthly update on the interest rate paid on around one-quarter of mortgages in Australia. See Fernandes K and D Jones (2018), ‘The Reserve Bank’s Securitisation Dataset’, RBA Bulletin, December. Available at <<https://www.rba.gov.au/>

- publications/bulletin/2018/dec/the-reserve-banks-securitisation-dataset.html).
- [3] There is a wider range of interest rates offered by non-banks, as these lenders are more likely to lend to borrowers with higher-risk characteristics and as a result charge a higher interest rate. See Kohler M (2017), ‘Mortgage Insights from Securitisation Data’, Speech to the Australian Securitisation Forum, 20 November. Available at <<https://www.rba.gov.au/speeches/2017/sp-so-dm-2017-11-20.html>>.



# 4. Inflation

## Underlying inflation remained subdued in the September quarter

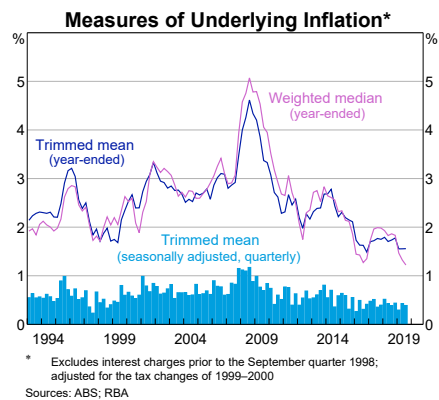
Trimmed mean inflation was unchanged at 0.4 per cent in the September quarter and 1.6 per cent over the year (Table 4.1; Graph 4.1). This was in line with expectations at the time of the *August Statement on Monetary Policy*. Headline inflation declined to 0.3 per cent (seasonally adjusted) in the quarter as the prices of fruit, vegetables and automotive fuel fell, to be 1.7 per cent over the year (Graph 4.2).

Underlying inflation has been below 2 per cent for over three years. Weak housing market conditions have weighed on recent inflation outcomes, as have continued spare capacity in the labour market and associated low wages growth, various government price and wage decisions and declines in utilities price inflation. Working in the other direction, the pass-through of the earlier exchange rate depreciation and drought-related grocery price increases have put some upward pressure on inflation.

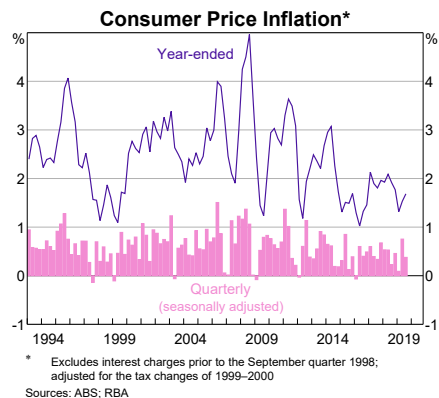
Non-tradable inflation was unchanged in the September quarter at 0.5 per cent, to be 1.9 per cent over the year (Graph 4.3). The slowing in non-tradable inflation over the past year has been particularly notable for the prices of new dwellings and electricity (Graph 4.4). Tobacco prices rose strongly in the quarter due to an increase in the tobacco excise. In contrast, inflation in the prices of tradable items (excluding volatile items) has trended higher since mid 2018 and was 1.8 per cent over the year to September. This is the fastest pace of tradable inflation since 2015, and reflects some

pass-through to retail prices from the earlier depreciation of the exchange rate. In addition, grocery food (excluding fruit & vegetables) prices continued to rise in the quarter because the ongoing drought has put upward pressure on prices for meat, bread and dairy products.

**Graph 4.1**



**Graph 4.2**



**Table 4.1: Measures of Consumer Price Inflation**

Per cent

	Quarterly <sup>(a)</sup>		Year-ended <sup>(b)</sup>	
	September quarter 2019	June quarter 2019	September quarter 2019	June quarter 2019
Consumer Price Index	0.5	0.6	1.7	1.6
Seasonally adjusted CPI	0.3	0.8	–	–
– Tradables	0.3	1.2	1.2	1.1
– Tradables (excl volatile items) <sup>(c)</sup>	0.7	0.5	1.8	1.0
– Non-tradables	0.5	0.5	1.9	1.8
<b>Selected underlying measures</b>				
Trimmed mean	0.4	0.4	1.6	1.6
Weighted median	0.3	0.4	1.2	1.3
CPI excl volatile items <sup>(c)</sup>	0.5	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

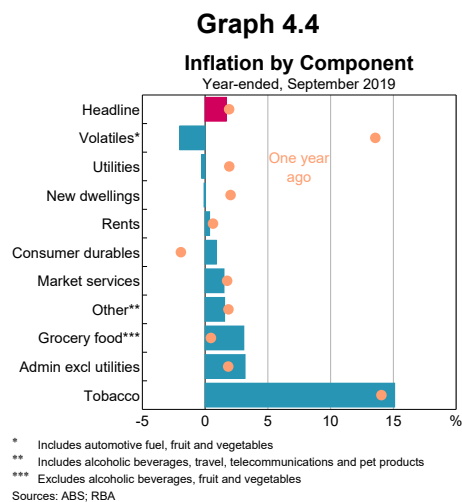
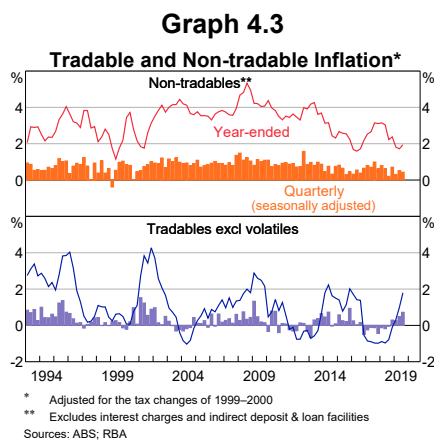
(c) Volatile items are fruit, vegetables and automotive fuel

Sources: ABS; RBA

## Housing inflation is at historical lows

Inflation in housing-related parts of the CPI basket continued to decline in the September quarter to reach a new low (Graph 4.5). The two largest housing-related components, rents and new dwelling purchases by owner-occupiers, together account for around one-sixth of the CPI basket. Both are at historically low rates of inflation.

The new dwelling purchase component of the CPI captures the cost of adding to the housing stock – newly built dwellings and major renovations. After three consecutive quarterly declines, new dwelling prices were 0.1 per cent lower over the year to September (Graph 4.6). This was the first annual price decline since new



dwellings were included in the CPI in 1998. A decline in building activity over the year has led to weaker demand from developers for building materials, resulting in lower price inflation. Developers have also used discounts and bonus offers (which reduce the measured price of a dwelling) in response to weaker demand for new housing. Liaison reports suggest that purchase incentives for new houses have been widespread in several cities. New dwelling prices have declined over the past year in Melbourne and Brisbane, while new dwelling inflation has eased noticeably in Sydney and Adelaide. Following several years of deflation, new dwelling prices in Perth increased a little over the past year.

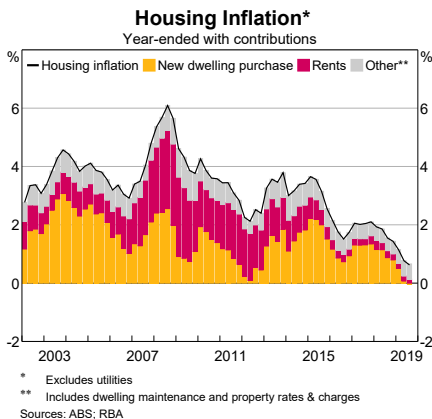
Rent inflation has been low over the past few years, reflecting a mix of supply- and demand-side developments. Growth in the housing stock has outpaced population growth, putting downward pressure on rents. Rents can also be indexed to CPI inflation, while lower household disposable income growth may also be weighing on rental outcomes. In recent quarters, the contribution of rents to CPI inflation has been less than one-fifth of its average over the inflation-targeting period. Newly advertised rents, which are a leading indicator of CPI rents, have been broadly unchanged over the past

year. Although new rents account for only a portion of the existing rental stock and pass-through to CPI rents is gradual, this suggests that rent inflation is likely to remain subdued over the year ahead. Conditions in rental markets continue to vary across capital cities (Graph 4.7). Rents have declined in Sydney over the year, consistent with the earlier decline in advertised rents and an elevated vacancy rate. Rent deflation has continued to moderate in Perth, though rents remain around 22 per cent lower than in 2014. Growth in rents in Melbourne and Brisbane has been relatively stable for some time, while in Hobart, rents have increased by more than 5 per cent over the past year.

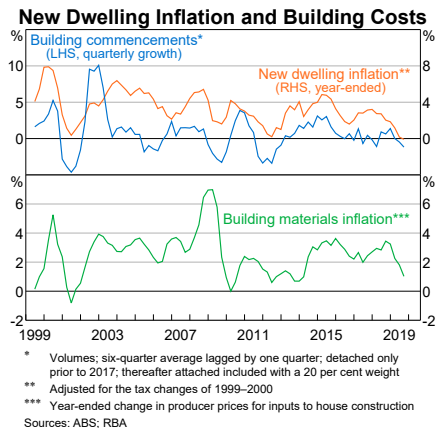
### Electricity prices declined in the September quarter but other administered prices rose

As anticipated, electricity prices declined in the September quarter as a result of regulatory changes (Graph 4.8). On 1 July, the federal government introduced the Default Market Offer, which places a region-specific cap on standing offer electricity prices in New South Wales, southern Queensland and South Australia. This default price, determined by the Australian Energy Regulator, was set at the

**Graph 4.5**



**Graph 4.6**



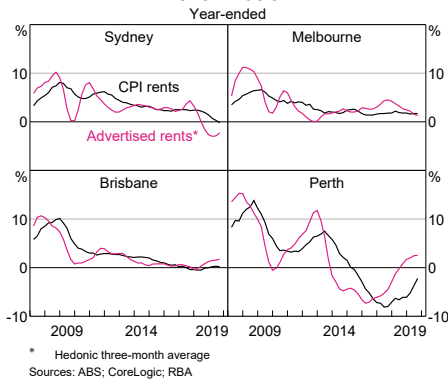
midpoint between the median market offer (non-standard contracts agreed to between a household and an energy retailer) and the median standing offer (electricity contracts characterised by infrequent but regular price changes) in each region. As a result, households previously on more expensive standing offers were automatically switched to their retailer's new, lower, default price. Similarly, standing offer prices fell in Melbourne following the introduction of the Victorian Market Offer. The Victorian Market Offer was set below the previous median standing offer and has replaced all other standing offers. The decline in standing offer electricity prices was partly offset by retailers removing some discounts on market offer prices.

A number of other administered prices changed on 1 July as policies announced in state and federal budgets took effect (Graph 4.9). Public transport fares and property rates & charges increased by a little more than in 2018, while motor vehicle-related charges increased by a little less than in 2018. Child care prices increased relatively strongly over the year. This follows a sharp decline in child care prices in late 2018 with the introduction of the government's child care subsidy package.

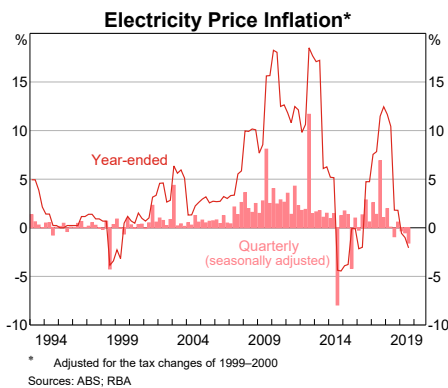
### Inflation in market services remains low

Year-ended inflation in the prices of market services has been at or below 2 per cent in recent years. This is mainly because labour cost growth has been subdued; labour costs account for around two-fifths of final prices for market services. More recently, growth in unit labour costs has picked up. If sustained, this would put some upward pressure on prices for market services. Inflation in meals out & takeaway increased in the quarter, which reflects some pass-through of higher food prices and increases in the award and minimum wage rate (Graph 4.10). Commercial rents, another factor affecting market services prices, continue to increase at a relatively slow rate.

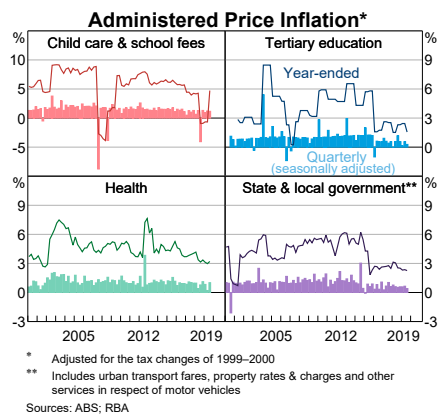
**Graph 4.7**  
**Rent Inflation**



**Graph 4.8**



**Graph 4.9**



## Higher import prices and the drought continue to put upward pressure on retail prices

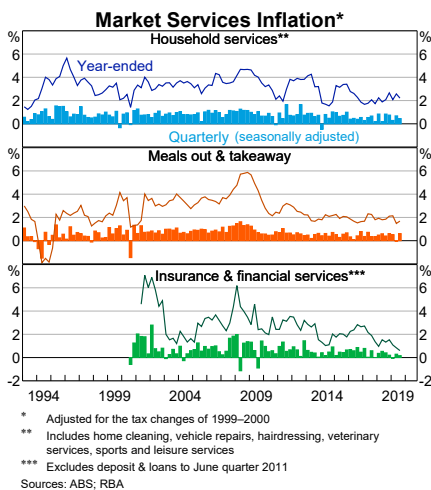
Retail prices have increased in recent quarters to be 1.5 per cent higher over the year. This is the highest rate of retail inflation in around a decade, and is consistent with the pass-through of the earlier exchange rate depreciation to higher import and consumer retail prices (Graph 4.11). The timing and speed of exchange rate pass-through is highly uncertain, though it is estimated that most occurs within a year. This is consistent with liaison reports that most large retailers hedge their exchange rate exposure around 6–12 months in advance. The increase in consumer durables inflation in the quarter was broad based, with price increases across motor vehicles, clothing & footwear and some household goods.

Over a longer period of some years, retail inflation has been very low as a result of heightened competition from new foreign entrants, technology and changing business models. Even though prices have risen recently, retailers continue to cite strong competition as putting downward pressure on prices, along with weaker household demand, especially for

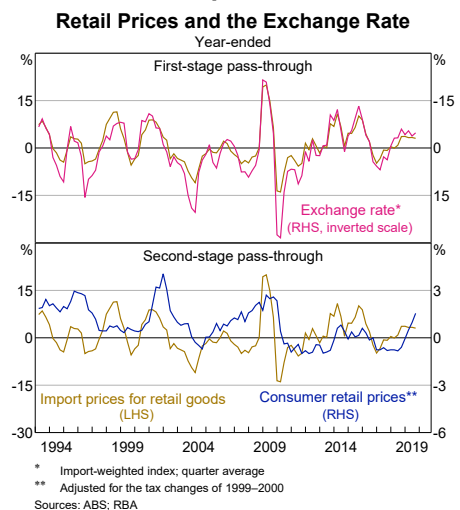
consumer durables. Liaison reports suggest that retailers have made changes to their discounting behaviour in recent months to offset the effect of cost pressures on margins. For example, firms are reportedly being more proactive in their stock management (for example, discounting stock earlier in the season) and being more targeted in their promotions.

Grocery prices increased in the September quarter and year-ended grocery price inflation is now at its highest rate since 2009. Drought-related supply disruptions have put upward pressure on food prices over the past year, particularly bread & cereal products (through higher grain input costs) and meat (through higher wholesale prices) (Graph 4.12). Strong international demand, especially for lamb and beef, has also put upward pressure on meat prices recently. Following similar increases earlier in the year, milk prices increased again in the September quarter as major supermarkets raised private-label prices. Inflation in the prices of other food items has also picked up a little recently but remains fairly subdued.

**Graph 4.10**



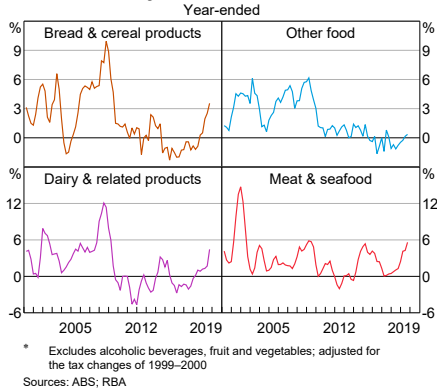
**Graph 4.11**



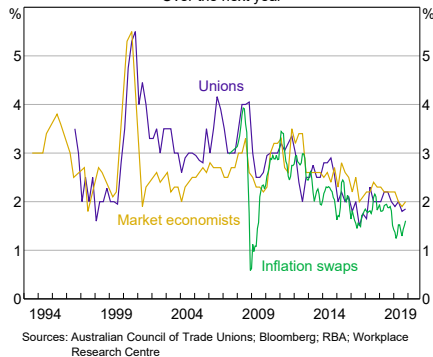
## Market-based measures of inflation expectations remain low

Wage- and price-setting behaviour can be affected by expectations about the future rate of inflation. Short-term market-based measures of inflation expectations have picked up a little in recent months (although these measures can be affected by oil prices) as have long-term market-based measures of inflation expectations. However, both measures remain low (Graph 4.13 and Graph 4.14). Short-term survey-based measures of inflation expectations have increased a little in recent months. Long-term survey-based measures remain consistent with the Bank's medium-term inflation target.

**Graph 4.12**  
Grocery Food Price Inflation\*



**Graph 4.13**  
Short-term Inflation Expectations  
Over the next year

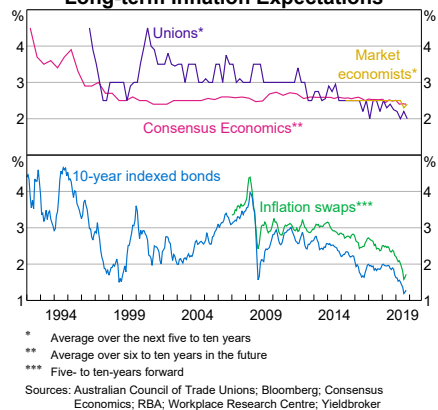


## Wages growth remains subdued

Growth in the wage price index (WPI) increased to 0.6 per cent in the June quarter, to remain at 2.3 per cent over the year. As anticipated at the time of the *August Statement*, growth in the quarter was boosted by a large wage increase in one particular enterprise bargaining agreement (EBA). However, wages growth remains subdued across the economy and across all measures (Graph 4.15). Despite strong employment growth over recent years, there is still considerable spare capacity in the labour market. It is possible that wage expectations have become anchored at low levels, as a result of a prolonged period of low wage and inflation outcomes.

Growth in the public sector WPI increased to 0.8 per cent in the quarter and 2.6 per cent over the year, boosted by a large wage increase for Victorian nurses and midwives that brought their wage level into line with those in New South Wales. Over recent years, public sector wages growth has been higher in Victoria than in other states (Graph 4.16). However, the Victorian Government has recently lowered their wage policy cap in new public sector EBAs. Governments in Queensland and New South Wales have had wages caps of 2½ per cent for some time. Growth in Tasmanian and Western

**Graph 4.14**  
Long-term Inflation Expectations



Australian public sector wages is at or around the lowest rate since the WPI series began in 1997. In Tasmania, public sector wages growth has been affected by delays in EBA negotiations.

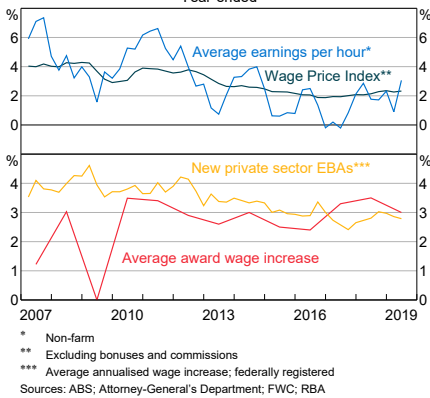
The private sector WPI grew by 2.3 per cent over the year to June. Wages growth is a little higher than it was in most industries a year ago (Graph 4.17). Over that period, there has been a noticeable pick-up in wages growth in industries such as professional, scientific & technical services and mining. Wages growth in these industries had fallen sharply after the mining boom, in part due to wage freezes. More recently, liaison reports that many of these wage freezes have been lifted as labour market

conditions have improved in the mining industry.

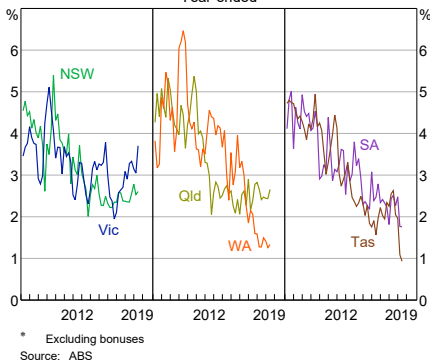
Wages growth continues to be highest in industries where a larger share of workers are on EBAs, such as health care and utilities. Over recent years, EBAs have tended to provide for a smaller wage increase than the agreements they replaced. This has been less evident in the agreements signed over the first half of 2019. The average duration of EBAs is also steadily increasing. The share of new EBAs with a term of three or more years has increased from around one-quarter in 2016 to around two-thirds in 2018. The average annualised wage growth in these longer-term EBAs is around 2½ per cent. This suggests that the effect of changing labour market conditions could take longer to flow through to the base pay of workers covered by these agreements.

Wages growth in the retail industry remains around 2 per cent. While some retail workers are award-reliant and have received annual wages growth over 3 per cent in recent years, others on EBAs experienced a prolonged period of wage freezes. This was due to a number of large retail EBAs that had expired and were either being renegotiated or awaiting Fair Work Commission (FWC) approval. Some new EBAs have been approved by the FWC over the past year, so retail

**Graph 4.15**  
**Wages Growth**  
Year-ended

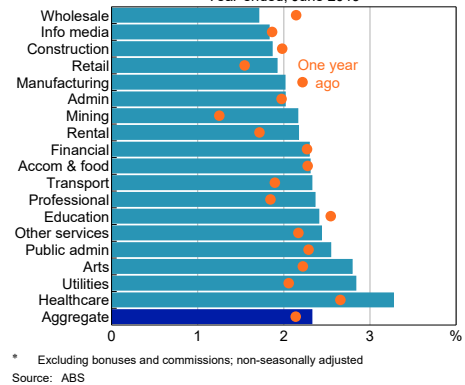


**Graph 4.16**  
**Public Sector WPI Growth\***  
Year-ended



**Graph 4.17**

**Wage Price Index Growth by Industry\***  
Year-ended, June 2019



wages growth should pick up a little from the September quarter.

The FWC increased federal awards and the national minimum wage by 3 per cent on 1 July, which will provide a small boost to wages growth in the September quarter. This will increase wages of the 20 per cent of employees that are reliant on the award, and it will also, either directly or indirectly, affect other employees that have their wages tied to the award in some way.

Growth in average earnings per hour in the national accounts (AENA) was a little higher than WPI growth over the past year. AENA is a broader, but more volatile, measure of labour costs because it captures non-wage payments as well as changes in the composition of employment. Real average earnings grew at a much stronger pace than labour productivity over the investment phase of the mining boom (Graph 4.18). Since around 2012, the pace of productivity growth, while subdued, has outpaced growth in real average earnings (see Box B: Industry Insights into Productivity Growth).

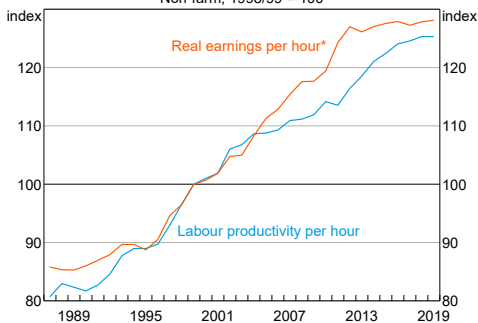
## Stable wages growth is expected over the year ahead

As has been the case for some time, the majority of firms that are surveyed in the RBA's liaison program anticipate steady wages growth over the year ahead (Graph 4.19). Over the past year, there had been a small decline in the share of firms expecting an increase in wages growth (relative to the previous year). Consistent with this, unions' expectations for wages growth have declined a little recently and do not suggest a pick-up in wages growth over the year ahead. ✖

**Graph 4.18**

### Productivity and Real Earnings

Non-farm, 1998/99 = 100

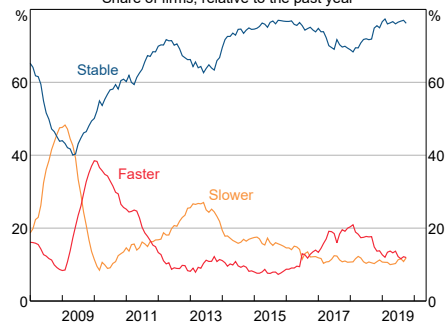


\* Deflated by the Household Final Consumption Expenditure Implicit Price Deflator  
Sources: ABS; RBA

**Graph 4.19**

### Expectations for Wages Growth\*

Share of firms, relative to the past year



\* 13-month-centred moving average  
Source: RBA



## 5. Economic Outlook

The outlook for the Australian economy is little changed since the August *Statement*. GDP growth over the first half of 2019 was stronger than it was over the second half of last year and recent data have been consistent with a continuation of moderate growth. The labour market and inflation forecasts are also little changed although wage growth is no longer expected to pick up.

Growth in Australia's major trading partners is expected to remain around its recent pace over the next two years. This is a little lower than forecast three months ago because there are more signs that the slowing in export-oriented sectors associated with the US–China trade and technology disputes is spilling over to the service sectors.

There are a number of global and domestic uncertainties around the forecasts. A renewed escalation of US–China trade and technology tensions would further increase uncertainty and depress business investment, although recent progress on negotiations suggests that this outcome is now less likely. The Chinese authorities also continue to face a number of policy trade-offs and it is uncertain how they will be resolved. Global financial conditions have remained accommodative since the start of the year, offsetting some of the impact of the trade dispute on the global economy. However, there are potential events that could lead to a material tightening in financial conditions, which would weigh on growth.

One near-term downside risk to the Australian economy is housing construction activity. A

larger-than-expected contraction in dwelling investment could delay the gradual improvement in GDP growth. Further out, the outlook is more balanced. A lagged response to rising housing prices and a period of low building activity means that dwelling investment would be stronger in the medium term than currently expected. Mining activity also has some upside risk.

### Domestic growth is expected to strengthen

Australian GDP growth was lower than expected over the year to the June quarter, although GDP growth was firmer in the first half of 2019 than in the second half of 2018. Recent partial indicators point to moderate GDP growth in the September quarter and a similar outcome is forecast for the December quarter, resulting in year-ended growth of 2¼ per cent over 2019 (Table 5.1) (Graph 5.1).

Year-ended growth is forecast to increase to 2¾ per cent over 2020 and around 3 per cent over 2021, supported by the low level of interest rates, recent tax cuts, ongoing spending on infrastructure, the upswing in housing prices in some markets and a brighter outlook for the resources sector. The outlook for consumption growth continues to be one of the important sources of uncertainty for the domestic growth forecasts, although the risks in the medium term are balanced. Growth in consumption is expected to increase gradually, supported by an increase in household disposable income growth and the recent improvement in the

**Table 5.1: Output Growth and Inflation Forecasts<sup>(a)</sup>**

Per cent

	Year-ended					
	June 2019	Dec 2019	June 2020	Dec 2020	June 2021	Dec 2021
GDP growth	1.4	2¼	2½	2¾	3	3
(previous)	(1¾)	(2½)	(2¾)	(2¾)	(3)	(3)
Unemployment rate <sup>(b)</sup>	5.2	5¼	5¼	5¼	5	5
(previous)	(5.2)	(5¼)	(5¼)	(5¼)	(5)	(5)
CPI inflation	1.6	1¾	2	1¾	1¾	2
(previous)	(1.6)	(1¾)	(1¾)	(1¾)	(2)	(2)
Trimmed mean inflation	1.6	1½	1¾	1¾	1¾	2
(previous)	(1.6)	(1½)	(1¾)	(1¾)	(2)	(2)
	Year-average					
	2018/19	2019	2019/20	2020	2020/21	2021
GDP growth	2.0	1¾	2¼	2¾	2¾	3
(previous)	(2¼)	(2)	(2½)	(2¾)	(3)	(3)

(a) Technical assumptions set on 6 November include the cash rate moving in line with market pricing, TWI at 60, A\$ at US\$0.69 and Brent crude oil price at US\$61 per barrel; shaded regions are historical data; figures in parentheses show the corresponding forecasts in the August 2019 Statement

(b) Average rate in the quarter

Sources: ABS; RBA

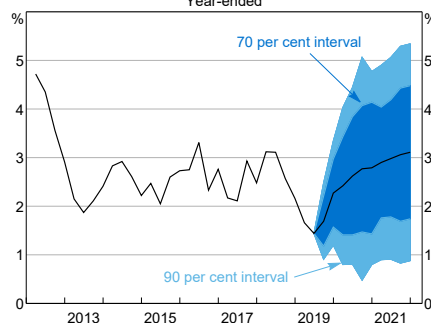
established housing market. Dwelling investment is expected to subtract from GDP growth for several quarters, though this drag is expected to diminish through 2020, and subsequently return to making a positive contribution to growth. Public demand and business investment are expected to continue supporting growth over the forecast period, complemented by ongoing growth in exports. Mining investment is also expected to make a material contribution to growth.

The domestic forecasts are conditioned on the technical assumption that the cash rate moves in line with market pricing, which implies some chance of a 25 basis point cut to the cash rate by the middle of 2020. The exchange rate is assumed to be constant at its current level, which is 1 per cent higher than where it was at the time of the August *Statement*. Oil prices are assumed to remain at current levels, which are about 5 per cent higher than they were at the

time of the August *Statement*. The population aged 15 years and over is assumed to grow by 1.7 per cent per annum over 2020 and 2021. (For an example of how movements in the exchange rate technical assumption can affect the forecasts see Box E: Scenario Analysis Using the MARTIN Model).

**Graph 5.1**

**GDP Growth Forecast\***



\* Confidence intervals reflect RBA forecast errors since 1993

Sources: ABS; RBA

## Consumption growth is expected to recover gradually

Over the past year consumption has been significantly weaker than expected. There was a modest improvement in the June quarter but recent indicators have been weak. Growth in consumption over 2019 is expected to be 1½ per cent, which is at the bottom end of the range of outcomes over the past decade. Growth in consumption is expected to increase gradually over subsequent quarters, to be close to 2½ per cent over 2020 and 2¾ per cent over 2021.

Consumption growth will be supported by an expected pick-up in growth in household disposable income and the recovery in housing markets. Household disposable income growth has been very slow in recent years. The forecast pick-up in growth in household disposable income arises from growth in labour demand, the recent monetary policy easing lowering household interest payments and the low- and middle-income tax offset lowering tax payments. The overall expected increase in income has been revised down slightly in the near term to reflect the effects on small business income from the ongoing drought and downturn in housing construction activity, and continuing evidence of strong tax collections.

The household saving ratio has increased modestly since the end of 2018 and is expected to remain broadly unchanged over coming years.

## Dwelling investment will decline in the near term before turning around

Dwelling investment is expected to continue to decline over the coming year. The outlook for dwelling investment has been revised lower in the near term, consistent with the June quarter outcome and soft building approvals data more recently. Despite the stronger-than-expected recovery in established housing markets, there is

little evidence of a pick-up in the early stages of residential development activity. Developers in the Bank's liaison program report that improved market sentiment has yet to translate to much of an increase in sales. The trough in dwelling investment is expected to occur in late 2020, before a recovery in residential construction gets underway through 2021. The pick-up in dwelling investment over 2021 has been upwardly revised, partly reflecting the stronger-than-expected increase in established housing prices.

## Public demand and non-mining business investment are expected to continue to support growth ....

Growth in public consumption is expected to moderate from its current very strong rate, partly because some of the expenditure in the June quarter was temporary. Spending on the NDIS is expected to support growth in public consumption, making up around one-quarter of growth in 2019/20 and 2020/21. Public investment is expected to grow moderately over coming years, supported by transport infrastructure projects, partly offset by the expected decrease in investment following the completion of the rollout of the National Broadband Network.

Non-mining business investment is expected to contribute to growth over the forecast period. Non-mining investment declined in the June quarter, driven by a decrease in non-residential construction work that partly reflected a shift in the timing of some infrastructure construction projects. A pick-up in work on these projects is expected to add to growth in the near term. Further out, growth is expected to be a little weaker, based on the lower investment expectations reported in the Australian Bureau of Statistics Capital Expenditure (Capex) survey.

## ... as is mining activity

Mining investment increased in the June quarter, driven by machinery & equipment investment and exploration activity. Taken

together with the Capex survey, business liaison and company announcements, this suggests that mining investment is around its trough and that the wind-down of the mining investment boom (and associated drag on GDP growth) is complete. Mining investment is expected to pick up gradually over the next year or two as firms seek to sustain, and in some cases expand, production. There is some possibility that expenditure will be higher than expected, including from projects currently under consideration.

Partial trade data suggest resource exports increased in the September quarter. They are expected to increase further over the coming year, supported by growth in iron ore and coking coal production, as well as the continued ramp-up of LNG exports. Growth in resource exports is then expected to slow as LNG projects reach their targeted production levels and a couple of existing gas fields begin to deplete.

### Rural exports are expected to be lower because of the drought

Rural exports are forecast to decline over the next year before picking up. Given the Bureau of Meteorology is forecasting drier-than-average conditions across most of Australia until at least the end of this year, the drought is expected to weigh on rural exports (and farm incomes) for longer than previously expected. Planting of summer crops is likely to be lower this season and smaller national herd and flock sizes will constrain meat production until producers can rebuild livestock numbers. Both developments imply that it will take longer for rural exports to stabilise.

Service exports are forecast to continue growing steadily, underpinned by overseas student enrolments and the exchange rate depreciation over the past year. Manufactured exports are expected to continue growing over the forecast period, especially exports of medicinal & pharmaceutical goods and professional &

scientific instruments, which have increased strongly over recent years.

Imports were weak in the June quarter, and partial trade data suggest a small decline in the September quarter, consistent with slower private sector demand growth over recent quarters. Further out, imports are expected to increase at a moderate pace.

### The terms of trade are expected to decline gradually

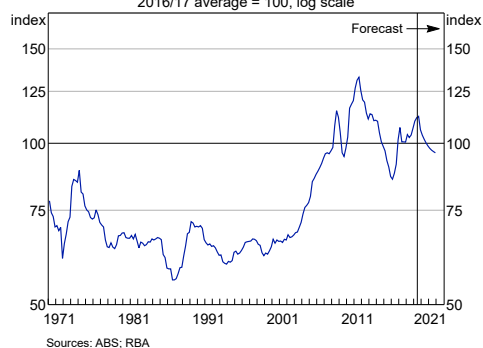
The terms of trade remain elevated, reflecting still-high resource export prices, particularly for iron ore (Graph 5.2). The terms of trade are expected to decline gradually as Chinese demand for bulk commodities moderates. The higher level of the terms of trade is not having a large impact on economic activity. Iron ore export volumes were already running at close to capacity, and because higher prices are seen as temporary, they have not spurred investment in new capacity. Although higher prices boost mining profits and tax receipts, the effect of this on the economy has been small.<sup>[1]</sup>

The broader outlook for coal prices has not changed markedly; an expected increase in coking coal supply is likely to lower prices, and the gradual transition away from coal-fired power generation is expected to continue weighing on thermal coal prices.

**Graph 5.2**

**Terms of Trade**

2016/17 average = 100, log scale



## The unemployment rate is expected to decline a little ...

Employment growth has continued to be stronger than expected, particularly given that output growth has been weaker than expected. Leading indicators suggest that these positive labour market conditions will persist over the next six months; job vacancies have declined a little but remain at a high level, while firms' hiring intentions remain above average. Above-trend GDP growth is expected to support employment growth over 2020 and 2021 and the employment to working-age population ratio is forecast to increase further.

There is always uncertainty around how much of any increase in labour demand will be met by a change in unemployment, participation or an adjustment in the average hours worked. Over the past couple of years, employment growth has encouraged a larger-than-usual response from people to either enter the labour force or defer leaving. The participation rate is expected to increase modestly from its current high rate, while the unemployment rate is expected to decline to 4.9 per cent by the end of 2021 (Graph 5.3). This unemployment rate profile is unchanged from the August *Statement*.

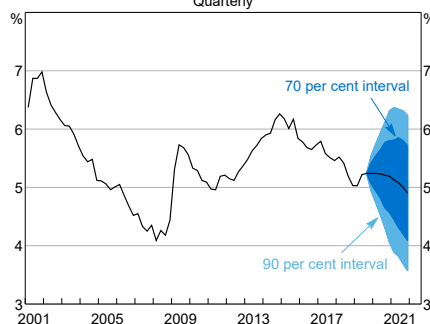
The unemployment rate is expected to remain above the rate consistent with full employment (also known as the non-accelerating inflation rate of unemployment or NAIRU) for the next couple of years. The central estimate of this rate is around 4½ per cent, although there is considerable uncertainty around how much spare capacity there currently is (and will be) in the labour market. In particular, a key uncertainty is whether further increases in labour demand will be met by rising labour force participation.

## ... but will not generate much inflationary pressure

Wages growth is expected to remain around the current rate over the next couple of years. Private sector wage price index (WPI) growth is expected to increase very modestly, consistent with the gradual decline in labour market spare capacity. This is a little lower than previously forecast. In the near term, this is in line with company and union expectations; the majority of companies in the liaison program as well as surveyed unions continue to anticipate little change in wages growth over the next year. Wages growth, however, will be boosted a little in the September quarter by the 3 per cent increase in the award and minimum wage. Public sector wages growth is expected to remain broadly stable over the next few years, given that there is no indication that there will be changes to the government wage caps that have been in place in most jurisdictions for many years.

Average earnings from the national accounts, which is a broader measure of labour costs, is expected to grow at a slightly stronger pace than the WPI. This assumes that whatever factors have been dragging on earnings growth in recent years, such as compositional changes in the labour market or weakness in non-wage labour costs, have dissipated. Growth in unit

**Graph 5.3**  
**Unemployment Rate Forecast\***  
Quarterly



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

labour costs is expected to be fairly subdued over the next few years; the recent pick-up in unit labour cost growth, as a result of particularly weak productivity outcomes, is expected to be temporary.

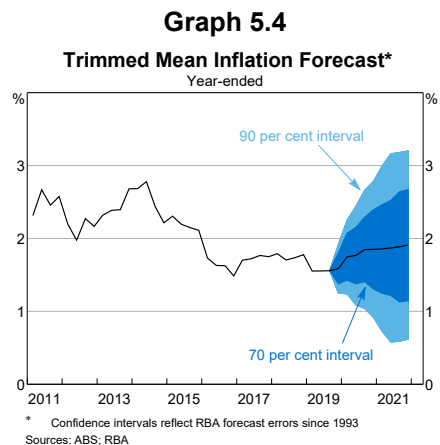
Trimmed mean inflation is expected to increase to around 1¾ per cent over 2020 and to around 2 per cent over 2021 (Graph 5.4). Headline inflation is expected to follow a similar profile, although the increase in fuel prices in the December quarter to date is expected to boost inflation by 0.2 percentage points in the quarter. Inflation in the September quarter was as expected at the time of the *August Statement*. Although new dwelling prices were again lower than forecast, there was a bit more pass-through from the lower exchange rate to higher retail prices than expected. Inflation is expected to increase a little over the forecast period as labour market spare capacity declines a little and as growth picks up to above potential. It remains uncertain how fast spare capacity will be absorbed and how fast this will translate into sustained wage and inflationary pressure.

There are a number of factors affecting inflation that are likely to dissipate over time, although the timing of this dissipation is unclear. New dwelling inflation is expected to remain subdued until residential construction activity starts to pick up in 2020. Rent growth, which is generally a slow-moving component of CPI, is expected to pick up gradually as housing demand from continued strong population growth more than offsets the slower additions to the housing stock. Over the past year, a number of administered price decisions (such as child care reform) and policy changes in utilities have weighed on inflation. There are no known large administered price changes in the near term, but there is considerable, policy-dependent uncertainty around the outlook for these prices (discussed further below). Working in the opposite direction, the recent increase in grocery food inflation related to the drought is

likely to be temporary. Further, the upward pressure on consumer durables prices from the exchange rate depreciation over the past year is expected to wane over 2020.

## Risks to global growth are mostly to the downside

A number of uncertainties pose downside risk to the global outlook. Further escalation of US–China trade and technology tensions is possible. Some progress on negotiations has been made recently, however, so there is still a possibility a deal will be reached soon. If that were to happen, global growth could surprise on the upside as firms make up for delayed capital spending. But if a deal is not reached soon, the more prolonged period of unresolved trade tensions would further increase uncertainty and depress business investment. These effects would have wide-ranging negative implications for global growth but will be most concentrated in the United States, China and the more export-oriented economies in east Asia. There is also a risk that the spillovers to service sectors and labour markets could be larger than expected. The timing and form of the United Kingdom's expected exit from the European Union continues to pose risks to growth in Europe.



China's slowing growth trajectory and the interaction of domestic policies and external pressures continue to pose risks to the demand for bulk commodities and Australia's terms of trade. Targeted fiscal and monetary policy measures have supported Chinese domestic demand and have helped to offset the effects of the US–China trade and technology disputes. However, the overall stimulus might still not be enough to avoid a sharper slowing in growth than we expect or the Chinese Government desires. This could prompt authorities to respond with more aggressive policy easing. However, they may be reluctant to do so, given their desire to avoid adding to already-high levels of debt and fuelling currency depreciation pressures, which could exacerbate tensions and encourage capital outflows. The evolution of policies towards property markets, infrastructure spending and the environment will also be important for China's growth trajectory and, in particular, the outlook for Chinese steel demand.

Global financial conditions have remained accommodative since the start of the year, offsetting some of the impact of the trade dispute on the global economy. Overall, asset prices continue to suggest that market participants expect an extended period of monetary policy accommodation that will support the global economic expansion. There are, however, several possible triggers that could lead to a tightening in financial conditions through higher risk premiums and financial market volatility. Both are currently low, but could increase if market participants become more concerned about the global growth outlook or if political risks escalate.

### **Dwelling investment presents a downside risk in the near term ...**

The data show that the domestic economy has reached a gentle turning point. Recent evidence suggests that the modest pick-up in growth that occurred in the first half of the year has

continued, but it is possible that growth does not increase by as much as forecast. One factor that could be softer than forecast over the next year or so is housing construction; this would, in turn, have broader economic implications.

The timing and size of the expected decline in dwelling investment is uncertain. The recent increase in established housing market prices in some markets will, in time, support demand for new dwellings. It is possible that this support will come sooner than expected, given the extent of the turnaround in prices that has already occurred. However, conditions in the earlier stages of residential development have been weak for some time. The long lead times on higher-density construction mean the supply response is likely to be slower than the historical average response to changes in established housing prices and interest rates would suggest. Tight conditions on lending to developers may mean it is even more protracted than we expect. This raises the risk that dwelling investment could decline by more than currently forecast in the near term. This would have implications for employment and profits from businesses in the construction sector, and thus weigh on household income growth and consumption. Other parts of the economy with linkages to the residential construction sector, such as business services and manufacturing, could also be affected.

The labour market has been surprisingly resilient to the below-trend GDP growth over the past year. Given the weakness in GDP growth, especially in the second half of last year, there would typically have been more of a slowing in employment growth by now. It is possible that the lags between growth and employment are longer than usual and a weakening in the labour market is still to come, although leading indicators do not suggest a material change is likely in the next couple of quarters.

### ... but risks to growth and inflation are more balanced further out

The risks around the outlook for growth are more balanced in 2021. Although the possible downside risks to dwelling investment could persist, a lagged response to housing prices and a period of low building activity means that dwelling investment would be stronger in the medium term than currently expected. The expected rise in mining activity also has some upside risk.

In contrast to the near-term risks for the sector, residential construction could contribute more to growth towards the end of the forecast period than expected. Our current projections take account of the longer lags involved in high-density construction than in the detached home building activity that dominated past housing cycles in Australia. As a result, the increase in dwelling investment is expected to occur a little later than the historical average response to changes in established housing prices and interest rates would suggest. This timing reflects the large recent addition to the housing stock, tighter credit conditions and lack of pre-sales activity. However, these factors could weigh less on activity than expected and so dwelling investment could be stronger. A stronger recovery in dwelling investment becomes more likely the longer the weakness in construction persists because, in an environment of strong population growth, this will lead to an undersupply of housing and more upward pressure on established prices.

Sustained strength in established housing price growth could boost consumption growth by more than expected. It could also be associated with credit growth picking up faster than growth in household disposable income. International experience suggests that high household debt can amplify economic and financial shocks such as an unexpected increase in unemployment or slower-than-expected income growth, including through the effects

on household consumption. That said, in Australia, financial stability concerns are mitigated by the fact that the bulk of debt outstanding is owed by higher-income households who are less likely to experience sustained unemployment and generally have a high capacity to make repayments.

The expected rise in mining activity also has some upside risk. The forecast for mining investment incorporates available information on sustaining and expansionary projects that are underway or have received (or are expected to receive) positive final investment decisions. If work on these projects were to be accelerated or more spending was required than expected, this would boost GDP growth. There are also some mining projects for which investment decisions have not been made, but could commence around the end of the forecast period. These projects would further boost GDP if they were to proceed. The current high level of the terms of trade could also persist for longer, or support growth by more than our current forecasts assume.

For wage and price inflation, the risks to the forecasts in 2021 also appear evenly balanced. Wages growth could pick up faster than expected if GDP growth is stronger and erodes spare capacity in the labour market by more than we currently expect. Against that possibility, an extended period of low wages growth and inflation may move wage-setting norms even lower than they are currently. The increase in the superannuation guarantee in 2021 could affect wages growth, but this will depend on labour market conditions and the response of wage-setting bodies at the time.

At a more disaggregated level, the downside risks to administered and electricity prices inflation that had been flagged have largely materialised over the past year. The risks around these prices now appear to be more balanced over the next few years. Electricity prices are expected to rise at a below-average pace and



could decline because the amount of renewable energy coming online over the next few years will weigh on wholesale electricity prices. However, the outlook for network costs (around 40 per cent of consumer electricity prices) is more uncertain. Inflation in the prices of food and consumer durables has increased recently as a result of the pass-through of the exchange rate depreciation as well as the drought. Future

outcomes will be influenced by any pick-up in consumer demand and any changes to competition dynamics in the industry. Finally, the pace at which housing-related costs pick up will largely depend on how quickly the expected pick-up in residential construction activity offsets demand for new housing from strong population growth. ✎

## Endnotes

- [1] See RBA (2019), 'Box B: The Recent Increase in Iron Ore Prices and Implications for the Australian Economy', *Statement on Monetary Policy*, August Available at <<https://www.rba.gov.au/publications/smp/2019/aug/box-b-the-recent-increase-in-iron-ore-prices-and-implications-for-the-australian-economy.html>>.



## Box E

# Scenario Analysis Using the MARTIN Model

### What is scenario analysis?

Each *Statement on Monetary Policy* presents economic forecasts and a range of global and domestic uncertainties surrounding them. The discussion is typically expressed in qualitative terms, stating the direction of the risk (that is, whether it is an upside or downside risk) and the channels through which it may affect the economic outlook. The likely effect of these risks, should they be realised, can be illustrated using scenario analysis. Although these modelling exercises are, by their nature, only rough approximations, they are an important input into our forecasting process and broader policy analysis.

Scenario analysis can improve our understanding of the economic outlook by considering the effects of alternative economic outcomes. A scenario can describe the consequences of a particular event, tracing through key channels as they affect economic outcomes. Another type of scenario might explore the effect of a particular event if some economic relationships are stronger (or weaker) than in the past. Scenario analysis is not intended to represent the full range of possible outcomes, but rather to help illustrate which risks are likely to be material and which are not. As such, scenario analysis serves to highlight key risks that could considerably change the central projections if they were to materialise.

### How is scenario analysis conducted?

Scenario analysis involves a range of steps and requires the use of economic models. Over the past two years, the MARTIN model – a full-system macroeconomic model of the Australian economy – has been a key tool used to conduct scenario analysis at the RBA (Ballantyne *et al* 2019).<sup>[1]</sup>

Using MARTIN, staff can construct a scenario by imposing a path for one or more variables and then observing the behaviour of other variables conditional on that path. This path can be based on one that fits within the range of historical experience for that variable, or on a hypothetical path such as a worst-case scenario. Once the model has been run, staff compare each variable's evolution in the scenario against the baseline forecast presented in the *Statement*. The differences between the predicted economic outcomes of the scenario and the staff forecasts illustrate the economy-wide effects of the event under consideration. By using a model, we can also explore the channels of transmission from the event to economic outcomes.

Scenarios are usually 'forward-looking'. For example, Guttman *et al* (2019) considered a scenario exploring a sharper-than-expected slowdown in the Chinese economy.<sup>[2]</sup> But scenarios can also be 'backward-looking' and compare past outcomes to what might have happened under a counterfactual path for a particular variable. For example, in the attempt to answer the question of whether households consume more when their wealth increases, May, Nodari and Rees

(2019) looked at how consumption growth would have evolved between 2013 and 2017 if growth in household wealth had been 5 percentage points lower than it was in the data over the same period.<sup>[3]</sup>

A key limitation of scenario analysis is that the model used is a simplified representation of reality. As such, it is difficult to capture all the possible channels through which an event can propagate throughout the economy. For example, MARTIN captures the foreign and financial sectors in a simple way, while some channels, such as confidence channels, can be incorporated by adjusting variables based on information from outside the model.

### A scenario example: the implications of a change in the exchange rate

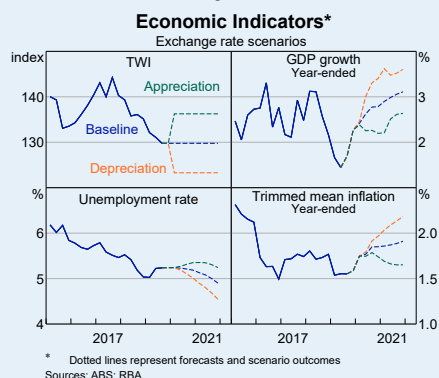
The staff forecasts rely on a set of technical assumptions and other exogenous inputs. For example, the exchange rate, as measured by the trade-weighted index (TWI), is assumed to remain unchanged over the forecast period. This is a pragmatic assumption motivated by the body of past research showing that short-run movements in exchange rates are difficult to predict.<sup>[4]</sup>

In the following scenario, MARTIN is used to quantify the impact on the current economic forecasts from imposing a different assumption about the future path of the exchange rate. The exchange rate is assumed to be 5 per cent higher or 5 per cent lower and held constant at that level over the forecast period. All other assumptions that underpin the staff forecasts remain unchanged. Thus, in the scenario, the cash rate does not respond to the effects of a lower/higher exchange rate assumption on the forecasts.

The scenario results show that a sustained 5 per cent depreciation of the exchange rate is expansionary for the economy (Graph E.1). GDP growth is roughly half a percentage point higher than in the central forecasts over the forecast period. The increase in GDP growth largely reflects a substitution towards Australian goods and services following the exchange rate depreciation, which leads to a reduction in imports and an increase in export volumes (Graph E.2). This is consistent with relative price changes: the depreciation lowers the price of domestically produced goods and services relative to goods and services produced overseas.

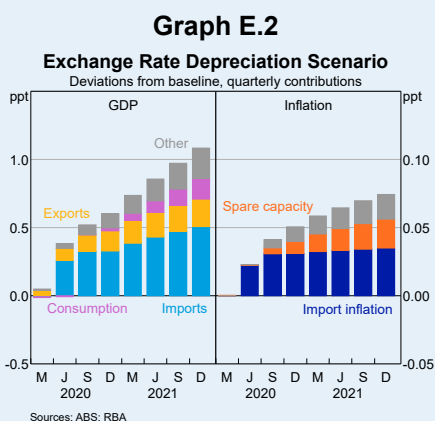
The pick-up in economic activity lowers the unemployment rate by around 0.4 percentage points to 4½ per cent and raises year-ended trimmed mean inflation by around 0.3 percentage points to 2¼ per cent by the end of 2021. Around half of the increase in inflation reflects the direct effect of higher import prices and the rest comes from the indirect effects of a tighter labour market and stronger economic conditions. As such, the stimulatory effect of a sustained 5 per cent exchange rate depreciation on economic activity largely operates through the traded sector.

**Graph E.1**



As the MARTIN model is mostly linear, the effects of an appreciation in the exchange rate are symmetric to the effects of the depreciation (Graph E.1). So, a sustained 5 per cent appreciation of the exchange rate would be expected to lower GDP growth by

½ percentage point on average relative to the central forecasts, keep the unemployment rate at around 5¼ per cent (instead of declining to 5 per cent by the end of 2021) and keep trimmed mean inflation well below the bottom of the target band throughout the forecast period. The main channel through which the appreciation of the exchange rate affects the economy is, once again, the trade channel. Following the increase in the value of the Australian dollar, the price of Australian goods and services becomes less competitive. As a result, export volumes fall and imports increase. This is consistent with a higher purchasing power of domestic residents and lower import prices; for a given level of production, they can now afford to consume more imports. ↘



## Endnotes

- [1] A Ballantyne, T Cusbert, R Evans, R Guttman, J Hambur, A Hamilton, E Kendall, R McCririck, G Nodari and D Rees (2019), 'MARTIN Has Its Place: A Macroeconometric Model of the Australian Economy', RBA Research Discussion Paper No 2019-07. Available at <<https://www.rba.gov.au/publications/rdp/2019/2019-07/full.html>>.
- [2] R Guttman, K Hickie, P Rickards and I Roberts (2019), 'Spillovers to Australia from the Chinese Economy', RBA *Bulletin*, June, viewed 5 November 2019. Available at <<https://www.rba.gov.au/publications/bulletin/2019/jun/spillovers-to-australia-from-the-chinese-economy.html>>.
- [3] D May, G Nodari and D Rees (2019), 'Wealth and Consumption', RBA *Bulletin*, March, viewed 5 November 2019. Available at <<https://www.rba.gov.au/publications/bulletin/2019/mar/wealth-and-consumption.html>>.
- [4] For a review of the literature on exchange rate forecasting, see B Rossi (2013), 'Exchange Rate Predictability', *Journal of Economic Literature*, 51(4), pp 1063–1119.



