

Inflation Expectations and Economic Literacy

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Abstract

The level of community awareness and understanding of basic economic issues can influence a central bank's ability to achieve its goals, such as by anchoring the public's inflation expectations in line with its inflation target. This article draws on novel data from a large-scale survey of Australian adults about their knowledge of the Reserve Bank's inflation target and their expectations for inflation over the short and medium term. Responses to these questions varied significantly according to the socio-demographic characteristics of the survey respondents and their level of economic literacy. The results of this study point to the need for clear communication about the Bank's inflation objectives that caters for variations in awareness and understanding of economic issues across different socio-demographic groups.

Introduction

For both individuals and society at large, there are significant benefits of being economically literate (McCowage and Dwyer 2022). From the perspective of a central bank, the level of community awareness and understanding of both economic developments and the objectives of monetary policy may shape behaviours and attitudes that matter for its ability to achieve its goals – such as by anchoring the public's inflation expectations. For this reason, central banks around the world have

increasingly sought to better understand how well members of the public understand their actions and communications, and if this is associated with economic behaviours.

This article presents insights into aspects of economic literacy in Australia that are especially relevant to the Reserve Bank. Specifically, it draws on survey data that reveal the extent to which Australian adults can correctly identify the Bank's inflation target, and which collate their inflation expectations over the short and medium term. How

Table 1: Survey Questions on the RBA's Inflation Target and Inflation Expectations

Topic area	Question
RBA's inflation target	As far as you know, what is the Reserve Bank of Australia's target range for inflation? (a) 0–1 per cent (b) 1–2 per cent (c) 2–3 per cent (d) 3–4 per cent (e) 4–5 per cent (f) 5–6 per cent (g) 6–7 per cent (h) 7–8 per cent (i) 8–9 per cent (j) 9–10 per cent (k) don't know / uncertain
12-month ahead inflation expectations	Inflation is the rate of increase or decrease in prices of goods and services purchased by households. What do you expect the rate of inflation will be <i>over the next 12 months</i> ? In percentage terms, please give your best guess. If you do not think there will be any inflation in the next 12 months, please enter a '0'. If you expect deflation (opposite of inflation), enter a negative value. If you expect inflation, enter a positive value. Over the next 12 months, I expect the rate of inflation to be ___ %
Medium-term inflation expectations	We would now like to know what you think the inflation rate will be further into the future. Inflation is the rate of increase or decrease in prices of goods and services purchased by households. What do you expect the inflation rate will be over the 12-month period between January 2025 and January 2026 (in 3 years' time)? In percentage terms, please give your best guess. I expect the rate of inflation to be ___ %

Source: RBA.

these variables differ across socio-demographic groups, notably between males and females, is also explored. The article builds on previous Bank research that provided a first read on the general community's measured understanding of issues related to core areas of macroeconomics, which showed significant differences in economic literacy across socio-demographic groups (McCowage 2023).

The data

Data used in this article are drawn from the results of a novel survey of a representative sample of 3,000 Australian adults conducted in January 2023 by the Behavioural Insights Team (BIT) on behalf of the Bank's public education program.^[1] This dataset was introduced in the Bank's initial work on the measurement of economic literacy (McCowage 2023). The survey was conducted in a way that allowed us to see how respondents' understanding of economic concepts was influenced by the information source and context

provided; the survey also included a range of other multiple-choice questions that tested economic literacy and other behaviours. The questions that are the focus of this article are given in Table 1.

These data are novel compared with existing data on consumer inflation expectations for a number of reasons, including that they enable us to:

- consider how inflation expectations relate to a new set of variables, such as knowledge of the Bank's inflation target and respondents' level of economic literacy (measured as a score tallying how many of five questions on core macroeconomic topics were answered correctly; see McCowage 2023 for details)^[2]
- examine the role of respondents' level of engagement with economic news in their day-to-day lives, at least through written or online channels (proxied by respondents' answers to the survey question 'How often do you read or visit a website for economics or business news?', with possible responses of 'every day', 'about

once a week, 'about once a month' and 'never or hardly ever')

- look at inflation expectations over longer horizons than have previously been asked of households in Australia.

Knowledge of the Reserve Bank's inflation target

The most common response to the question on the Bank's inflation target was 'don't know/uncertain' (Graph 1). Just over 20 per cent of respondents correctly identified the target range for inflation as 2–3 per cent, and around 40 per cent answered in the 'ballpark' of this correct response (answering 1–2, 2–3 or 3–4 per cent).

So, is a 20 per cent correct response rate to this question high or low? Researchers in other countries have found broadly similar results – for example, Coibion, Gorodnichenko and Weber (2022) found in a 2018 survey that less than 20 per cent of households in the United States could identify the Federal Reserve's inflation target.^[3] In most cases, researchers have characterised their findings of similar magnitude as evidence that household understanding of monetary policy objectives is limited.

Given limited knowledge of Australia's inflation target in the overall population, does knowledge vary among socio-demographic groups? We found that it varied markedly (Graph 2). Those who reported to be engaged with economic news had

the highest share of correct responses to the question about the inflation target, with 30 per cent of this group answering the question correctly. This is not surprising – for a fact-based question that tests knowledge recall such as this, regular exposure to economic content inevitably increases the chance of a correct response. Those who had studied economics or finance also had a relatively high correct response rate to the inflation target question, at just under 30 per cent. Among those most likely to report that they did not know the Bank's inflation target were unemployed persons, females, young people and those who are not engaged with economic news.

Given the variations in knowledge about the inflation target among different groups in our sample, what socio-demographic characteristics were most important? To establish this, a simple regression model was estimated. The results confirmed that being employed, engaged with economic news or male are the most important factors associated with knowing the Bank's inflation target, all else equal (Appendix A).

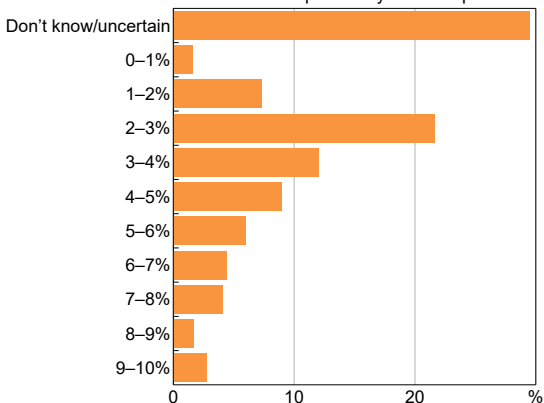
Inflation expectations

Given the importance of household inflation expectations for economic outcomes, the survey also asked respondents what they expected the rate of inflation to be in the next 12 months and in three years' time. The three-year horizon is novel because traditionally such inflation expectations are inferred from financial assets with a three-year maturity. Across the board, respondents reported

Graph 1

As Far as You Know, What is the RBA's Target Range for Inflation?

Share of responses by answer option

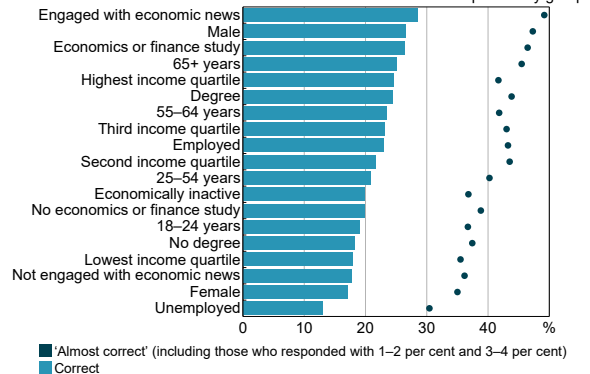


Source: RBA.

Graph 2

Who Knows the RBA's Inflation Target?

Share of correct and almost correct responses by group



Source: RBA.

above-target inflation expectations, consistent with actual inflation outcomes as of January 2023 (Graph 3). Above-target inflation expectations were also consistent with results in other surveys of consumers, like the Melbourne Institute Survey of Consumer Inflationary Expectations, which is taken monthly (Haidari and Nolan 2022). Also consistent with the Melbourne Institute survey is the tendency of respondents to report expectations that are a multiple of five, indicating digit preferencing and rounding, although the surveys' questions were formulated differently.^[4]

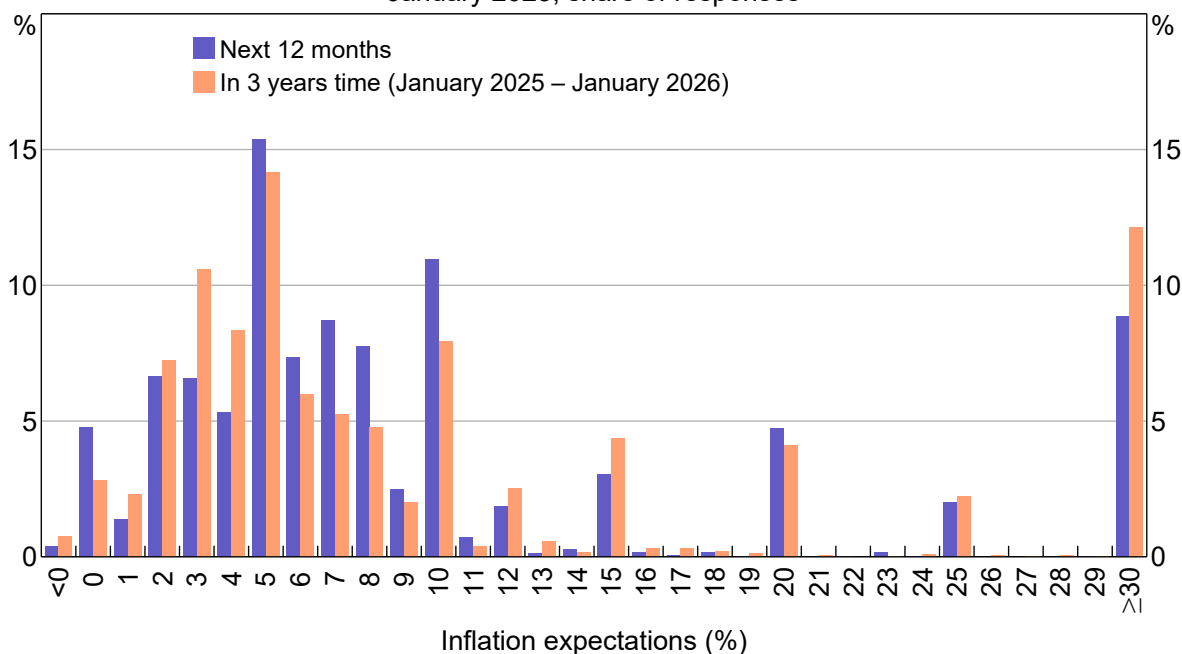
While the high-level data are consistent with the Melbourne Institute survey, the BIT survey enabled us to consider the interaction of individual expectations with engagement with economic news, economic literacy and knowledge of the Bank's inflation target, as mentioned above. We were also able to investigate inflation expectations given the respondent's sex (data on which are also included in the Melbourne Institute survey).^[5] Findings are presented for inflation expectations in the year ahead, consistent with existing surveys.^[6]

Inflation expectations, by sex

Inflation expectations among male and female survey respondents differ markedly (with these differences being statistically significant), consistent with overseas survey findings as well as the Melbourne Institute survey (Haidari and Nolan 2022). The median expectation for 12-month ahead inflation for males was 6 per cent, broadly in line with central bank and private sector forecasts. By contrast, the median female expectation was 8 per cent.

Graph 4 shows the clear difference in the distribution of 12-month expectations for inflation among males and females. (Interestingly, differences in inflation expectations for those who had or had not previously studied economics or finance look very similar to the differences between males and females.) In large part, differences are driven by the extent to which participants 'round' their inflation expectation to the nearest 5 per cent (e.g. 5, 10, 15, 20 per cent). Female survey respondents rounded expectations much more frequently than their male counterparts. As a result

Graph 3
Distribution of Inflation Expectations*
 January 2023, share of responses



* Grouped into one percentage point interval; frequencies shown are including and above the number indicated on the x axis.

Source: RBA.

of the rounding occurring at higher integers, the overall average and median expectation for female respondents were higher than for males. Surveys undertaken overseas have shown similar patterns (Binder 2017a).

The clustering of responses around round numbers could point to uncertainty among respondents on the level of inflation, or even the concept of inflation. In the United States, Binder (2017b) found that survey participants who round their expectations are likely to be more uncertain about their responses, and this may suggest a lower level of understanding about inflation more generally.

Inflation expectations and engagement with economic news

Those who reported themselves as being more engaged with economic news appeared to have inflation expectations that were closer to those of the Bank and professional forecasters compared with those who were less engaged (Graph 5). At the time of the survey, the Bank and professional forecasters expected inflation to be around 5–6 per cent over 2023. Participants who self-reported as being engaged with economic news had inflation expectations that were much more tightly clustered around this rate than those who were not as engaged. (This is shown by the greater density of inflation expectations of 5–6 per cent for those who were engaged with economic news, especially those who engaged daily.) This is broadly what might be expected from individuals who are

engaged with the news – they are able to stay more up to date in a changing inflation landscape and report more anchored inflation forecasts.

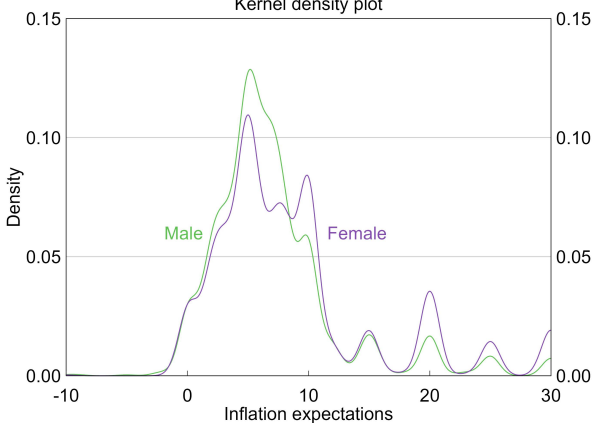
Inflation expectations and economic literacy

There appears to be a strong link between respondents’ inflation expectations and their assessed level of economic literacy within the survey. Respondents’ economic literacy was determined by how many of five economic literacy questions were answered correctly, tallied to generate a ‘score’ between zero and five (McCowage 2023).

Twelve-month ahead inflation expectations converged towards those of the Bank and professional forecasters as respondents’ economic literacy scores rose (Graph 6). For those with an economic literacy score of zero, the average inflation expectation was around 13.5 per cent. By contrast, for those with a score of five, the average expectation was around 6.5 per cent – broadly in line with Bank and professional forecasts. Considering the split by sex (as shown in Graph 4), there was less variation in male respondents’ inflation expectations across economic literacy scores. By contrast, females reported more varied expectations. Females with lower economic literacy reported an average expectation of nearly 17 per cent, whereas those with the highest economic literacy reported expectations of 7 per cent.

Graph 4

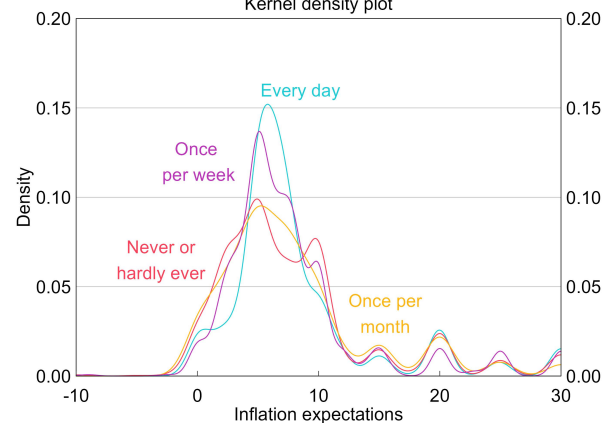
Inflation Expectations by Sex*
Kernel density plot



* 12-month ahead inflation expectations as at January 2023; responses below -10 or above 30 are excluded. Source: RBA.

Graph 5

Inflation Expectations by Engagement with Economic News*
Kernel density plot



* 12-month ahead inflation expectations as at January 2023; responses below -10 or above 30 are excluded. Source: RBA.

Inflation expectations and knowledge of the Bank’s inflation target

An important reason why central banks may wish to build and support community knowledge of their inflation targets is to shape inflation expectations. If more households understand the target range of inflation that central banks are striving to achieve, and they see the central bank’s commitment to this objective as credible, they may be more likely to expect inflation outcomes within that range. This, in turn, has implications for their behaviour.

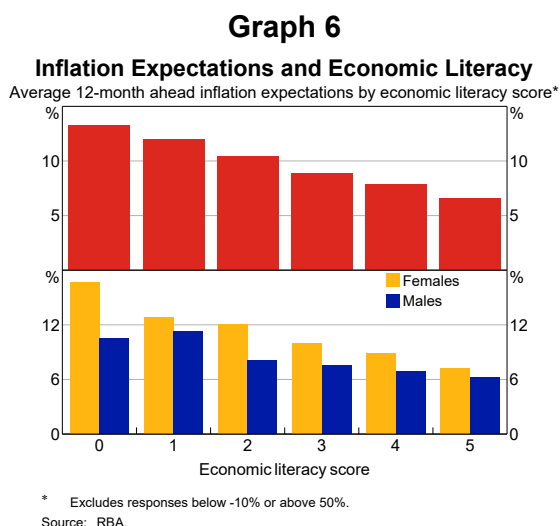
Higher responses to the question on the Bank’s inflation target were associated with higher inflation expectations among survey respondents (Graph 7). This relationship is statistically significant even after accounting for the effects of other characteristics of respondents.^[7] Indeed, regression analysis shows it is almost one-for-one: for each step-up in the response to the Bank’s inflation target question (e.g. from 3–4 per cent to 4–5 per cent), inflation expectations for the coming 12 months were 0.8 percentage points higher, all else equal.^[8] It is of course possible that both knowledge of the inflation target and inflation expectations are being driven by another outside factor, such as economic literacy.

Data considerations

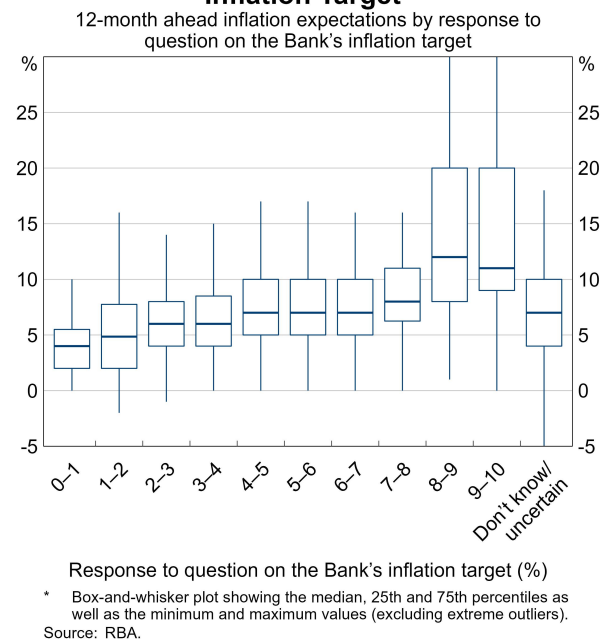
The data presented in this article are novel and shed light on the public’s understanding of economic developments and monetary policy. But it is important to acknowledge their limitations. For one,

we cannot control for the media and macroeconomic environment at the time of the survey. Heightened reporting of central bank activity, high inflation outcomes and monetary policy tightening at the time of the survey (January 2023) may have affected the extent to which survey respondents knew about the Bank’s inflation target or influenced their inflation expectations. Repeating the survey over time would help identify whether our findings were affected by prevailing media or macroeconomic conditions.

The survey also cannot tell us anything about respondents’ conceptual understanding of inflation or the Bank’s policy objectives and framework. For instance, some respondents may understand *why* the Bank has an inflation target and its importance but could not recall the exact level of the target. Arguably, the former is what matters for economic literacy. Further, the survey cannot tell us the degree of conviction (or otherwise) in reported inflation expectations among respondents – were some respondents simply guessing or did they truly expect much higher inflation outcomes? This matters for the extent to which these findings might translate to real economic behaviours, such as decisions around investment or wage negotiations.



Graph 7
Inflation Expectations and the Bank’s Inflation Target*



Conclusion

This article has presented new descriptive findings about knowledge of the Bank's inflation target and inflation expectations in the Australian community. The data show that overall knowledge of the Bank's objectives is limited, but in line with overseas estimates. Males, as well as individuals who were more engaged with economic news, typically reported much more 'anchored' inflation expectations than others. Individuals with higher levels of economic literacy (which itself is related strongly to sex and previous education) or with closer-to-accurate responses for the Bank's inflation target question also reported much more anchored inflation expectations. These results speak to the importance of simple, targeted communication from central banks so that the public can better understand their objectives and policy decisions – and thereby build greater trust in these institutions (Christelis *et al* 2020).

Future research could seek to understand the barriers to people's understanding of economic topics. Is it that the public simply does not understand concepts like inflation? If so, is this because material on these topics – from the Bank or the media – is typically pitched at a level that is too technical for the community to grasp? Is the material lacking clarity? Is formal education on these topics lacking? Or do individuals not realise how inflation and/or monetary policy outcomes affect them, so they do not engage with such issues given they have scarce time to process the available information (so-called 'rational inattention' (Reis 2006))? There could be many reasons behind these results and, in turn, many ways to respond. A good place to start in cultivating a greater awareness of the inflation target and more informed inflation expectations would appear to be encouraging engagement with economic news and articulating the benefits of understanding economics. ✖

Appendix A: Regression specification and output: Propensity to know the Bank's inflation target

A simple model of the likelihood of respondents knowing the Bank's inflation target was run:

$$\begin{aligned} &\text{Probability of correct response to RBA inflation target question}_i \\ &= \alpha + \beta_1 \text{Female}_i + \beta_2 \text{Age}_i + \beta_3 \text{IncomeQuartile}_i + \beta_4 \text{Degree}_i \\ &+ \beta_5 \text{StudiedEcon}_i + \beta_6 \text{EmploymentCategory}_i + \beta_7 \text{EconEngaged}_i + \varepsilon_i \end{aligned}$$

where, for each respondent i :

- Probability of correct response to RBA inflation target question $_i$ is the likelihood of a correct response to this question (between 0 and 1)
- Female $_i$ is 1 if the respondent is female (and 0 if they are male)
- Age $_i$ is the respondent's age in years
- IncomeQuartile $_i$ is a categorical variable between 1 and 4 for the respondent's income quartile
- Degree $_i$ is 1 if the respondent has a university degree
- StudiedEcon $_i$ is 1 if the respondent has studied economics or finance
- EmploymentCategory $_i$ is 1 if the individual is unemployed, 2 if economically inactive, 3 if employed
- EconEngaged $_i$ is 1 if the respondent reports that they read or visit websites for economics or business news every day or once a week (and 0 if they responded once a month or never/hardly ever).

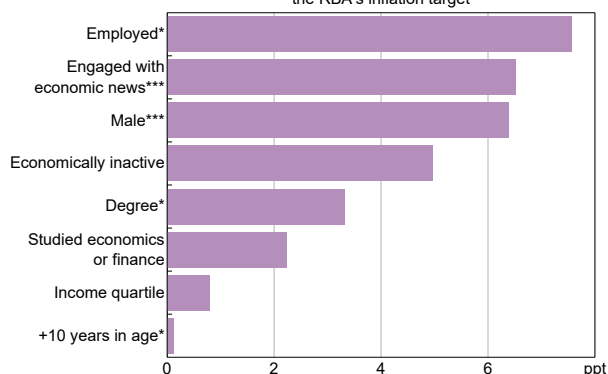
Probit and logit models were estimated, which was appropriate given the outcome variable (whether the inflation target question was answered correctly) is binary.

Table A1: RBA's Inflation Target – Regression ResultsAverage marginal effects^(a)

Outcome Estimation method	Probability of knowing the RBA's inflation target	
	Probit	Logit
Female	−0.0638*** (−4.08)	−0.0640*** (−4.04)
Age (years)	0.00113* (2.32)	0.00111* (2.27)
Income quartile	0.00803 (1.0)	0.00751 (0.93)
Degree	0.0331* (2.87)	0.0328* (2.04)
Studied economics	0.0224 (1.27)	0.0198 (1.12)
Economically inactive	0.0497 (1.52)	0.0499 (1.49)
Employed	0.0756* (2.39)	0.0743* (2.28)
Engaged with economic news	0.0652*** (3.95)	0.0646*** (3.90)
Observations	2,999	2,999
Pseudo R ²	0.0284	0.0280

(a) * if p<0.05, ** if p<0.01, *** if p<0.001.

Source: RBA.

Graph A1**RBA's Inflation Target
Question — Probit Regression Results**Marginal effects on the probability of knowing
the RBA's inflation target

* if p<0.05, ** if p<0.01, *** if p<0.001.

Source: RBA.

Endnotes

- [*] Madeleine McCowage completed this work while manager of the Bank's education program, and Peter Rickards is an RBA Lead Analyst currently pursuing postgraduate studies at the University of Oxford. The authors would like to thank Jacqui Dwyer for establishing and championing research on economic literacy in Australia at the Reserve Bank, and for her invaluable support in drafting this article.
- [1] BIT is based in the United Kingdom and collects data for 'social purpose' research, working with universities, private consultancies, international agencies, government agencies and central banks.
- [2] Since the BIT survey, La Cava (2023) conducted an experiment, also with a sample of 3,000 Australian adults, in which a treatment group were told what the Bank's inflation target was; the author then estimated the effect of this communication on their inflation expectations. La Cava's approach differs from the research presented in this article where the sample population's actual knowledge of the inflation target, measured level of economic literacy and engagement with economic news were known.
- [3] These authors also found that almost 40 per cent of respondents answered that the Fed was targeting an inflation rate of 10 per cent or more, and that low-income and less-educated individuals had higher average beliefs about the Fed's inflation target. Furthermore, a 2018 survey of firms in the United States by Coibion *et al* (2020) found that 25 per cent could correctly identify the Fed's 2 per cent inflation target, while 60 per cent 'did not know'. Kumar *et al* (2015) found that only 30 per cent of firm managers in a New Zealand survey could correctly identify, out of five multiple choices, that the central bank's primary objective is to keep inflation low and stable (the multiple-choice options were 'keep the exchange rate stable', 'promote full employment', 'keep interest rates low and stable' and 'help the government finance its spending'); these authors also found that only 12 per cent of respondents correctly identified the midpoint of the Reserve Bank of New Zealand's (RBNZ) inflation target, although another 25 per cent could identify the bottom and top of the RBNZ's range. Van der Cruysen, Jansen and de Haan (2015) found that only half of Dutch respondents could identify (from two options) that the European Central Bank (ECB) targets inflation close to but just below 2 per cent; from 11 statements about the ECB's objectives, respondents answered less than five correctly on average. See Binder (2017a) for a helpful review of studies investigating household awareness of central bank activities.
- [4] The Melbourne Institute Survey of Consumer Inflationary Expectations asks 'I'd like to find out what you think will happen to prices. Thinking about the prices of things you buy, by this time next year, do you think they'll have gone up, down, or stayed the same?' Respondents can choose from (A) Up, (B) Down, (C) The same, (D) Don't know/uncertain. If they answer (A), they are then asked: 'By what percentage do you think prices will have gone UP by this time next year?' If they answer (B), they are then asked: 'By what percentage do you think prices will have gone DOWN by this time next year?' Anyone who answers 'the same' is assigned an inflation expectation of zero. This typically accounts for a large share of responses to the Melbourne Institute survey.
- [5] BIT collected information on age, gender, education, location, income and employment status using the pre-screening questions in their platform; there was little scope to change the question on gender to directly match the current ABS Standard (which specifies sex at birth or an alternative title).
- [6] Across all the categories discussed below (i.e. gender, engagement, economic literacy and knowledge of the Bank's inflation target), the results and conclusions drawn are similar when considering three-year-ahead inflation expectations.
- [7] This is according to regression analysis controlling for the main socio-demographic factors available on respondents. Observations for those who responded 'don't know or uncertain' to the question on the Bank's inflation target were excluded from this regression.
- [8] In a separate survey of Australian adults, La Cava (2023) found that respondents who were randomly assigned information about the Bank's inflation target were significantly less likely to believe that current and future inflation were well above the target. The effect of the communication on inflation beliefs was stronger for people who typically report themselves to be less economically literate, including respondents who identified as female, had lower levels of educational attainment or had an 'average' understanding of inflation.

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