Speech

Monetary Policy: Forward Looking and Data Dependent in the Face of Uncertainty

RESERVE BANK OF AUSTRALIA

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I would first like to pay respect to the traditional and original owners of this land, the Gadigal people of the Eora Nation, to pay respect to those who have passed before us and to acknowledge today's custodians of this land. I also extend that respect to any First Nations people joining us here today.

Introduction

Three weeks ago, the Reserve Bank Board cut interest rates for the first time since 2020. Naturally there is a lot of interest in what lies behind the Board's decision-making process. Today I want to shine a light on three key inputs to the process, how they interact with one another and how they fit together to support the Board in its decision making.

The first is our view of how changes in the cash rate affect the economy. The impact of policy changes takes time to flow through the economy; looking at the response of banking credit flows to interest rate changes, which many here today know intimately, clearly highlights this. So policy decisions today shape inflation and employment outcomes in the future.

This necessitates a forward-looking approach to meeting our mandate. Policy decisions require both a view of the outlook for the economy and an understanding of how policy is likely to affect that outlook. That helps the Board set the cash rate to give the best chance of achieving the RBA's objectives over time.

The second is how we form our view of the outlook – our baseline forecast – and how it responds to incoming data. When we talk about being 'data dependent', we are referring to the way we update our view of where the economy is and the outlook. The implication of continuously updating our view on the outlook means we also continuously update our policy advice to the Board; the future pathway for the cash rate is not predefined.

Finally, I will say a bit about the Board's approach to setting policy under uncertainty. In practice we are uncertain about both the outlook for the economy, and the effect of monetary policy, and this complicates policy decisions. Under uncertainty, policy depends on more than just the central forecast – judgements about the risks and uncertainties matter too. That's why, as we have discussed on a number of occasions recently, it's important to consider alternative possible pathways for the economy and how policy would have to respond.[1]

Monetary policy is forward looking …

Central bankers and macroeconomists often say that monetary policy impacts the economy with a lag.[2]

So, if inflation moves away from our target, or employment falls below full employment, monetary policy cannot immediately offset those moves. Instead, central banks have to look ahead. Ideally we would know when and by how much the economy is going to move away from our targets in the future. Knowing this, we would calibrate policy today to prevent this from happening, and the economy would stay at full employment and inflation at target.

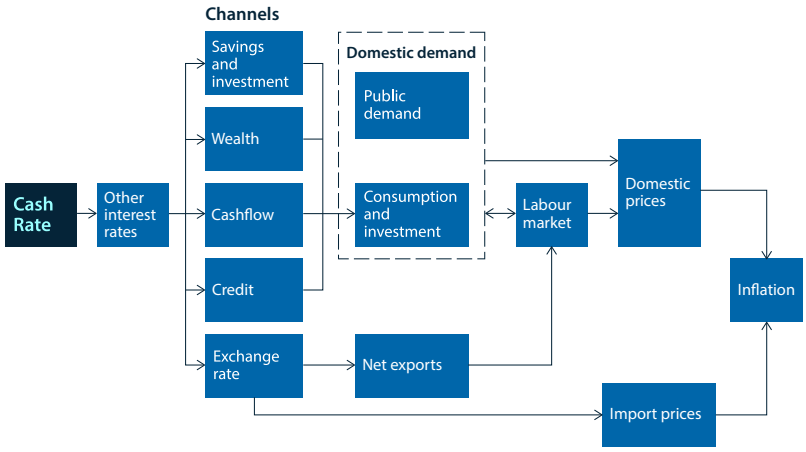
In practice of course, this isn't what happens. We can't foresee shocks, and even in times of relative calm outcomes are rarely (if ever) exactly as we expect. The economy and our understanding of it is always evolving and our models, analysis and judgements aren't perfect; we don't have a crystal ball and even if we did it would be very cloudy.

Despite this, given the lags in monetary policy transmission, we always have to forecast how we think the economy will evolve, and set policy now so that we expect to achieve our mandate once any policy change has had time to have its effect.[3] In practice, as I will explain later, policy decisions also take account of uncertainties about the outlook. We put significant effort into identifying and understanding the risks around the baseline forecast, and the Board explicitly considers such risks in its decision-making.[4]

… because there are lags in transmission

It is important, then, to understand how policy changes affect the economy. In a speech in 2023 my colleague Christopher Kent set out the RBA's view of how monetary policy works, and how the sequence of increases in the cash rate up to that point had affected the Australian economy.[5] I plan to use the same framework to explore the lags in transmission, so let me briefly summarise it here.

Figure 1: How Changes in the Cash Rate Flow through the Economy



When the cash rate changes, the first step in transmission is that other short and longer term market interest rates and other asset prices (including the exchange rate) adjust, more or less straightaway.[6] Then these changes affect economic activity and ultimately inflation[7] through a number of 'channels':

- **Cash flow**: lower interest rates flow into households' disposable income; borrowers pay less to service their debt, and savers earn less on their deposits.
- **Savings and investment**:[8] a decrease in saving and borrowing rates typically encourages people and businesses to borrow, invest and consume more, and save less.
- **Asset prices**: A cut in interest rates typically encourages investment in assets, resulting in higher house, equity and other asset prices. Higher household wealth tends to increase household consumption.
- **Credit**: Lower interest rates can increase the flow of loans to households and the availability of external funding to businesses.

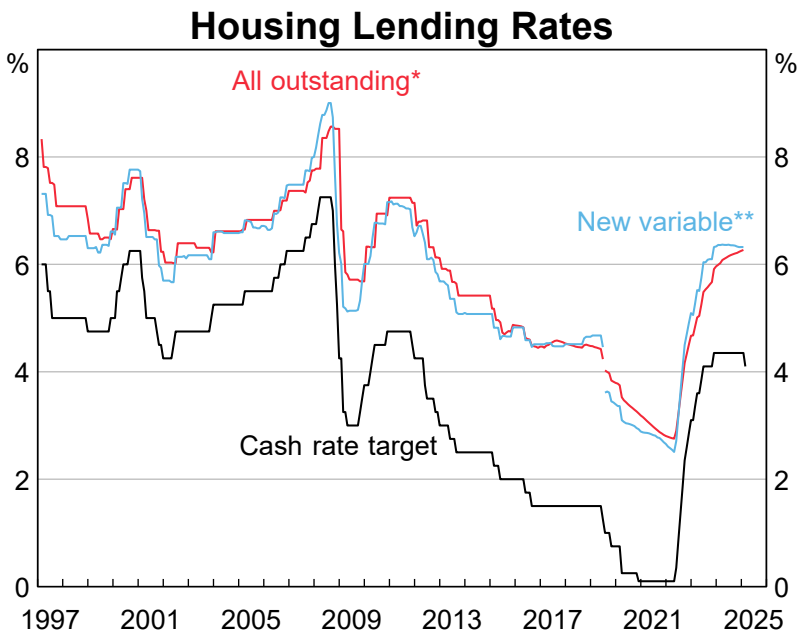
- **Exchange rate**: a decrease in interest rates can contribute to a depreciation of the exchange rate, making imports less competitive and exports more competitive, leading to stronger growth. Higher import prices also directly increase inflation.

Macroeconomists often talk about expectations, and whether or not an interest rate change is partially or fully anticipated by financial markets, households and businesses is an important determinant of the size of each transmission channel. If the change is fully anticipated by financial markets then we may see little if any change in asset prices and the exchange rate, which limits the size of the exchange rate and asset price channels after the decision.[9] Households and businesses may also start to adapt their spending and investment decisions ahead of a change in the cash rate, but they typically respond less than financial markets prior to the policy decision.[10]

Overall, then, the size and timing of the impact of policy changes through these channels varies.

Take the cash flow channel as an example. Some variable loan and savings rates change quickly, as we saw following the Board's latest decision. Households in aggregate have more interest-sensitive loans than deposits, so lower interest rates increase household disposable income. That prompts higher spending by borrowers, though households typically adjust their spending by less than the changes in their incomes in the short run.[11] For those with fixed-rate mortgages, cash flows remain unchanged until loans roll over, though they might start adjusting their spending in anticipation (Graph 1).

Graph 1



* For the outstanding rate series, Perpetual data used to 2015; data from the Securitisation System to July 2019; thereafter, data from the EFS collection.

** For the new variable series, Perpetual data used to 2013; advertised package rates to July 2019; thereafter, data from the EFS collection.

Sources: APRA; Perpetual; RBA; Securitisation System.

Or consider the exchange rate channel. All else equal, an interest rate cut in Australia lowers the relative rate of return on Australian assets compared with overseas.[12] This typically leads to a depreciation of the dollar, making exports cheaper and imports more expensive. However, while the exchange rate adjusts immediately, the volume of traded goods responds more gradually. Domestic businesses will have existing contracts to purchase goods from overseas, while foreign buyers are similarly committed to purchasing Australian products at

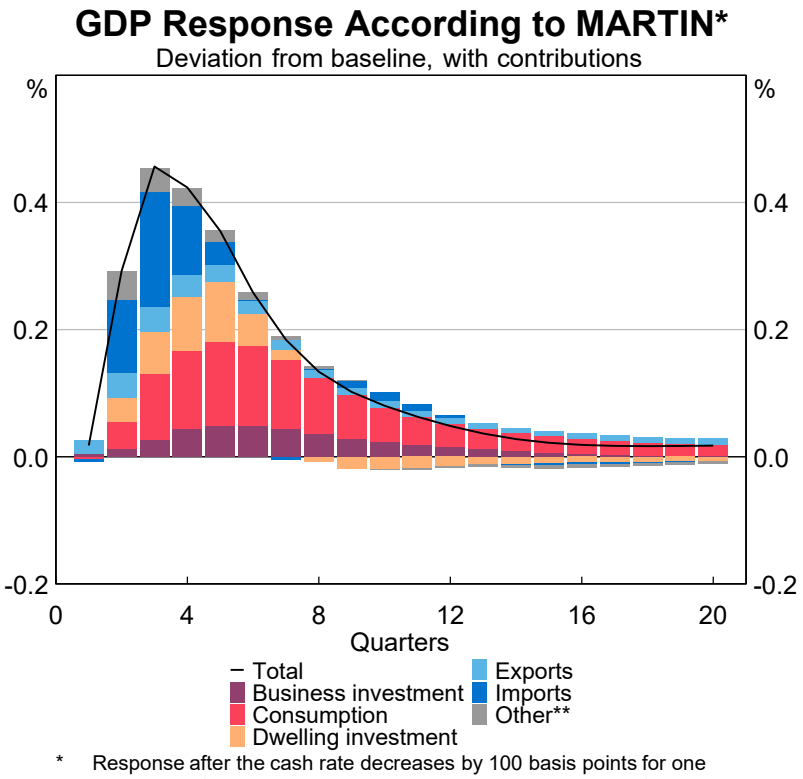
previously agreed prices. If there is a trade deficit this price effect may exacerbate it. But as these contracts come up for renewal, and as firms and consumers adjust their purchasing behaviour, there will be a gradual increase in the volume of exports and a decline in imports, leading to an increase in net trade over time.

So far I've been discussing the direct channels through which cash rate changes impact the economy; these start working immediately, though they take time to fully play out. But there are also indirect spillovers, such as the impact of spending decisions by businesses, households, and importers on employment and income.[13] For example, a business might hire new workers for an investment project that is made viable by a rate cut, boosting household income and spending. This ripple effect can amplify the direct impact of policy and may occur quickly or over time. Recent research suggests these indirect effects could be a major part of the transmission mechanism.[14]

While identifying these channels helps us think through how monetary policy operates, in practice they operate at the same time and there is no precise way to isolate or quantify the contribution of each one. Nevertheless, one simple way to build intuition about their relative roles is to look at how the components of GDP evolve after a change in monetary policy.

To do this we can use a model of the economy – here I will use MARTIN, the RBA's main macroeconomic model, to illustrate the transmission of a reduction in interest rates.[15]

Graph 2



* Response after the cash rate decreases by 100 basis points for one quarter and follows the path implied by MARTIN's policy rule after that.

** 'Other' category includes ownership transfer costs, public demand, and changes in inventories.

Source: RBA.

There are a number of helpful insights from the decomposition shown in Graph 2:

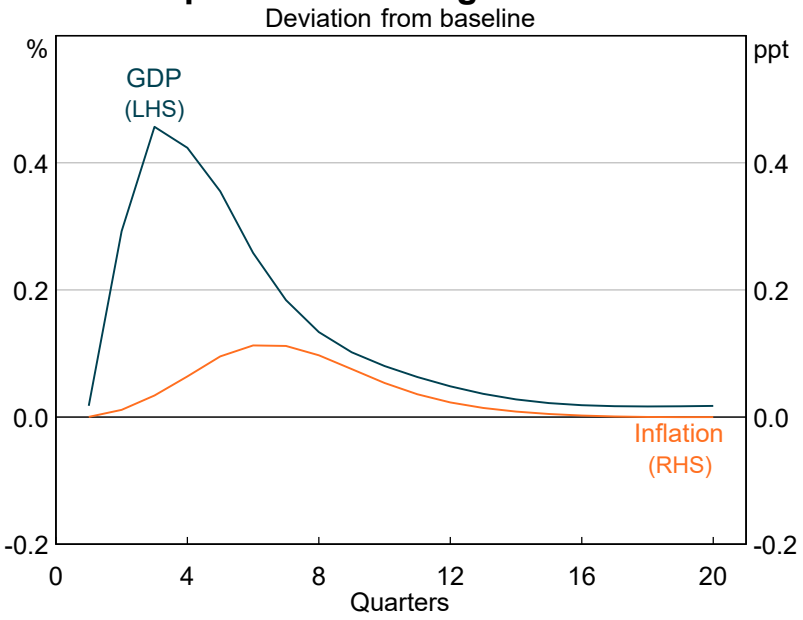
1. The immediate GDP response to lower interest rates is relatively limited – it takes time for everyone to adjust
2. In MARTIN it takes 9–12 months for a loosening in monetary policy to have its peak effect on economic output.

3. The effect from total investment is an important channel over the first year, with dwelling investment in particular responding relatively quickly compared with business investment, whose response builds fairly gradually.[16] Intuitively this makes sense – businesses might immediately be encouraged to invest more by higher valuations and cheaper credit, but it takes time to get projects off the ground, and some businesses will wait to respond once they see an increase in the demand for their goods and services from consumers.
4. Changes in imports and exports also play an important role in driving the initial response of GDP, at least according to this particular model. This highlights that the exchange rate channel is important and operates relatively quickly compared with other channels; if overseas holidays become expensive, households tend to quickly switch to vacationing at home and vice versa.[17]
5. The response of household consumption to lower interest rates is initially small but grows over time. This suggests the 'cash flow channel' – which should start working quickly[18] – plays a minor role in the overall transmission mechanism, as the boost from lower debt payments is offset by reduced interest income on deposits. The slow response likely reflects the indirect effects of transmission channels and households' tendency to smooth their spending changes.

While it takes about nine months for the cash rate to have its biggest impact on GDP, the peak effect on inflation is estimated to take nearly twice as long (Graph 3). This could be because it takes time for an increase in demand to affect the hiring decisions of firms and the job search decisions of households, which then ultimately feed into price setting. Or it may simply reflect some 'stickiness' in prices.

Graph 3

GDP and Inflation
Response According to MARTIN*



* Response after the cash rate decreases by 100 basis points for one quarter and follows the path implied by MARTIN's policy rule after that.

Source: RBA.

This tells us that – according to MARTIN at least – the decisions we make today will have their largest effect on economic output at the end of 2025, and on inflation in mid-2026.[19]

Monetary policy is always data dependent …

So to set policy we need an estimate of how changes in the cash rate affect the economy and a view of the outlook for the economy – a forecast.[20]

As forecasters, we essentially try to do two things. First, we try to understand the state of the economy now. Second, we use models based on economic theory and capturing historical patterns in the data combined with our judgement, to extrapolate from the current state of the economy into the future.

In both cases this comes down to our understanding of the data – both quantitative information such as official ABS data, surveys and financial market data, and qualitative information such as liaison. Extracting reliable signals from noisy data and forming a coherent economic picture is challenging. New or revised data can alter our view of the starting point or how the economy might evolve. As things constantly change, we continuously update our views with new information.

In recent years many central banks have described their policy setting as 'data dependent'. Rather than meaning that policy responds mechanically to particular pieces of data, we are data dependent in the sense that incoming data affects our view of where the economy is today and the outlook, and this in turn influences the path for policy. At times of heightened uncertainty about how the economy is responding to shocks – for example, during the pandemic and the immediate aftermath –central banks may put a higher weight on real time data relative to baseline forecasts and models.[21] But these weights change over time, as conditions evolve and we learn more about how the economy is responding; policymakers must always take a forward-looking view on the outlook. So, how does this work in practice?

… because data informs our view of the outlook

To give a sense of how we draw this information together into a forecast, I am going to use the example of our household consumption forecasts.

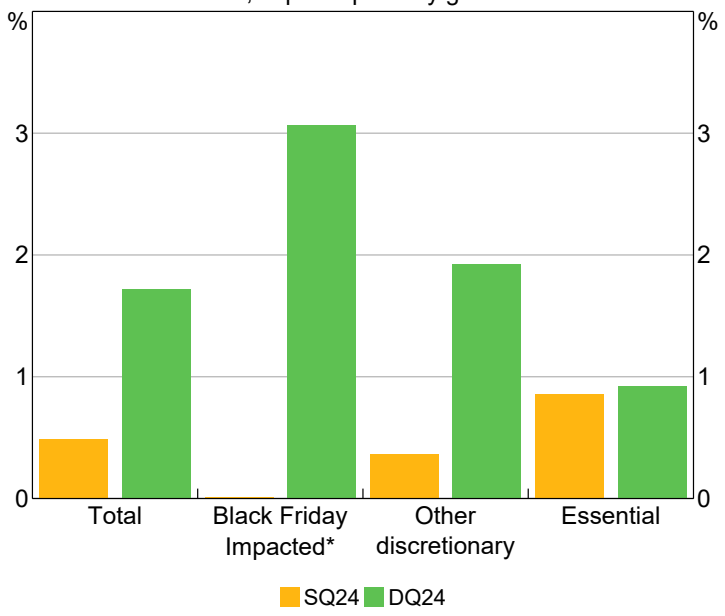
In our most recent *Statement on Monetary Policy* (SMP), one of our key judgments was that household consumption growth had started to recover in line with the pick-up in real household incomes. This judgement was informed by analysis of a range of timely indicators – such as the ABS Household Spending Indicator, and credit and debit card spending indices – which suggested that consumption growth had picked up in the December quarter.

But was this just a temporary pick-up as financially squeezed households concentrated their spending around Black Friday and other sales? Digging further into the data suggested there was more to it than that (Graph 4). Not surprisingly, spending on the types of goods that tend to have significant sales, such as household goods and clothing, did grow strongly in the quarter. However, we had also seen a modest lift in household disposable income from the middle of 2024, and discretionary spending not impacted by sales (e.g. eating out) also showed signs of picking up, which suggested a genuine improvement in underlying momentum. Information from our liaison contacts also supported this assessment.

Graph 4

ABS Household Spending Indicator

Nominal, implied quarterly growth rate



* Includes clothing & footwear, and furnishings & household equipment.

Sources: ABS; RBA.

Our read of the data is a crucial input to our forecasts. In fact, one way to think about the forecast is that it captures and projects forward what we think is signal from the latest data, while disregarding what we think is mostly noise.

The outlook for consumption is only one part of the forecast, and we spend considerable time thinking about how different assumptions impact different sectors, and how these interactions might magnify or offset one another. But underneath it all, the links between data, forecast and policy sits at the heart of us saying that policy is 'data-dependent'.

Policy under uncertainty

As I set out earlier, the link between our forecast and the Board's policy decision is not mechanical. It is not as simple as constructing our central forecasts, then working out what the Board needs to do with the cash rate to meet its objectives.

The main reason for this is that there are always risks and uncertainties around the central forecast; the baseline pathway is just one of a vast number of possible outcomes. Board decisions are always made in an uncertain environment, which means thinking about the distribution of risks around the central forecast. One of the things we are focused on right now is US policy settings, the impact of these on the global economy and how this flows through to activity and inflation here in Australia; we have been using scenarios, analysis and judgement to assess the policy implications.

As the Governor and Deputy Governor have both indicated recently, the February decision reflected a judgement by the Board that it was the right time to take *some* restrictiveness away, but the Board were more cautious than the market about prospects for further easing.

In all of this, the RBA uses a range of timely indicators to form its economic forecasts. These data help to distinguish between temporary fluctuations and more sustained trends, informing policy decisions. The RBA's policy decisions are made in the context of various risks and uncertainties. The Board considers a wide range of

possible outcomes and uses scenarios, analysis and judgment to assess the implications of different policy paths, ensuring a balanced and forward-looking approach. This is why being forward looking is not in tension with being data dependent.

Endnotes

* I would like to thank Tim Taylor, Gulnara Nolan, Jack Mulqueeney, Alexandra Michielsen, Iris Day and Eleanor Rogerson for substantive drafting support and Michele Bullock, Andrew Hauser, Chris Kent, Brad Jones, Michael Plumb, Penny Smith, David Jacobs, Alex Ballantyne, Jonathan Hambur, Anthony Brassil and Tom Williams for their comments on earlier drafts.

1 Hunter S (2024), `Shedding Light on Uncertainty: Using Scenarios in Forecasting and Policy', University of Adelaide South Australian Centre for Economics Studies (SACES) Lunch, Adelaide, 13 December.

2 See Friedman M (1960), `A Program for Monetary Stability', Fordham University Press; Christiano LJ, M Eichenbaum and CL Evans (1999), `Monetary Policy Shocks: What Have We Learned and to What End?', *Handbook of Macroeconomics*, 1, pp 65–148; Arouba SB and T Drechsel (2024), `The Long and Variable Lags of Monetary Policy: Evidence from Disaggregated Price Indices', *Journal of Monetary Economics*, 148(S); Moura AS, G Buda, VM Carvalho, G Corsetti, JB Duarte, S Hansen, A Ortiz, T Rodrigo, JV Rodrigez Mora and G Alves da Silva (2025), `The Short Lags of Monetary Policy', Working Paper No w202501, Banco de Portugal.

3 This approach to setting monetary policy has been described as 'forecast targeting': seeLEO Svensson (1997), `Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets', *European Economic Review*, 41(6), pp 1111–1146; Woodford M (2007), `The Case for Forecast Targeting as a Monetary Policy Strategy', *Journal of Economic Perspectives*, 21(4), pp 3–24.

4 Hauser A (2025), `Monetary Policy in a VUCA World', Address to the Australian Financial Review Business Summit, Sydney, 5 March.

5 Kent C (2023), `Channels of Transmission', Address to Bloomberg, Sydney, 11 October.

6 Movements in asset prices reflect financial markets' view on both the short run, cyclical path for the cash rate (and other central bank policy rates) and its long run or neutral level.

7 Monetary policy actions might also move households' expectations by influencing likely future inflation outcomes and showing households that the central bank is committed to returning inflation to the target. Through the recent high inflation period expectations have remained anchored, which has been a very welcome outcome; keeping expectations anchored is extremely important, because if expectations become unanchored it can become more costly and take longer to return inflation to the target.

8 This is equivalent to the 'intertemporal substitution channel' referred to in Kent, n 5.

9 As the change in policy rate has been anticipated, financial markets have already incorporated it into their prices and have adjusted – effectively these channels have started working before the actual change in the interest rate. Conversely, if the policy decision is a surprise, which can be no change in the cash rate as well as an unexpected change in the cash rate, movements in financial markets are typically more pronounced enhancing the post-decision transmission through these channels.

10 There are a number of reasons why households and businesses are less responsive when they expect a change in the cash rate. For example, both groups may be credit or liquidity constrained or they may not have as much knowledge about the likelihood of monetary policy changes.

11 For a recent update on the household cash-flow channel, see Jennison S and M Miller (2025), `An Update on the Household Cash-flow Channel of Monetary Policy', RBA *Bulletin*, January. La Cava, Hughson and Kaplan estimate the marginal propensity to consume (MPC) out of interest-sensitive cash flows to be around 0.2 for borrowers: La Cava G, H Hughson and G Kaplan (2016), `The Household Cash Flow Channel of Monetary Policy', RBA Research Discussion Paper No 2016-12. An individual household's MPC depends on several factors, including whether they face credit constraints: see, for example, Kaplan G and GL Violante (2022), `The Marginal Propensity to Consume in Heterogeneous Agent Models', NBER Working Paper No 30013.

12 The size of the depreciation in the Australian dollar in response to a cash rate change depends on a number of factors. These include whether the decision has been anticipated or not, the short- and long-term economic outlook in Australia and overseas, broad policy settings in Australia and elsewhere, and concurrent and future monetary policy decisions by the RBA and other central banks.

13 Economics often refer to these as general equilibrium or Keynesian multiplier effects.

14 For example, Kaplan, Moll and Violante show that monetary policy affects output indirectly via a general equilibrium change in labour demand, which appears to dominate the direct effect via traditional channels of transmission such as intertemporal substitution: Kaplan G, B Moll and GL Violante (2018), `Monetary Policy According to HANK', *American Economic Review*, 108(3), pp 697–743.

15 MARTIN is designed to capture the typical pattern of responses seen in the past to changes in interest rates, so it is effectively taking an average of the size of the different transmission channels (including whether the policy decision was anticipated or unexpected) over the inflation targeting period. That said, these estimates are uncertain and different models with different structural underpinnings or statistical properties can suggest a different picture. This is why we tend to look at a variety of models that make different assumptions about the economy, when forecasting and conducting scenario analysis. A forthcoming *Bulletin* article will explore the transmission mechanism in more detail and includes estimates from several models.

16 Dwelling investment is a relatively small part of GDP so underlying its medium-sized contribution is a sizeable change in dwelling investment.

17 MARTIN predicts that imports decrease after a decrease in the cash rate. This response is not common to all models; for example, the RBA's DSGE model predicts that the increase in household disposable income and households' forward-looking behaviour leads to a lift in import volumes. For a discussion of these different responses, see Ballantyne A, T Cusbert, R Evans, R Guttmann, 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. Reflecting these modelling differences, a forthcoming *Bulletin* article explores the transmission of monetary policy from the perspective of several models.

18 Unlike the other channels, the cash flow channel has an immediate effect on households' income. For households whose spending has been constrained, this could be expected to have a rapid effect on spending. The absence of a rapid response, and the fact that the cash flow effect on aggregate income is in any case limited, suggests this channel may not be the most prominent channel of monetary policy transmission. This is consistent with the findings in Ballantyne *et al*, n 17 and the estimates in La Cava *et al*, n 11.

19 The timing of the peak effects depends on the model. For example, the Bank's DSGE model features a quicker pass-through from monetary policy to inflation (see Ballantyne *et al*, n 17 for a comparison). A forthcoming *Bulletin* article will explore the transmission mechanisms according to several macroeconomic models, including MARTIN.

20 The RBA's forecasts are conditioned on the path of interest rates implied by market pricing. The focus of policy scenarios that inform the Board is therefore on how deviations from the market path affect the outlook.

21 In the RBA's case, the shift to focusing more on actual outcomes relative to the baseline forecast was also accompanied by an increased focus on scenario analysis. See, for example, RBA (2020), May *Statement of Monetary Policy*.