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Hangovers and hard landings: Financial wellbeing and the impact of the COVID-19 and inflationary crises, August 2023

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The survey data will soon be available for download through the Australian Data Archive (doi:10.26193/AAZ3QI).

Abstract

This paper uses data from the August 2023 ANUpoll as well as previous waves of data collection to analyse financial wellbeing in Australian, and how it has changed since prior to the COVID-19 pandemic. The August 2023 ANUpoll collected data from 4,204 Australians aged 18 years and over.

The paper shows that since April 2023, financial stress has been at a higher level than at any time since February 2020, when 26.7 per cent of Australians were finding it difficult or very difficult on their present income. The lowest level of financial stress using this measure was in November 2020, when only 17.3 per cent of Australians were finding it difficult or very difficult on their income, whereas in April and August 2023 it was 32.2 and 30.3 per cent respectively. There has been a widening gap in financial stress in the inflationary period compared to pandemic periods. Females, Aboriginal and Torres Strait Islander Australians, those with low education, and those in disadvantaged areas all pulled further away from the rest of the population in 2022/2023 compared to 2020/2021. Renters are still experiencing more financial stress than those with a mortgage, but the increase has been greater for the latter.

Since the start of the pandemic, there has been a large increase in the per cent of Australians who have undertaken a number of financial actions that indicate that they are experiencing financial stress. The biggest relative increase was for the proportion of people who renegotiated bills other than their mortgage, with 21.5 per cent of people saying they did so in the 12-months lead up to the August 2023 survey compared to 14.0 per cent for the January 2021 survey. There were also large increases in the proportion of people who spent less on groceries and essential items, the proportion of people who cut back on non-essential items, and the proportion who postponed major purchases.

Changes in financial stress and income were strongly associated with life satisfaction, psychological distress, and satisfaction with the direction of the country.

Executive summary

Data and overview

- This paper uses data from the August 2023 ANUpoll as well as previous waves of data collection to analyse financial wellbeing in Australian, and how it has changed since prior to the COVID-19 pandemic.
- The August 2023 ANUpoll collected data from 4,204 Australians aged 18 years and over. Data collection occurred between the 6th and 20th of August. This is the largest survey in Australia with regular, longitudinal tracking of financial and other wellbeing.

Financial stress

- In August 2023, 10.1 per cent of Australians reported that their household was finding it very difficult on their present income. A further 20.2 per cent of Australians were finding it difficult. 46.6 per cent of Australians said they were coping on their present income, and 23.1 per cent said that they were living comfortably.
- Since April 2023, financial stress has been at a higher level than at any time since February 2020, when 26.7 per cent of Australians were finding it difficult or very difficult on their present income. The lowest level of financial stress using this measure was in November 2020, when only 17.3 per cent of Australians were finding it difficult or very difficult on their income, whereas in April and August 2023 it was 32.2 and 30.3 per cent respectively.
- Since from just prior to the COVID-19 pandemic, there have been a number of factors that predict whether or not a person has experienced financial stress.
 - Females reported a higher level of financial stress than males, with an average of 26.1 per cent of females finding it difficult or very difficult on their current income compared to 22.4 per cent of males.
 - The highest rates of financial stress were amongst those aged 35-54 years. Rates were slightly lower for those younger than 35, and particularly for those aged 55 years and over. The lowest rate of financial stress is amongst those aged 75 years and older.
 - Aboriginal and Torres Strait Islanders in the sample were more likely to report that they were financially stressed, as were those who spoke a language other than English at home.
 - There were large differences by education, with higher rates of financial stress for those who had not completed Year 12, but lower rates for those with a university degree.
- The socioeconomic status of the area in which a person lived had a significant association with financial stress. Those in the middle three quintiles (second, third, or fourth) were not significantly different from each other. However, those who lived in the most disadvantaged areas reported much higher levels of financial stress, whereas those who lived in the most advantaged quintile had the lowest level of stress.
- Those who live in households with relatively low incomes are much more likely to report that they are experiencing financial stress. Slightly more than half of those in the lowest income quintile (51.5 per cent) were finding it difficult or very difficult on their current income.

- Those who own their own home outright are far more likely to be living comfortably on their income than those who own their home with a mortgage or who are renting from a private owner. Owning an investment property or shares in an ASX listed company was also associated with low levels of financial stress.
- There has been a widening gap in financial stress in the inflationary period compared to pandemic periods. Females, Aboriginal and Torres Strait Islander Australians, those with low education, and those in disadvantaged areas all pulled further away from the rest of the population in 2022/2023 compared to 2020/2021.
 - Renters are still experiencing more financial stress than those with a mortgage, but the increase has been greater for the latter.

Income and employment change

- Since just prior to the pandemic the real income of households appears to have declined.
- Statistical modelling of income transitions suggest that geographic disadvantage can act as a barrier to upward income mobility. There appears to be a degree of protection from negative income shocks for those with high levels of education.
- There has been a decline in the average number of hours worked since the end of 2022. However, those Australians who are employed are far less likely than since the start of the pandemic to think it is likely that they will lose their job over the next 12-months.

The impact of prices

- In August 2023, three-fifths of Australians thought that rising prices were a very big problem. This is similar to the levels reported in April 2023, but substantially higher than the 37.4 per cent of Australians who thought that rising prices were a very big problem when asked in January 2022.
- There has been a decline in the per cent of Australians who think that prices will rise faster in the next 12-months than they did in the previous 12-months. In April 2022 58.4 per cent of Australians thought that prices would go up by more in the next 12-months than they did in the previous 12-months, compared to only 27.7 per cent of Australians in August 2023.

Financial actions

- Since the start of the pandemic, there has been a large increase in the per cent of Australians who have undertaken a number of financial actions that indicate that they are experiencing financial stress. The biggest relative increase was for the proportion of people who renegotiated bills other than their mortgage, with 21.5 per cent of people saying they did so in the 12-months lead up to the August 2023 survey compared to 14.0 per cent for the January 2021 survey.
 - There were also large increases in the proportion of people who spent less on groceries and essential items (57.3 per cent), the proportion of people who cut back on non-essential items (47.4 per cent), and the proportion who postponed major purchases (54.0 per cent).

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- There was a much larger increase in the number of (negative) financial actions experienced by females compared to males. There was a 23.9 per cent increase between January 2021 and August 2023 for females compared to 14.9 per cent for males.
 - Females were far more likely to have renegotiated bills in the 12-months leading up to the August 2023 survey (24.4 per cent) compared to the January 2021 survey (14.8 per cent). They were also more likely to have spent less on groceries and essential items (62.0 per cent compared to 46.9 per cent).
- By age, the largest increases in negative financial actions over the period were at the upper end of the age distribution, with a 53.9 per cent increase for those aged 65 to 74 years and a 51.0 per cent increase for those aged 75 years and over. However, younger Australians, and particularly those aged 25 to 44 years, still experienced far and away more actions in August 2023 than older Australians.

Life satisfaction and psychological distress

- There appears to have been a slight decline in life satisfaction between January 2023 and August 2023. Over the same period there was an increase in psychological distress.
- Since January 2023 there has been a large decline in satisfaction with the direction of the country. At the start of the year, 73.9 per cent of Australians were satisfied or very satisfied with the direction of the country. This has declined to 63.8 per cent by August 2023.
- Changes in financial stress and income were strongly associated with life satisfaction, psychological distress, and satisfaction with the direction of the country.

1 Walking a narrow path: Introduction and overview

Australia has done well navigating the economic storms that have buffeted the world economy over the last couple of decades. Incomes in Australia have increased both in real terms and compared to other comparable countries. In 2000, Australian per capita Gross National Income in constant US dollars, was \$41,233. At the time, this was substantially lower than the US, which had an average income of \$49,152.¹² Between 2000 and 2022 average incomes in Australia had increased by more than 50 per cent to \$62,978 to be virtually the same as average incomes in the US which increased by only 28.7 per cent over roughly the same period, to \$63,236 (in 2021). Between 2000 and 2022 there was also a much more rapid growth in average incomes in Australia than in the United Kingdom (19.2 per cent) and Canada (29.2 per cent) and as a result Australia now has a much higher average income than both countries.

After two and half decades of strong economic performance, Australia is however at a difficult economic juncture. While the unemployment rate remains low, the inflation rate is relatively high, and productivity has been stagnating.

In June 2023 Dr Philip Lowe, Governor of the Reserve Bank of Australia (RBA), addressed the balancing act faced by the RBA and the precariousness of this situation as follows³:

‘That path is one where inflation returns to target within a reasonable timeframe, while the economy continues to grow and we hold on to as many of the gains in the labour market as we can. It is still possible to navigate this path and our ambition is to do so. But it is a narrow path and likely to be a bumpy one, with risks on both sides.’

The Secretary to the Treasury Dr Steven Kennedy has also talked about the narrow economic path Australia is on and the challenges of the conflicting aims. In his opening statement to the Economics Legislation Committee in February 2023⁴, Kennedy outlined the macroeconomic challenges of ‘dealing with the highest inflation in decades while maintaining low unemployment, driving long-term improvements in productivity, and consolidating the fiscal position.’

There is strong evidence that the less well-off in society and negatively impacted more by economic downturns, and therefore the impact will be greater for certain Australians if we are not able to walk the narrow path outlined by Dr Lowe and Dr Kennedy. Writing for the International Monetary Fund (IMF), Shibata (2021) concluded that ‘young and less educated workers have always been affected more in recessions... [and] workers at low-income earnings have suffered more than top-income earners, suggesting a significant distributional impact.’ Some Australians, therefore, have much more at stake from the decisions made by the RBA, Treasury, and Federal and State/Territory governments. A hard landing, is likely to hit some harder than others.

Part of the reason for the challenging economic circumstances is the ongoing impact of the COVID-19 pandemic. This is true at the national level, as Australia like many countries spent considerable amounts of money on combating the immediate economic impact of the pandemic which, at a time of supply constraints, led to higher inflation than would otherwise be the case (Jordà et al. 2022; Gharehgozli et al. 2022; De Soyres et al. 2022) and more directly impacted on the government debt and deficits. There may also be a COVID-19 hangover at the individual or household level, as Shibata (2021) showed that the pandemic had a differential impact across the population and work using ANUpoll has shown the ongoing impact of the

pandemic on certain labour market outcomes (Biddle and Jahromi 2023).

The aim of this paper is to analyse the financial wellbeing of Australians as the country tries to avoid the ‘hard landing’ that the government and other economic institutions fear, whilst working through the ongoing economic impacts of the COVID-19 pandemic. To analyse financial wellbeing, we make use of longitudinal data collected by the ANU Centre for Social Research and Methods from a representative sample of Australians as part of the ANUpoll series of surveys. Respondents are from the Life in Australia™ panel, Australia’s only probability-based source of online and offline survey participants. Surveys have been undertaken 16-times since the arrival of COVID-19 in Australia. The longitudinal nature of the data allows an analysis of change in outcomes at the individual level.

After describing the data used in the paper, the first section of results (Section 3) summarises trends and predictors in a particular measure of financial stress – whether or not someone is getting by or finding it difficult on their current income. In Section 4 we focus on two of the key predictors of financial stress – income and employment. This is followed by Section 5, which has a focus on Australians’ views on prices, and Section 6 which describes many of the financial actions that people have taken in response to changing economic circumstances. In Section 7 we relate many of these financial measures to a broader set of wellbeing outcomes (life satisfaction, psychological distress, and satisfaction with the direction of the country), and in Section 8 we provide some concluding comments and implications.

2 Describing the data

In April 2020, the Social Research Centre on behalf of the ANU Centre for Social Research and Methods collected the first wave of data as part of the centre’s COVID-19 Impact Monitoring Series.⁵ Since that first wave of data collection, surveys were undertaken a further 13 times, with the final wave of the COVID-specific surveys undertaken in January 2023. Furthermore, surveys were conducted with many of the same group of respondents in January and February 2020, just before the COVID-19 pandemic started in Australia, as part of the ANUpoll and Australian Social Survey International-ESS (AUSSI-ESS) surveys respectively.⁶ This allows us to track outcomes for the same group of individuals from just prior to COVID-19 impacting Australia through to the post-pandemic period.

From April 2023, the surveys have continued to include tracking questions on wellbeing outcomes, economic circumstances, and political attitudes, but the focus of the surveys has returned to a broader set of issues as part of the long-term ANUpoll series.

The August 2023 survey collected data from 4,204 Australians aged 18 years and over.⁷ Data collection for this most recent ANUpoll commenced on the 6th of August 2023 with a pilot test of telephone respondents. The main data collection commenced on the 7th and concluded on the 20th of August. 57.6 per cent of the sample had completed the survey by the 10th of August (i.e., after the first three full days of data collection).

The Social Research Centre collected data online and through Computer Assisted Telephone Interviewing (CATI) in order to ensure representation from the offline Australian population. Around 1.2 per cent of interviews were collected via CATI.⁸ A total of 5,797 panel members were invited to take part in the August 2023 survey, leading to a wave-specific completion rate of 72.5 per cent. Of those who completed the April 2023 survey (the next most recent survey), 85.6 per cent completed the August 2023 survey.

Data in the paper is weighted to population benchmarks. For Life in Australia™, the approach

for deriving weights generally consists of the following steps:

1. Compute a base weight for each respondent as the product of two weights:
 - a. Their enrolment weight, accounting for the initial chances of selection and subsequent post-stratification to key demographic benchmarks
 - b. Their response propensity weight, estimated from enrolment information available for both respondents and non-respondents to the present wave.
2. Adjust the base weights so that they satisfy the latest population benchmarks for several demographic characteristics.

Table 1 gives the number of respondents for each of the fourteen waves of data collection during the COVID-19 period, the two pre-COVID waves, and the two post-COVID waves. The table also gives the survey window for the data collection. In between the April and August 2022 surveys, the Comparative Study of Electoral Systems (CSES) survey was undertaken on the Life in Australia™ panel, with a limited range of data items available for analysis in this paper.

Table 1 Survey details – January 2020 to August 2023

Wave	Survey window	Sample size
January 2020	20 th January to 3 rd February, 2020	3,249
February 2020	17 th February to 2 nd March, 2020	3,228
1 – April 2020	14 th to 27 th April, 2020	3,155
2 – May 2020	11 th to 25 th May, 2020	3,249
3 – August 2020	10 th to 24 th August, 2020	3,061
4 – October 2020	12 th to 26 th October, 2020	3,043
5 – November 2020	9 th to 23 rd November, 2020	3,029
6 – January 2021	18 th January to 1 st February, 2021	3,459
7 – April 2021	12 th to 26 th April, 2021	3,286
8 – August 2021	10 th to 23 rd August, 2021	3,135
9 – October 2021	12 th to 26 th October, 2021	3,474
10 – January 2022	17 th to 30 th January, 2022	3,472
11 – April 2022	11 th to the 24 th of April, 2022	3,587
CSES	23 rd May to 5 th June, 2022	3,556
12 – August 2022	8 th to 22 nd August, 2022	3,510
13 – October 2022	10 th to 24 th October, 2022	3,468
14 – January 2023	16 th to 30 th January, 2023	3,370
ANUpoll 48 – April 2023	11 th to 23 rd April, 2023	4,469
ANUpoll 49 – August 2023	7 th to 20 th August, 2023	4,204

3 Patterns and predictors of financial stress since 2020

The key measure of financial stress that we have been tracking since prior to the pandemic relates to whether the person’s household income is adequate to meet their needs.

Respondents were given four potential descriptions and asked to choose which comes closest to how they feel about their income nowadays: living comfortably; coping; finding it difficult; or finding it very difficult.

In August 2023, it is estimated that about one-quarter (23.1 per cent) of Australians were living comfortably on their present income, almost half (46.6 per cent) were coping, about one-in-five (20.2 per cent) were finding it difficult and about one-in-ten (10.1 per cent) were finding it very difficult.

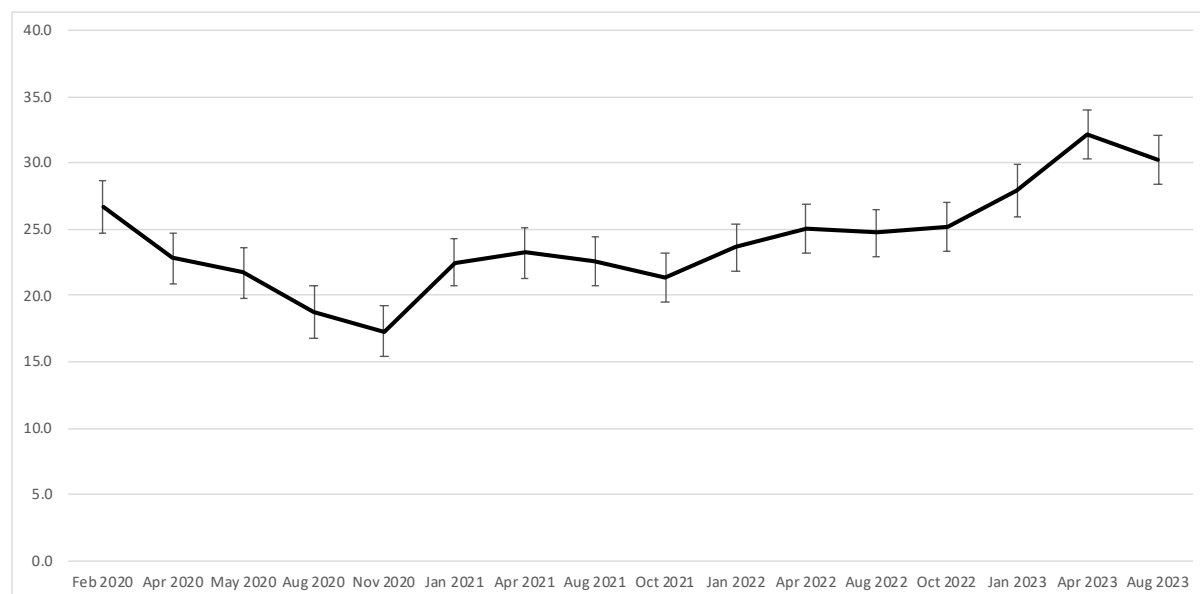
3.1 Tracking financial stress

Figure 1 shows the proportion of the population finding it difficult or very difficult on their current income since the start of 2022. There are three distinct periods in terms of the trajectory of financial stress. The first is February to November 2020, during which the level of financial stress declined with the proportion of the population finding it difficult or very difficult to manage on their current income falling from 26.7 per cent to 17.3 per cent in November 2020. While this drop in financial stress coincided with a decline in average income (shown in a later figure in this paper), it was also a period when governments provided significant financial support via the social security and tax system to the lower part of the income distribution, and interest rates and inflation were very low (or even negative for inflation at some points in time). In addition, during periods of “lockdown” and social distancing requirements, there were far fewer expenditure options than prior to COVID-19.

The second period covers all of 2021, during which financial stress was higher than the latter part of 2020 but stable and still below what it was just prior to the pandemic. This was a period when much of Australia was out of lockdown, (with the exception of NSW, Victoria, and the ACT during the so-called Delta Wave) and the pandemic-era transfer payments (JobKeeper and the JobSeeker supplement) had been removed. However, interest rates and inflation remained low, people had built up substantial savings in the previous years, and Australia’s international border remained closed.

During the third period, commencing in January 2022 and continuing to August 2023, there has been a steady increase in financial stress. By April 2023 the level of financial stress was significantly above the pre-COVID-19 baseline, and the August 2023 figure of 30.3 was, though slightly lower, not significantly different from the April 2023 value (32.2, and well above the average over the preceding two-and-a-half years.

Figure 1 Per cent of Australians finding it difficult or very difficult on their current income, February 2020 to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: Australian Social Survey International-ESS, February 2020. ANUpoll: April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

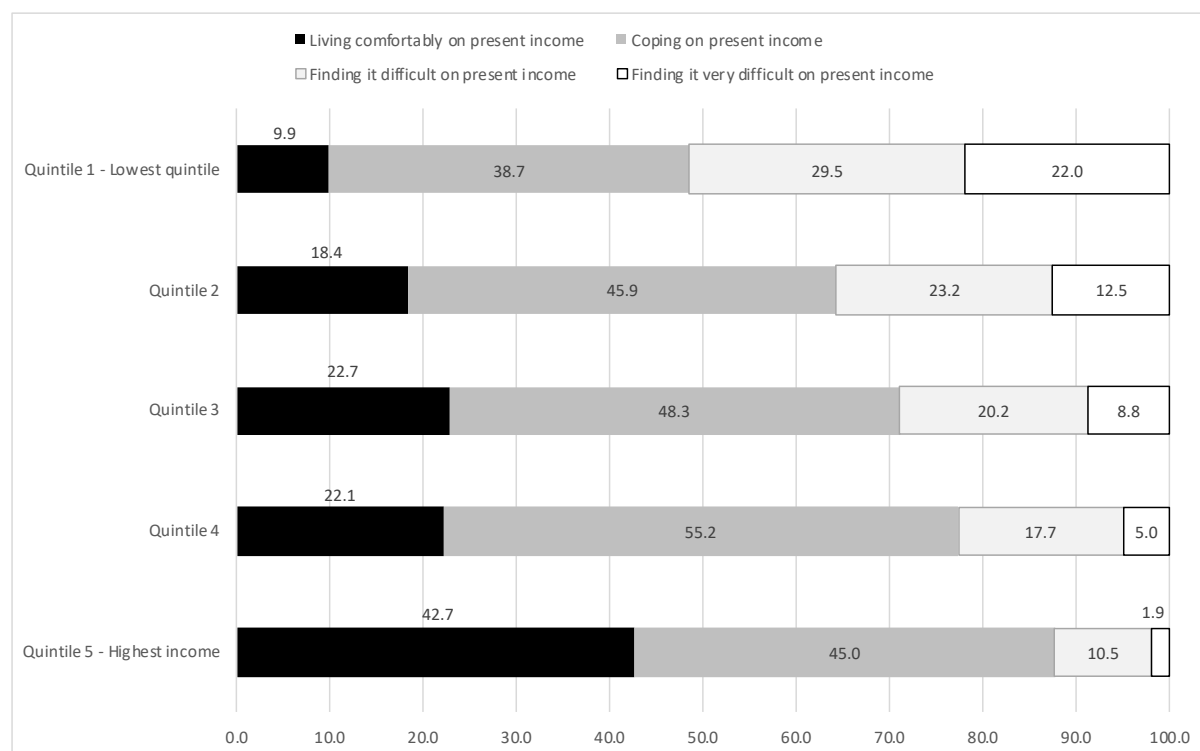
3.2 Levels of financial stress by income and wealth

Not surprisingly, those who live in households with relatively low incomes are much more likely to report that they are experiencing financial stress. In Figure 2, we report the level of financial stress according to the level of household income as measured by household income quintile.⁹

At the top of the income distribution, only 1.9 per cent of those in the highest income quintile say that they are finding it very difficult on their present income. Perhaps somewhat surprisingly, even amongst households in the top 20 per cent of the income distribution, one-in-ten (10.5 per cent) were finding it difficult, although the proportion finding it very difficult or difficult on their present income is still much lower than for the other income quintiles.

For those in the bottom income quintile, about one-fifth of respondents (22.0 per cent) were finding it very difficult on their current income, with a further 29.5 per cent finding it difficult. Using this measure, slightly over half of those in the lowest income quintile (51.5 per cent) were finding it difficult or very difficult on their current income.

Figure 2 Levels of financial stress by net household income quintile, August 2023



Notes: Observed income ranges are as follows: Quintile 1 - \$268 to \$865; Quintile 2 - \$865 to \$1,173; Quintile 3 - \$1,173 to \$1,888; Quintile 4 - \$1,888 to \$2,882; and Quintile 5 - \$2,882 to \$6,745

Source: ANUpoll August 2023

The income of a person’s household captures the flow of economic resources into that household. However, households also have the ability to contribute to or draw down from their wealth in a way that smooths their consumption over the short to medium term. In the next two figures, we show how financial stress varies across different measures of wealth.

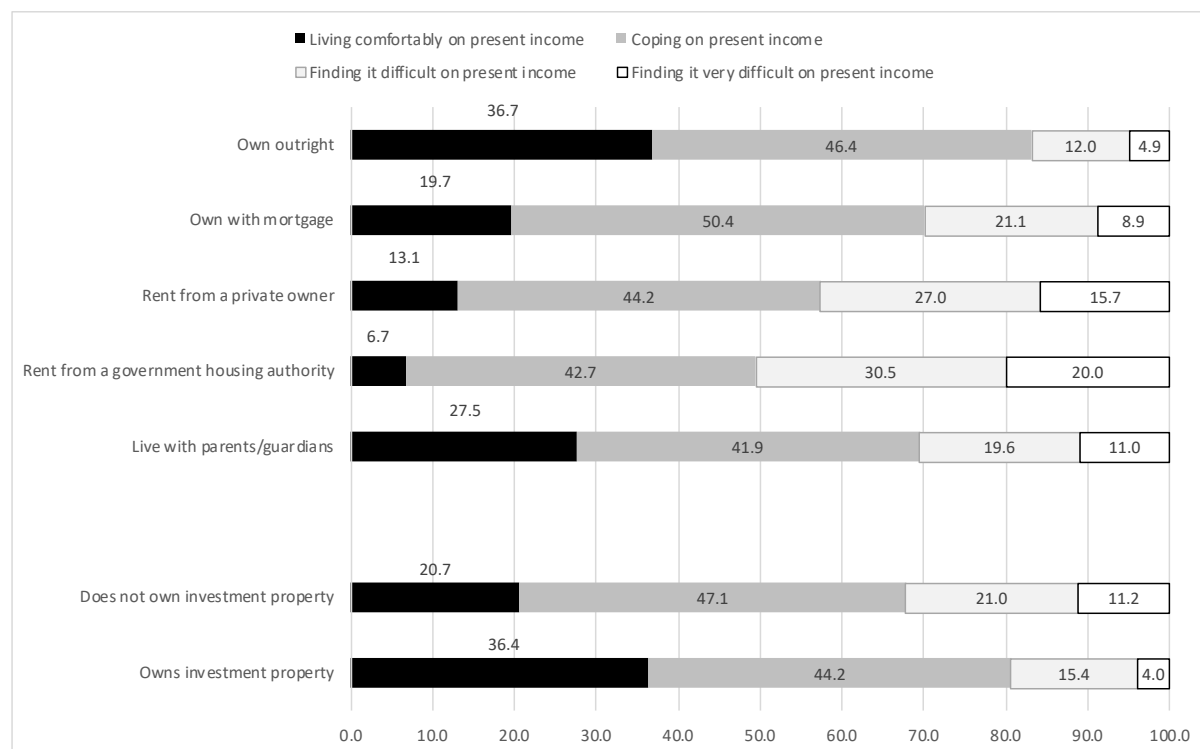
One of the main sources of wealth of Australian households is home ownership (Atalay and Edwards 2022). According to data from the August 2023 ANUpoll 28.4 per cent of adult Australians owned their home outright, 34.1 per cent owned their home with a mortgage, and 24.3 per cent were renting from a private owner. These are the three main tenure types, with only a small per cent renting from a government housing authority (3.4 per cent) or living with their parents or guardian (9.8 per cent).

Figure 3 shows the level of financial stress by housing tenure and whether the respondent owns an investment property (including with a mortgage). Those who own their own home outright are far more likely to be living comfortably on their income (36.7 per cent) than those who own their home with a mortgage (19.7 per cent) or who are renting from a private owner (13.1 per cent). On the other hand, those who own their own home with a mortgage are far less likely to be finding it very difficult on their income (4.9 per cent) than the other two groups, with 15.7 per cent of renters finding it very difficult and 8.9 per cent of those who own their own home with a mortgage also finding it very difficult.

There are a significant number of Australians with investment properties. According to the August 2023 ANUpoll about one-in-six Australians (16.0 per cent) have an investment property.

Furthermore, ownership of an investment property appears to be at least as predictive of absence of financial stress as being an owner-occupier (keeping in mind that there is significant overlap between the two groups). For those with an investment property, 36.4 per cent were living comfortably on their present income, and only 4.0 per cent were finding it very difficult. These figures are much higher/lower respectively than the general Australian population, and particularly those who do not own an investment property (20.7 per cent and 11.2 per cent respectively).

Figure 3 Levels of financial stress by housing tenure type and ownership of an investment property, August 2023



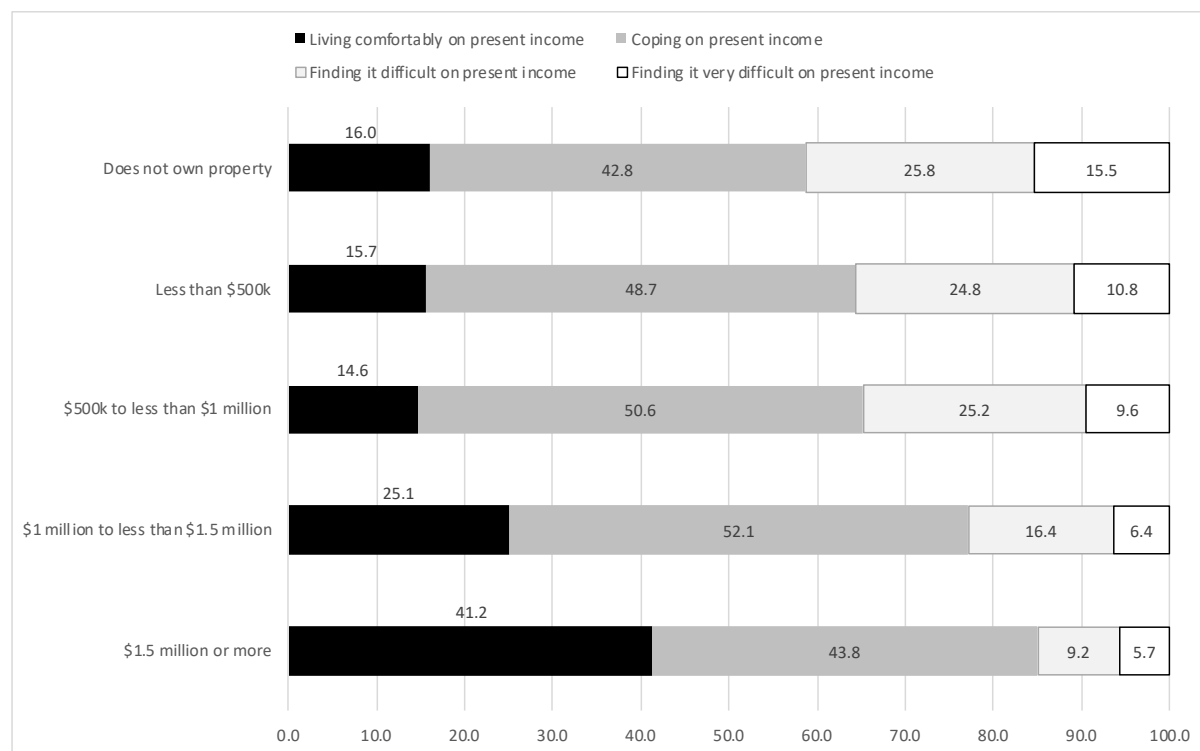
Source: ANUpoll August 2023.

For those who owned their own home either outright or with a mortgage, as well as those who owned an investment property, we asked for ‘the approximate value of all property owned or mortgaged by you?’ Excluding the 36.3 per cent of Australians who own neither their own home or an investment property, the distribution of aggregate property values based on the cut-offs used in the question are given below:

- Less than \$250k – 4.6 per cent
- \$250k to less than \$500k – 16.7 per cent
- \$500k to less than \$1 million – 42.7 per cent
- \$1 million to less than \$1.5 million – 17.8 per cent
- \$1.5 million to less than \$2 million – 9.5 per cent
- \$2 million or more – 8.8 per cent.

On balance, any form of property ownership is associated with a lower level of financial stress. However, within the group of people who own property, financial stress declines as the combined value of that property goes up (combining the first two groups and the last two groups due to sample size constraints). For those with property worth less than \$500k, 15.7 per cent are living comfortably on their present income. For those with property worth \$1.5million or more, this increases to 41.2 per cent. For this latter group, only 5.7 per cent were finding it very difficult on their present income, compared to 10.8 per cent of those with low property values (Figure 4).

Figure 4 Levels of financial stress by value of property owned, August 2023



Source: ANUpoll August 2023.

A final wealth measure asked about in the August ANUpoll was whether someone had shares in an ASX-listed company, with 29.8 per cent of Australians owning shares in at least one company. Amongst those who own shares, 5.9 per cent were finding it very difficult on their current income and 35.6 per cent were living comfortably, compared to 11.9 per cent of those who do not own shares who were finding it very difficult and 17.9 who were living comfortably.

3.3 The factors associated with financial stress, including income and employment

The key structural determinants of the financial stress measure discussed in the previous section are income and assets, prices people need to pay for a relevant basket of goods and services, and the level of need such as the number of dependent children or other adults being financially supported.

In this section, we consider from a longitudinal perspective the predictors of financial stress since the start of 2020. The dataset used includes all the individual observations from the pre-COVID surveys through to the August 2023 ANUpoll. We run a random effects panel data model, allowing us to control for unobserved, time invariant characteristics. The dependent

variable is which of the four financial stress categories that the person reported in a given wave, with higher values indicating a higher level of financial stress. We therefore use an ordered probit model.

We estimate two separate models to understand the different factors that predict financial stress over the period. The first model includes dummy variables that capture the wave of data collection, as well as relatively stable (i.e., time invariant) demographic, education, and geographic characteristics. This model is designed to capture who experienced relatively high or relatively low levels of financial stress between early-2020 and mid-2023.

The second model includes a number of time-varying economic variables, measured at either the individual or household level. These are: the income quintile that the person's household was in at the time of the survey;¹⁰ whether or not the individual was employed; whether they were self-employed, a business owner, or working for the family business; and the number of hours worked in the previous week. We also include the variables from Model 1 in Model 2, and the difference in coefficients between the two models can help answer the question of whether differences in financial stress across the population are due to objective economic circumstances or whether for a given income/employment status there are still differences.

The model is estimated over an unbalanced panel, which means that people have observations across different numbers of waves. For Model 1, which has the least number of variables, there were a maximum of 16 waves of data, with a total of 53,409 observations across 8,411 individuals, or an average of 6.3 waves per individual.

The regression results, presented in Table 2, show similar patterns through time to the results presented in Figure 2. Financial stress declined from February 2020 through to November 2020, remained low throughout 2021, and then increased throughout 2022 and into 2023.

Controlling for these time-series patterns, females reported a higher level of financial stress than males, whereas there was a non-linear association with age. Across all waves of data over the period (and not controlling for other characteristics) an average of 26.2 per cent of females found it difficult or very difficult on their current income compared to 22.5 per cent of males.

The highest rates of financial stress were amongst the omitted category (35 to 44) and those aged 45 to 54. Rates were slightly lower for those younger than 35, and particularly for those aged 55 years and over. The lowest rate of financial stress is amongst those aged 75 years and older. Indeed, across the period (and not controlling for other characteristics again) 13.6 per cent of those aged 75 years and older reported that they were finding it difficult or very difficult on their current income, compared to 28.4 per cent of those aged 35 to 44 years.

Aboriginal and Torres Strait Islanders in the sample were more likely to report that they were financially stressed, as were those who spoke a language other than English at home. There were also large differences by education, with higher rates of financial stress for those who had not completed Year 12, but lower rates for those with a university degree. It is interesting though that those with a Certificate III/IV or a Diploma as their highest level of qualification were more likely to be financially stressed than someone who had completed Year 12 but did not have a qualification.

The socioeconomic status of the area in which a person lived had a significant association. Those in the middle three quintiles (second, third, or fourth) were not significantly different from each other. However, those who lived in the most disadvantaged areas reported much higher levels of financial stress, whereas those who lived in the most advantaged quintile had

the lowest level of stress.

The time invariant characteristics in Model 2 had a significant association with financial stress, with associations in the direction that one would expect (especially given the results in Figure 1). There is a clear income gradient, with low-income Australians having much higher rates of financial stress than middle-income Australians, who in turn had higher rates of financial stress than high-income Australians. Even controlling for income, however, those who were employed had lower rates of financial stress than those who were not employed, with lower rates of financial stress the more hours someone worked. Those who were self-employed, a business owner, or working for the family business had a slightly higher level of financial stress than those who were employees.

Comparing the remainder of coefficients between Model 1 and Model 2, some became greater in magnitude, whereas others decreased in magnitude or became insignificant when the time varying economic measures were controlled for. In the latter category, the coefficient for sex was not statistically significant in Model 2, and differences by education and Indigenous status were somewhat smaller. This implies that females had higher rates of financial stress only because they lived in households with a lower income, and were less likely to be employed. Furthermore, differences in income and employment for Aboriginal and Torres Strait Islander Australians and for those with low levels of education were due in part, but not entirely, to variation in income and employment.

In contrast to some of the measures mentioned above, differences by age widened substantially when income and employment were controlled for. This suggests that younger and older Australians were less likely to have experienced financial stress over the period despite their lower levels of income and employment.

Table 2 Regression model estimates of the factors associated with financial stress, February 2020 to August 2023

Explanatory variables	Model 1		Model 2	
	Coeff.	Signif.	Coeff.	Signif.
February 2020	0.195	***	0.258	***
May 2020	-0.104	***	-0.115	***
August 2020	-0.201	***	-0.205	***
November 2020	-0.320	***	-0.317	***
January 2020	-0.102	***	-0.088	**
April 2021	-0.058	*	-0.037	
August 2021	-0.185	***	-0.174	***
October 2021	-0.216	***	-0.203	***
January 2022	-0.119	***	-0.108	***
April 2022	0.093	***	0.113	***
August 2022	0.076	**	0.095	***
October 2022	0.162	***	0.187	***
January 2023	0.210	***	0.230	***
April 2023	0.341	***	0.378	***
August 2023	0.310	***	0.346	***
<hr/>				
Lives in lowest income household (1st quintile)			0.960	***
Lives in next lowest income household (2nd quintile)			0.470	***
Lives in next highest income household (4th quintile)			-0.512	***
Lives in highest income household (5th quintile)			-1.099	***
Employed			-0.267	***
Employed – Non-employee			0.084	**
Hours worked in previous week (not employed = zero)			-0.005	***
<hr/>				
Female	0.198	***	0.017	
Aged 18 to 24 years	-0.313	***	-0.750	***
Aged 25 to 34 years	-0.173	**	-0.334	***
Aged 45 to 54 years	-0.056		-0.125	*
Aged 55 to 64 years	-0.422	***	-0.797	***
Aged 65 to 74 years	-0.587	***	-1.563	***
Aged 75 years plus	-0.897	***	-2.035	***
Indigenous	0.602	***	0.374	**
Born overseas in a main English-speaking country	-0.192	***	-0.122	**
Born overseas in a non-English speaking country	0.037		-0.112	
Speaks a language other than English at home	0.374	***	0.252	***
Has not completed Year 12 or post-school qualification	0.388	***	0.173	**
Has a post graduate degree	-0.740	***	-0.369	***
Has an undergraduate degree	-0.539	***	-0.318	***
Has a Certificate III/IV, Diploma or Associate Degree	0.162	**	0.110	
Lives in the most disadvantaged areas (1st quintile)	0.347	***	0.069	
Lives in next most disadvantaged areas (2nd quintile)	0.097		0.006	
Lives in next most advantaged areas (4th quintile)	-0.097		-0.035	
Lives in the most advantaged areas (5th quintile)	-0.398	***	-0.258	***
Lives outside of a capital city	0.002		-0.078	
<hr/>				
Cut-point 1	-1.323		-2.122	
Cut-point 2	1.157		0.437	
Cut-point 3	2.649		1.996	
<hr/>				
Number of observations	53,409		48,973	
Number of individuals	8,411		8,093	

Notes: Random effects, ordered probit model. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

Source: Australian Social Survey International-ESS, February 2020. ANUpoll: April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

The longitudinal data summarised above also allows us to consider whether there has been a narrowing or a widening in some of the gaps in financial stress over the period. To do so, we split the sample into the pandemic period (April 2020 to October 2021) and the inflationary period (January 2022 to August 2023). We then re-run a similar model to Model 1 presented above, and look at whether some of the absolute differences between sub-groups have changed through time. Because we are looking at absolute differences rather than just the direction of the association, we use a binary model with the outcome being the probability of finding it difficult/very difficult on current income. Results presented in Table 3 give the marginal effects (and statistical significance) over the period.

For most sub-groups that are associated with financial stress, there has been a widening gap in the inflationary compared to pandemic periods. The difference between females and males was 0.022 in the pandemic period, rising to 0.076 in the inflationary period. Those in the middle part of the age distribution were much more likely to experience financial stress in the inflationary period compared to younger/older Australians. The difference between Indigenous and non-Indigenous Australians increased from 0.067 to 0.238. Those with low education (had not completed Year 12) were no more likely to have experienced financial stress in the pandemic period, but by the inflationary period, there was a difference of 0.115. Finally, the difference between those in disadvantaged areas and the middle part of the SEIFA distribution almost trebled, from 0.042 to 0.120.

Table 3 Regression model estimates of the factors associated with financial stress (marginal effects), by period, February 2020 to August 2023

Explanatory variables	April 2020 to October 2021		January 2022 to August 2023	
	M.Effect	Signif.	M.Effect	Signif.
Female	0.022	*	0.076	***
Aged 18 to 24 years	-0.032		-0.061	**
Aged 25 to 34 years	-0.004		-0.043	**
Aged 45 to 54 years	-0.001		-0.034	*
Aged 55 to 64 years	-0.025	*	-0.077	***
Aged 65 to 74 years	-0.054	***	-0.093	***
Aged 75 years plus	-0.067	***	-0.104	***
Indigenous	0.067		0.238	***
Born overseas in a main English-speaking country	-0.032	**	-0.052	***
Born overseas in a non-English speaking country	0.005		-0.004	
Speaks a language other than English at home	0.080	***	0.094	***
Has not completed Year 12 or post-school qualification	0.024		0.115	***
Has a post graduate degree	-0.060	***	-0.086	***
Has an undergraduate degree	-0.059	***	-0.077	***
Has a Certificate III/IV, Diploma or Associate Degree	0.000		0.026	
Lives in the most disadvantaged areas (1st quintile)	0.042	**	0.120	***
Lives in next most disadvantaged areas (2nd quintile)	0.015		0.033	
Lives in next most advantaged areas (4th quintile)	-0.015		0.011	
Lives in the most advantaged areas (5th quintile)	-0.037	***	-0.044	***
Lives outside of a capital city	-0.012		0.010	
Probability of base case	0.072		0.109	
Number of observations	25,014		25,527	
Number of individuals	4,936		6,741	

Notes: Random effects, probit model. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

Source: ANUpoll: April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

Although we do not have the same extent of longitudinal data with someone's tenure consistently measured, there is some evidence that those with a mortgage have witnessed the greatest increase in financial stress over the period. Looking at our longitudinal sample, there was an increase in the per cent who were finding it difficult or very difficult on their current income between October 2021 and August 2023 from 10.4 to 14.3 per cent for those who in August 2023 said that they own their own home outright. For those who were renting at the end of the period, the increase was from 33.3 to 41.3 per cent. However, for those who have a mortgage, there was a more than doubling from 15.2 to 30.9 per cent. Renters are still experiencing more financial stress than those with a mortgage, but the increase has been greater for the latter.

4 Income and employment change since 2020

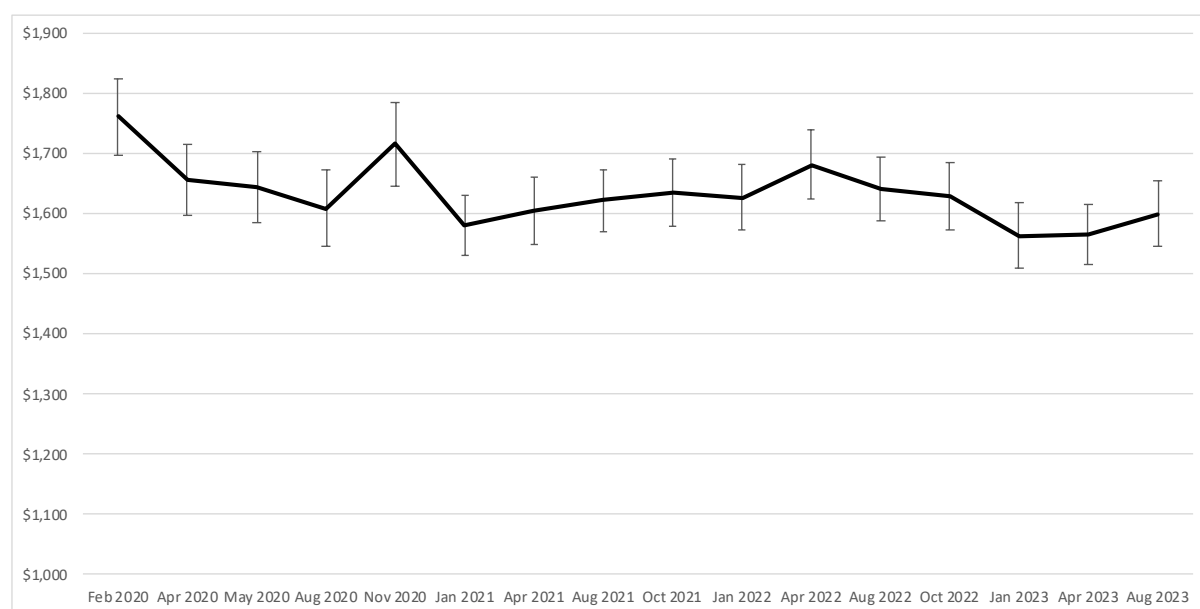
4.1 Income

Income is clearly a key determinant of financial stress. Not only does it appear to have a direct relationship (as discussed in the previous section), but household income also impacts on the ability to take out a mortgage, purchase shares, and accumulate other forms of wealth. The introduction to this paper presented data that showed that over the longer-term income per

capita in Australia has increased and in nominal terms average household income according to the August 2023 ANUpoll was \$1,858 per week. However, Figure 5 below shows that when we adjust for inflation, since just prior to the pandemic the real income of households appears to have declined.¹¹

Immediately after the start of the pandemic, household real after-tax income declined and continued to do so till August 2020. This decline in real income was despite deflation over some of that period, with prices for many goods and services falling. There was a spike in household income in our data between August and November 2020, as some transfer payments were still being paid by the government, but other forms of economic activity had returned. There was then a decline in income into January 2021 as many of those transfer payments were removed. Income then increased steadily till April 2020, but since then household income has continued to decline as nominal income has remained reasonably static, but prices for most goods and services have increased substantially.

Figure 5 Estimated after-tax real household income (in February 2020 dollars), February 2020 to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: Australian Social Survey International-ESS, February 2020. ANUpoll: April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023

In the twelve months leading up to the August 2023 ANUpoll, there was a considerable amount of churn in relative income position. Table 4 gives the per cent of Australians in each of the August 2023 income quintiles, by their income quintile in August 2022. This unique dataset is based on the longitudinal sample of those who completed both waves of data collection (a total of 2,097 respondents), but uses the August 2023 population weights.

The most stable quintiles are the bottom and top quintiles, with 74.1 and 72.7 per cent of those in the respective quintiles in August 2022 in the same quintile in August 2023. This is not surprising, as by definition it is not possible to move into a higher income quintile if in Quintile 5 in August 2022, or a lower income quintile if in Quintile 1. Furthermore, 18.1 and 18.7 per

cent respectively moved into the second or fourth income quintile respectively, with only 8.5 per cent of those in the top income quintile moving into Quintiles 1 to 3, and only 7.9 per cent of those in the bottom income quintile moving into Quintiles 3 to 5.

The most unstable income quintile over the 12-months leading up to the August 2023 survey was Quintile 4, with only 54.0 per cent of respondents in that quintile in August 2022 still being there in August 2023.

Table 4 Income quintile in August 2023 by income quintile in August 2022

August 2023 quintile	August 2022 quintile				
	Quintile 1 - Lowest income	Quintile 2	Quintile 3	Quintile 4	Quintile 5 - Highest income
Quintile 1 - Lowest income	74.1	11.3	4.8	1.1	0.4
Quintile 2	18.1	69.2	16.6	7.2	2.5
Quintile 3	5.9	15.0	56.4	17.7	5.6
Quintile 4	1.8	4.2	17.8	54.0	18.7
Quintile 5 - Highest income	0.2	0.3	4.4	20.0	72.7

Source: ANUpoll August 2022 and August 2023

Understanding the drivers of some of these income transitions is important, as a household moving across the income distribution can signal a substantial change in access to economic resources and, as will be shown below, can have significant impacts on a range of wellbeing outcomes. To understand these dynamics, we run a series of econometric models, with changes in income quintile between August 2022 and 2023 as the dependent variable, and a range of time invariant demographic, household, and area-level measures as the explanatory variables.

Specifically, the dependent variable is whether or not a person moved up at least one income quintile, whether they stayed in the same quintile, or whether they moved down at least one quintile. Because this is a categorical dependent variable, we estimate the relationship using a multinomial logit model. We run the model separately by income quintile in August 2022, which means those in the first and last quintiles are estimated via a binary logit model (a special case of the multinomial logit model), whereas the other three quintiles are estimated by the more general multinomial model due to the possibility of being in one of three categories. To control for reversion to the mean (whereby randomly high/low income in one wave is associated with declines/increases in income over a subsequent period), we also control for household income in August 2022 (i.e., at baseline). Results are presented in Table 5, and we discuss each of the quintiles in turn.

For those in the bottom income quintile in August 2022, there was a higher likelihood of moving up the distribution for those born overseas in an English-speaking country. Perhaps the most important finding is that those who are in the most disadvantaged neighbourhoods are less likely to move out of the bottom of the income distribution. Keeping in mind that we are controlling for their household income and a range of other characteristics, this provides some evidence that geographic disadvantage can act as a barrier to upward income mobility.

Looking at the second income quintile, older Australians (beyond retirement age) were less likely to move up the distribution. There are some important differences by education as well. Those with a postgraduate degree are more likely to move up and down the distribution, suggesting a higher rate of churn than those without a qualification. However, those who have not completed Year 12 are more likely to move down the distribution, but no more likely to

move up the distribution than those who have completed Year 12.

For those who started in the middle (third) income quintile, those who had a degree were more likely to move up the distribution, but also less likely to move down the distribution. Females, and older Australians were much less likely to move up the distribution than males and younger Australians respectively.

For those in the fourth (second highest) income quintile, there are some differences by age. Those aged 65 years and over are more likely to move down the distribution and less likely to move up the distribution, suggesting a lack of opportunity for upward income mobility once beyond retirement age. Those with a degree (particularly an undergraduate degree) are less likely to move downwards from the fourth income quintile (and more likely to move up). They are also less likely to move out of the top income quintile. Taken together, these results suggest a degree of protection from negative income shocks for those with high levels of education.

Table 5 Regression model estimates of the factors associated with movement up or down the income distribution, August 2022 to August 2023

Table 5a Quintiles 1 to 3

Explanatory variables	Quintile 1		Quintile 2				Quintile 3			
	Moved up Coeff.	Signif.	Moved down Coeff.	Signif.	Moved up Coeff.	Signif.	Moved down Coeff.	Signif.	Moved up Coeff.	Signif.
Continuous income measure in August 2022	0.007	***	-0.006	***	0.003	***	-0.004	***	0.002	***
Female	0.057		0.557		0.144		0.118		-0.753	***
Aged 18 to 34 years	0.771		1.066		-0.490		0.599		0.873	**
Aged 45 to 64 years	0.205		-0.281		-0.677		1.170	**	-0.341	
Aged 65 years plus	-0.428		0.023		-2.107	***	1.448	***	-1.847	***
Indigenous	0.151		-12.079		0.300		1.418		-0.422	
Born overseas in a main English-speaking country	0.750	**	0.588		0.141		-0.004		0.530	
Born overseas in a non-English speaking country	-0.507		0.027		-1.211	**	0.512		-0.476	
Speaks a language other than English at home	0.862		0.015		1.374	**	0.722	*	0.220	
Has not completed Year 12 or post-school qualification	0.277		1.509	*	-0.268		0.281		-0.165	
Has a post graduate degree	-0.419		2.114	***	1.162	**	-0.991	*	0.849	
Has an undergraduate degree	0.501		1.104		0.249		-0.369		1.030	**
Has a Certificate III/IV, Diploma or Associate Degree	0.251		1.672	**	-0.313		-0.166		0.600	
Lives in the two most disadvantaged areas (1 st /2 nd quintile)	-1.044	***	0.263		0.064		0.109		-0.473	
Lives in the two most advantaged areas (4 th /5 th quintile)	-0.034		0.442		0.152		-0.225		0.429	
Lives outside of a capital city	0.374		-0.165		-0.588	*	0.116		0.017	
Constant	-4.667	***	1.962		-3.007	***	4.224	***	-4.086	***
Number of individuals	412		421		421		425		425	

Notes: Multinomial logit model. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

Source: ANUpoll: August 2022; and August 2023.

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Table 5b Quintiles 4 and 5

Explanatory variables	Quintile 4				Quintile 5	
	Moved down Coeff.	Signif.	Moved up Coeff.	Signif.	Moved down Coeff.	Signif.
Continuous income measure in August 2022	-0.001	**	0.003	***	-0.001	***
Female	0.126		-0.769	***	0.128	
Aged 18 to 34 years	-0.003		0.071		0.282	
Aged 45 to 64 years	0.089		-0.544		0.177	
Aged 65 years plus	1.160	***	-2.127	***	0.075	
Indigenous	1.850		1.015		-0.216	
Born overseas in a main English-speaking country	-0.187		-0.268		0.221	
Born overseas in a non-English speaking country	0.636		-0.603		-0.205	
Speaks a language other than English at home	-0.022		-0.040		-0.261	
Has not completed Year 12 or post-school qualification	0.004		0.765		-0.407	
Has a post graduate degree	-0.505		1.114	*	-1.475	***
Has an undergraduate degree	-0.775	*	1.490	**	-0.953	**
Has a Certificate III/IV, Diploma or Associate Degree	0.273		1.382	**	-0.683	
Lives in the two most disadvantaged areas (1 st /2 nd quintile)	-0.022		-0.700		-0.330	
Lives in the two most advantaged areas (4 th /5 th quintile)	-0.542	*	0.068		-0.410	
Lives outside of a capital city	0.772	***	-0.249		-0.158	
Constant	1.447		-6.645	***	3.898	***
Number of individuals	427		427		412	

Notes: Multinomial logit model. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

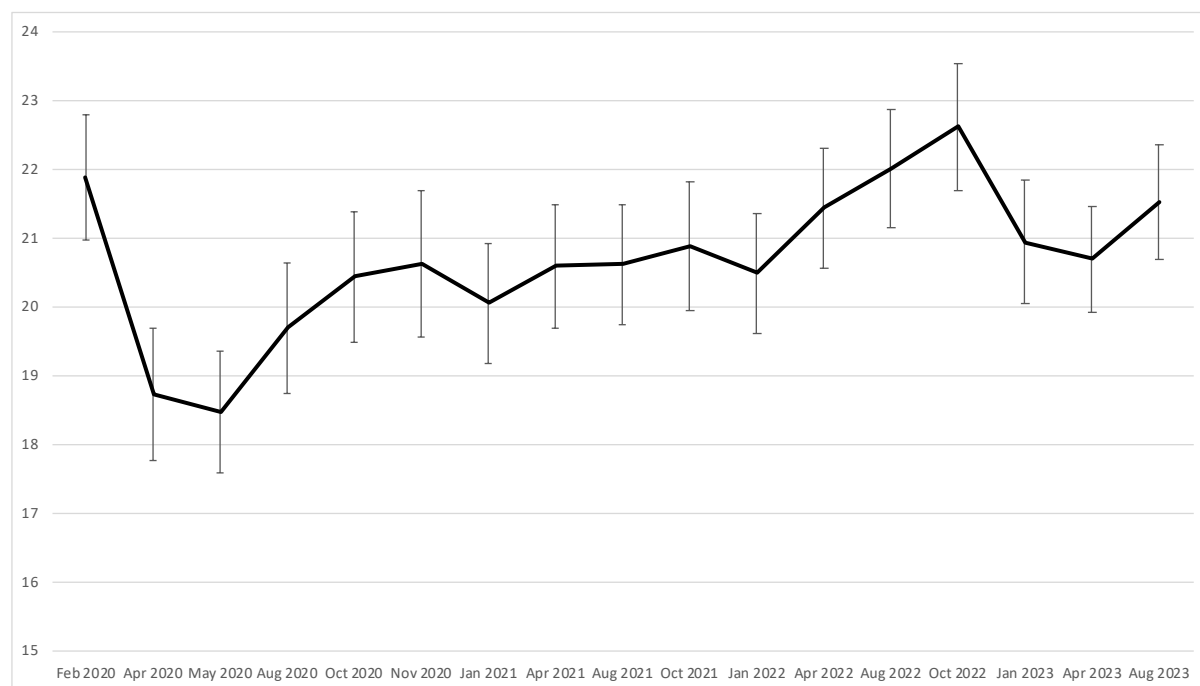
Source: ANUpoll: August 2022; and August 2023.

4.2 Employment and hours worked

Employment is a key factor supporting financial wellbeing. There is also an extensive literature documenting the direct effect of employment on other measures of wellbeing (Pugliesi 1995). Indeed, when discussing the ‘narrow path’ that the RBA and other economic institutions are trying to thread when managing inflation, it is usually the aim of slowing the increase in prices without negatively impacting on employment that is being referred to.

If we set those who were not employed at the time of each survey to zero hours, and ask about actual hours worked rather than usual hours worked, Figure 6 shows a large decline in average hours worked in the first few months of the pandemic. Hours worked then increased (with some fluctuations) till the end of 2022, when it was slightly (but not significantly) above pre-COVID levels. There is normally a decline in hours worked into January, as people take leave during the summer break. However, the decline in hours worked from October 2022 to January 2023 was much greater than usual and, more importantly, hours worked had not quite returned to the late-2022 levels by August 2023.

Figure 6 Average hours worked, February 2020 to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: Australian Social Survey International-ESS, February 2020. ANUpoll: April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023

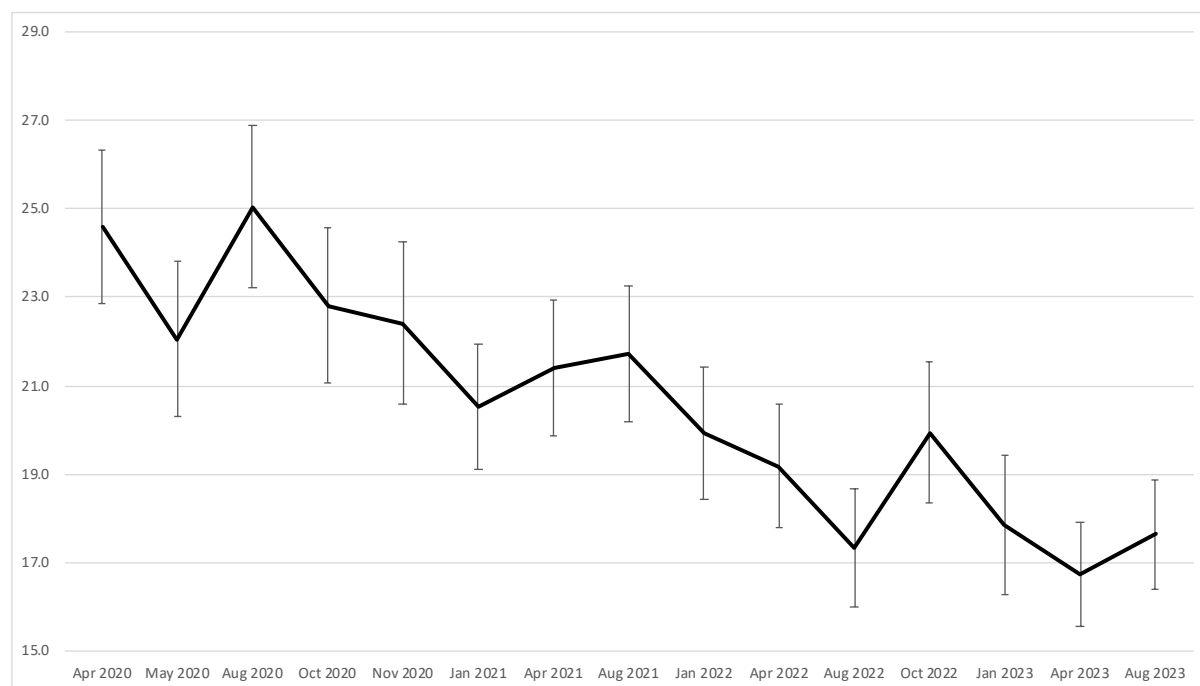
4.3 Employment risk

While there has been a slight decline in hours worked in 2023 compared to the end of 2022, the results presented in Figure 7 show that for those who are employed, there continues to be high levels of confidence in their employment situation. Those who were employed in August 2023 were asked the following question:

'I would like you to think about your employment prospects over the next 12 months. What do you think is the per cent chance that you will lose your job during the next 12 months? That is, get retrenched or fired or not have your contract renewed.'

Although there have been some fluctuations, in general Australians think the chances of them losing their job are far less now (17.6 per cent on average) than it was in the first year of the pandemic.

Figure 7 Self-reported likelihood of losing job, April 2020 to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: ANUpoll: April, May, August, October and November 2020; January, April, August 2021; January, April, August and October 2022; January, April and August 2023.

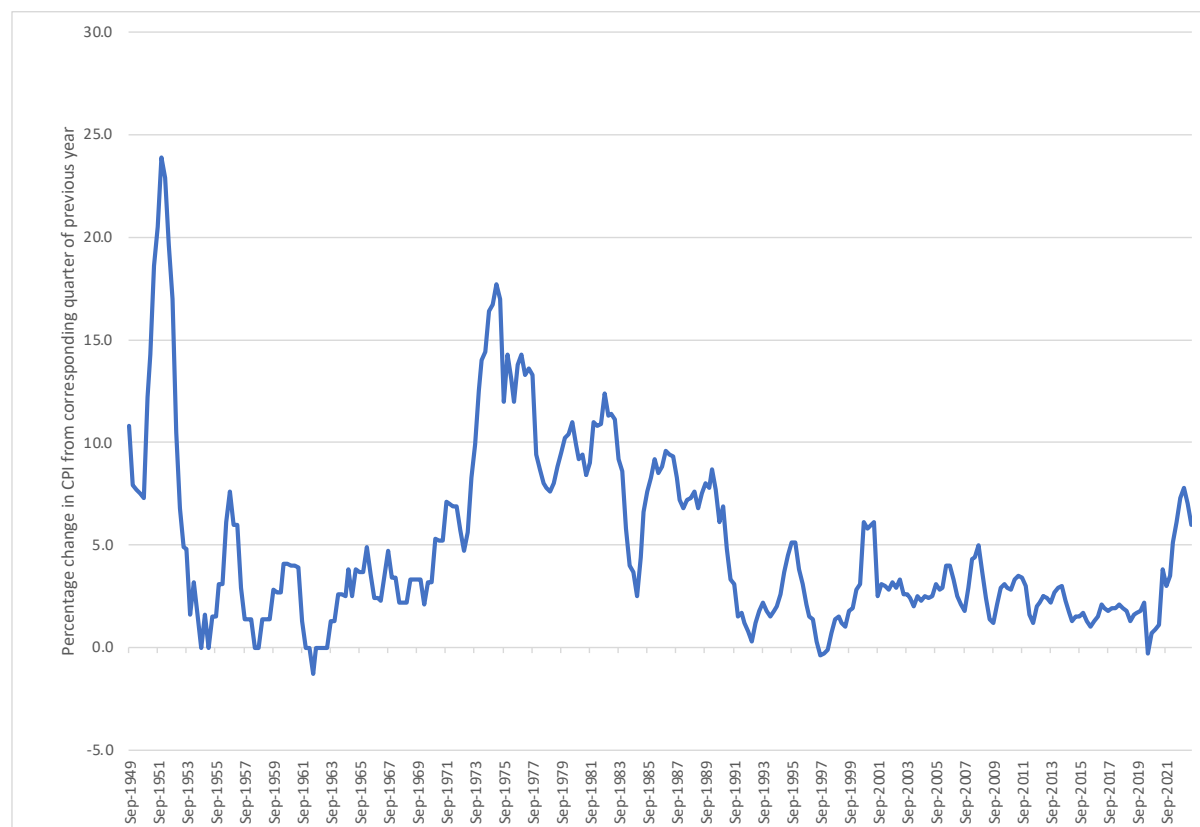
We also asked respondents (who were employed) ‘if you were to lose your job, how likely do you think it is that you would find a new job that is at least as good as your current one within twelve months?’ In August 2023, the most common response was that it would be likely (29.2 per cent of respondents), with a further 20.4 per cent saying that it would be very likely. About a quarter of respondents (24.5 per cent) were unsure, with the remaining quarter split between those who thought it would be very unlikely (9.7 per cent) and unlikely (16.3 per cent).

5 Views on prices

In addition to a person’s income and wealth, a key determinant of a person’s financial wellbeing is the prices that they pay for goods and services. Inflation, or an increase in prices for a fixed basket of goods and services, erodes the value of a person’s savings, as well as the value of income received. A person’s real income (that is, income adjusted for inflation) can still stay constant or increase if wages, salaries, or other sources of income rise faster than inflation, but this has the potential to further increase prices in a process known as cost-push inflation (Cieslak 2023).

Inflation in Australia has been higher over the last 18-24 months than it has been in recent years. Over the longer term, there have been periods of higher inflation (Figure 8), including the Korean War boom in the early 1950s (Maddock 1987), oil price shocks in the 1970s (Valadkhani and Mitchell 2022), and the apparent impact of loose monetary policy in the 1980s (Nelson 2004). However, the year-on-year increase in prices of 7.8 per cent observed in the December 2022 quarter was the highest since 1990, surpassing the short-term spike observed when Australia implemented a Goods and Services Tax (GST) in 2000.

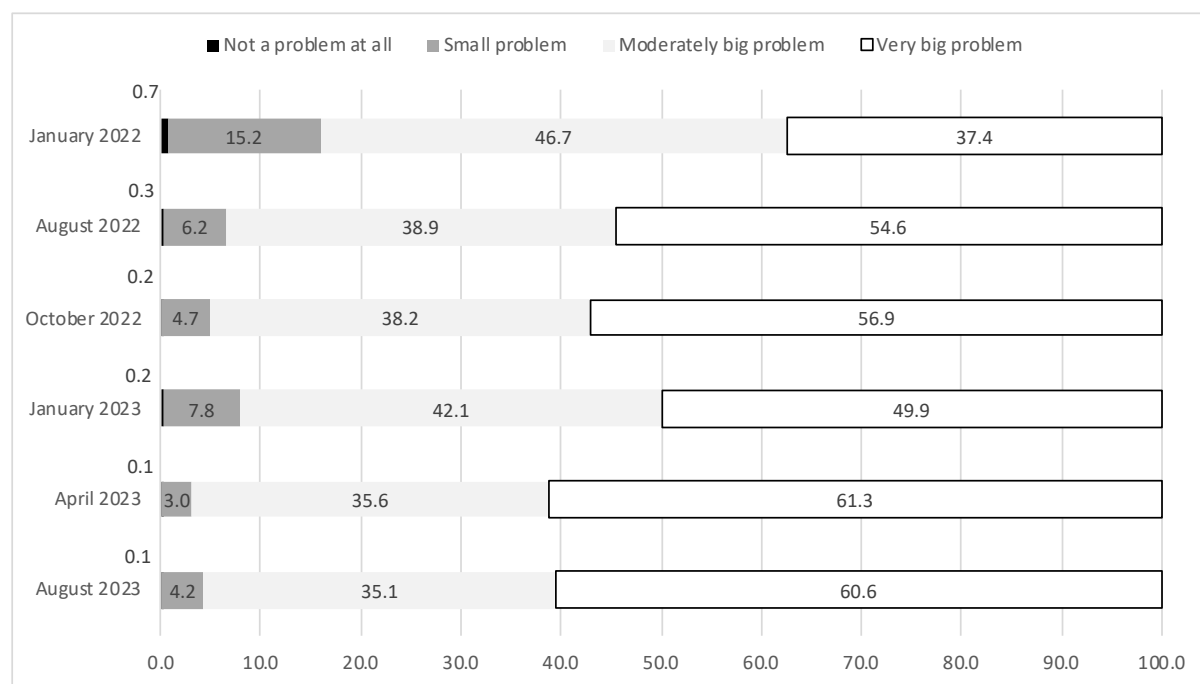
Figure 8 Percentage (yearly) change in CPI – September quarter 1949 to June quarter 2023



Source: Australian Bureau of Statistics, Consumer Price Index, Australia, June Quarter 2023. <https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release>

Since January 2022, we have been asking respondents the extent to which they thought rising prices were a problem in Australia. Figure 9 shows that even in January 2022 before price rises reached their peak there were many more Australians that thought that price rises were a moderately big or very big problem compared to those who thought price rises were a small problem only (less than one per cent of the population though price rises were no problem at all). However, since then, there has been a large increase in the per cent of Australians who thought that price rises were a very big problem, reaching 60.6 per cent in August 2023, up from 37.4 per cent in January 2022. Perceptions of prices being a problem appear to have stabilised since the April 2023 survey, but they have not started to come down and are at very high levels.

Figure 9 Perceptions of price rises as a problem, January 2022 to August 2023

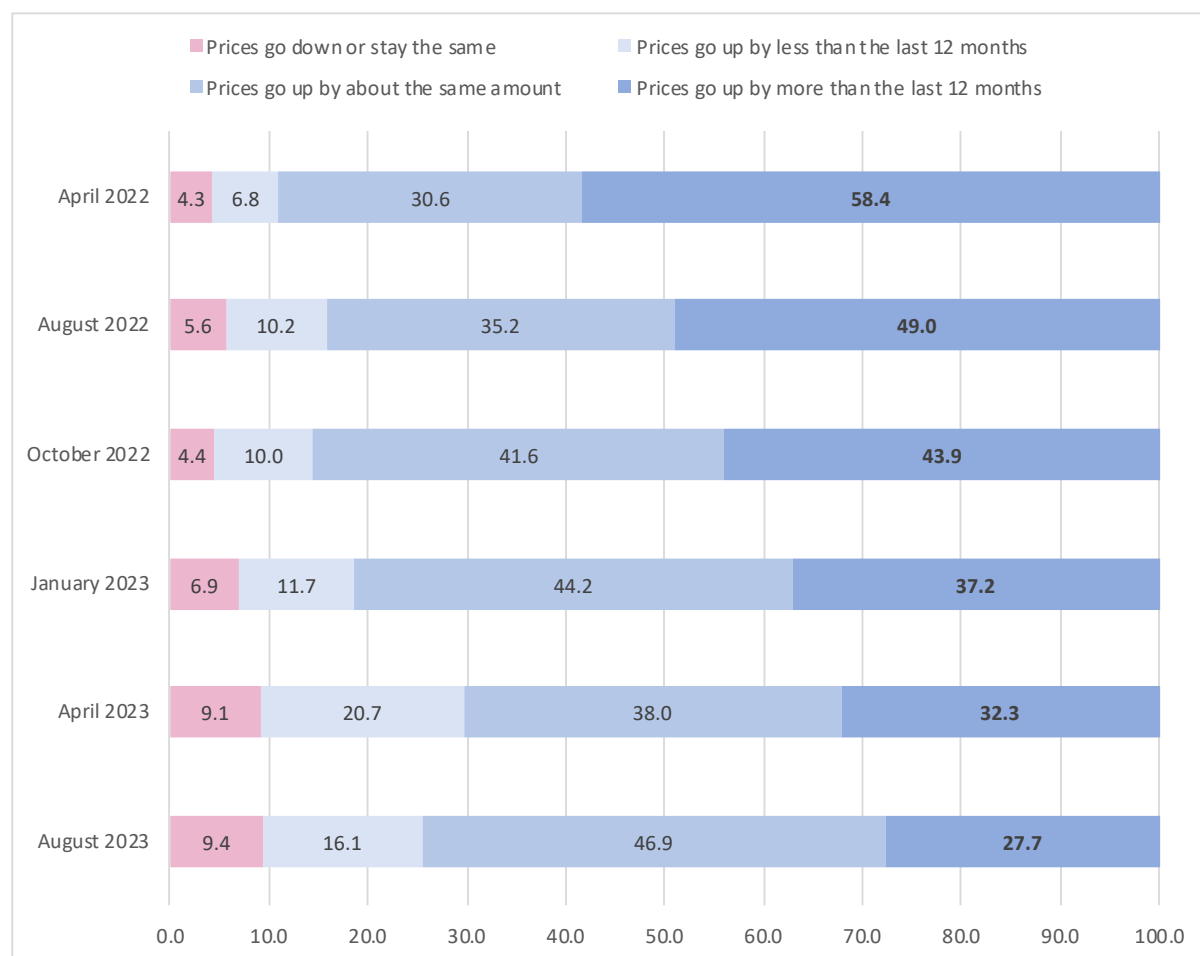


Source: ANUpoll: January, August, October 2022; January, April and August 2023.

Understanding the perceived impact of current price rises is important, but so too are future expectations. As outlined in Detmers et al. (2022) ‘Inflation expectations play a major role in many decisions by households and firms, such as consumption, wage bargaining and price setting.’ From April 2022, we have also been asking respondents about their inflation expectations, with respondents are first asked if they think prices will go up, down, or stay the same in the next 12-months. For those who say that prices will stay the same, we then clarify as to whether they mean that prices will go up at the same rate (i.e., inflation remains steady) or they mean that prices will not go up at all. For those who do think prices will go up (either based on their original answer or the clarification), we then ask for their expected inflation rate over the next 12-months¹² as well as whether ‘prices in general will go up by more or less than they have over the last 12-months, or will they go up by about the same amount.’

Figure 10 shows that there has been some moderation in expected increases in inflation in 2023, even if the vast majority of Australians still think that prices are going to continue to rise. Compared to April 2022 when 58.4 per cent of Australians thought that prices would go up by more in the next 12-months than they did in the previous 12-months, only 27.1 per cent of Australians in August 2023 expected prices to rise at a faster rate. In the most recent survey, the most common response was that prices would go up by about the same amount, a view which was held by 46.9 per cent of Australians, with only a small minority thinking that prices would go down or stay the same (9.4 per cent) or that prices would go up by less than in the last 12-months (16.1 per cent), also known as disinflation.

Figure 10 Expectations of future price increases, April 2022 to August 2023



Source: ANUpoll: April and October 2022; January, April and August 2023.

6 Financial actions and their determinants

The previous sections have documented a period of high economic uncertainty. Levels of financial stress are higher than they have been at any time since pre-COVID, income and hours work are down, and Australians are worried about price rises. Results presented in Figure 11 show that the cumulative effect of these changes have led to a number of changes in behaviour and financial decisions by Australian households which can be seen in responses to financial difficulties. Specifically, in August 2023 we asked respondents which, if any, of a list of 10 financial related actions they had done in the 12-months preceding the survey, repeating a question that we had asked in January 2021, 2022, and 2023.

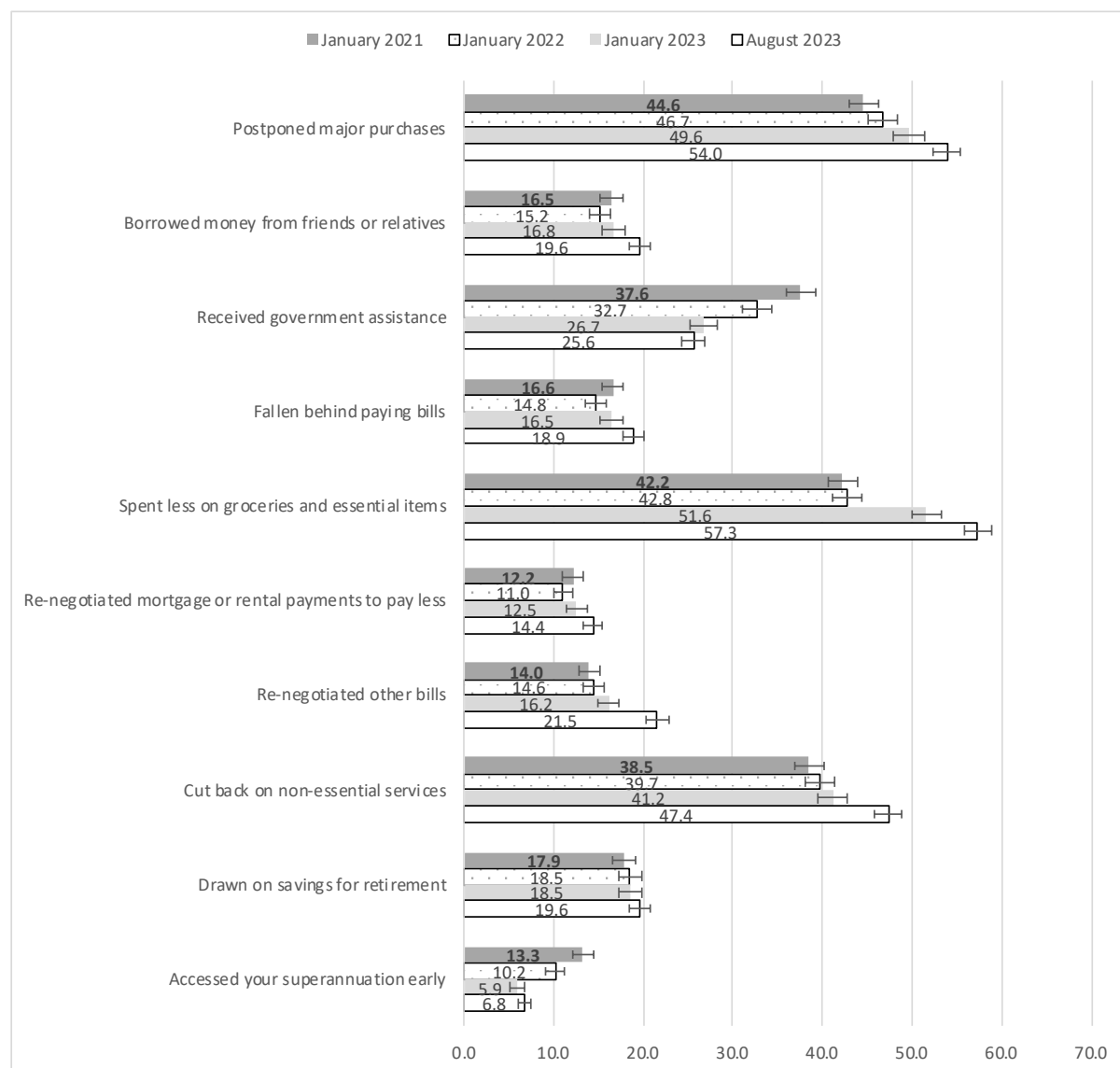
Keeping in mind that the 12-months preceding the January 2021 survey covered the height of the pandemic, it is noteworthy that for seven of the ten actions there was a higher proportion of people who undertook it in the 12-months leading up to August 2023 than in the earliest wave. The biggest relative increase was for the proportion of people who renegotiated bills other than their mortgage, with 21.5 per cent of people saying they did so in the 12-months leading up to the August 2023 survey compared to 14.0 per cent for the January 2021 survey. However, there were also large increases in the proportion of people who spent less on groceries and essential items (increasing from 42.2 to 57.3 per cent), the proportion of people

who cut back on non-essential items (from 38.5 to 47.4 per cent), and the proportion who postponed major purchases (from 44.6 to 54.0 per cent).

There were two of the actions that declined since the start of the COVID-19 pandemic, though for different reasons. There has been a steady decline in the per cent of Australians who received government assistance, from 37.6 per cent in the 12-months prior to January 2021 to 25.6 per cent in the 12-months leading up to August 2023. The biggest declines occurred between January 2021 and January 2022, as well as January 2022 to January 2023, and likely reflect the removal of COVID-specific support. In some circumstances, a high rate of government assistance can be an indication of financial stress. On the other hand, if rates of assistance are falling and people aren't able to access other forms of financial resources (for example through employment and/or drawing down of wealth), then drops in government assistance can precipitate financial stress.

The final category in the figure – accessing superannuation early – also declined over the period. This measure, which declined from 13.3 per cent in the January 2021 survey to 6.8 per cent in the August 2023 survey, was likely to have been particularly elevated due to COVID-era relaxation of superannuation rules. However, the slight increase from 5.9 to 6.8 per cent between January 2023 and August 2023 is a potential area of concern, as superannuation policy has stayed reasonably constant over that period.

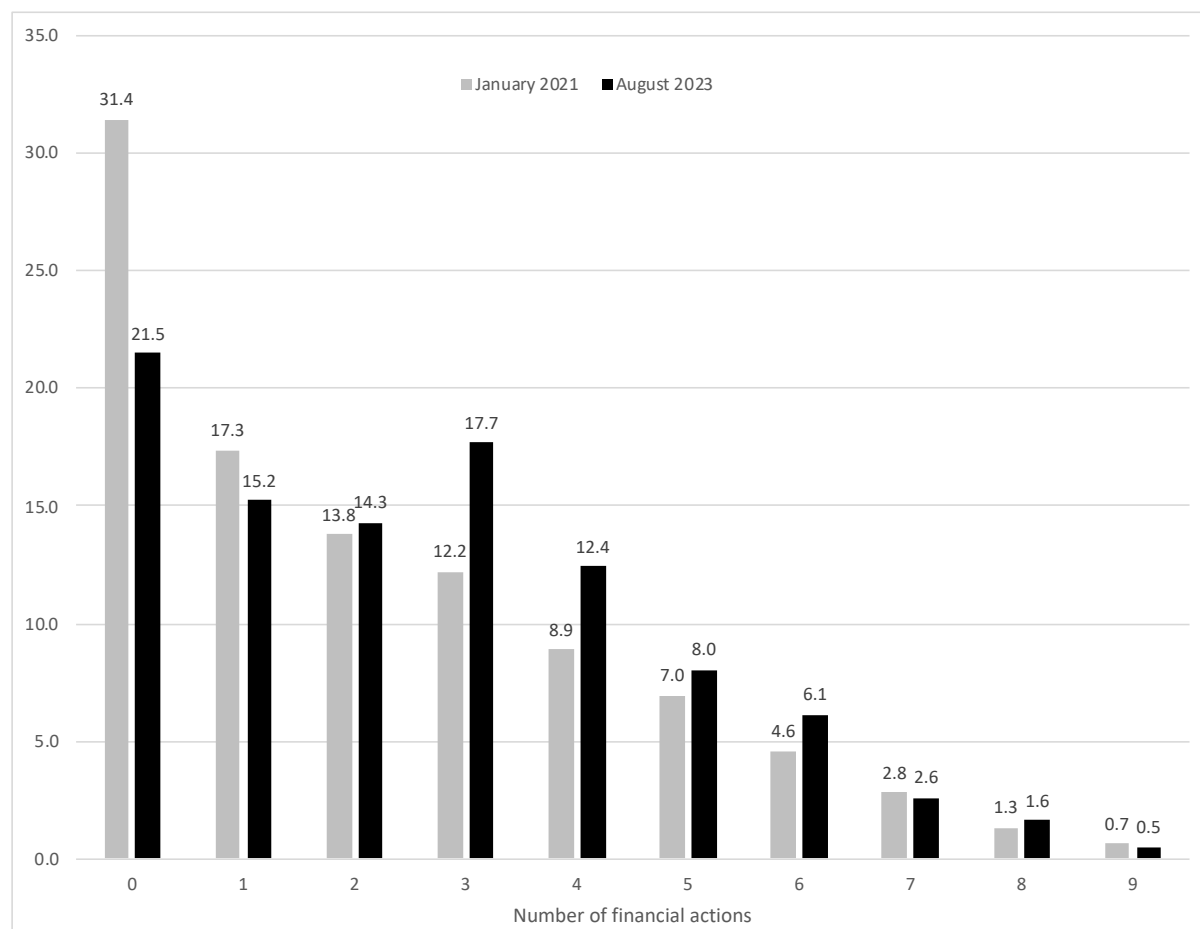
Figure 11 Specific financial actions in the 12-months preceding the survey, January 2021 to August 2023



Source: ANUpoll: January 2021; January 2022; and January and August 2023.

If we exclude receipt of government assistance as an ambiguous measure of financial stress, then Australians on average had taken 2.59 of the actions in the 12-months leading up to the August 2023 survey. This is 20 per cent higher than the 2.16 financial actions in the 12-months preceding the January 2021 survey, which covered the first 12-months of the COVID-19 pandemic when the lockdown restrictions were greatest. Furthermore, as shown in Figure 12, in the 12-months leading up to the January 2021 survey, nearly one third of Australians (31.4 per cent) experienced none of the financial actions. By the August 2023 survey, this has declined to 21.5 per cent of Australians.

Figure 12 Distribution of total number of financial actions in the 12-months preceding the survey, January 2021 and August 2023

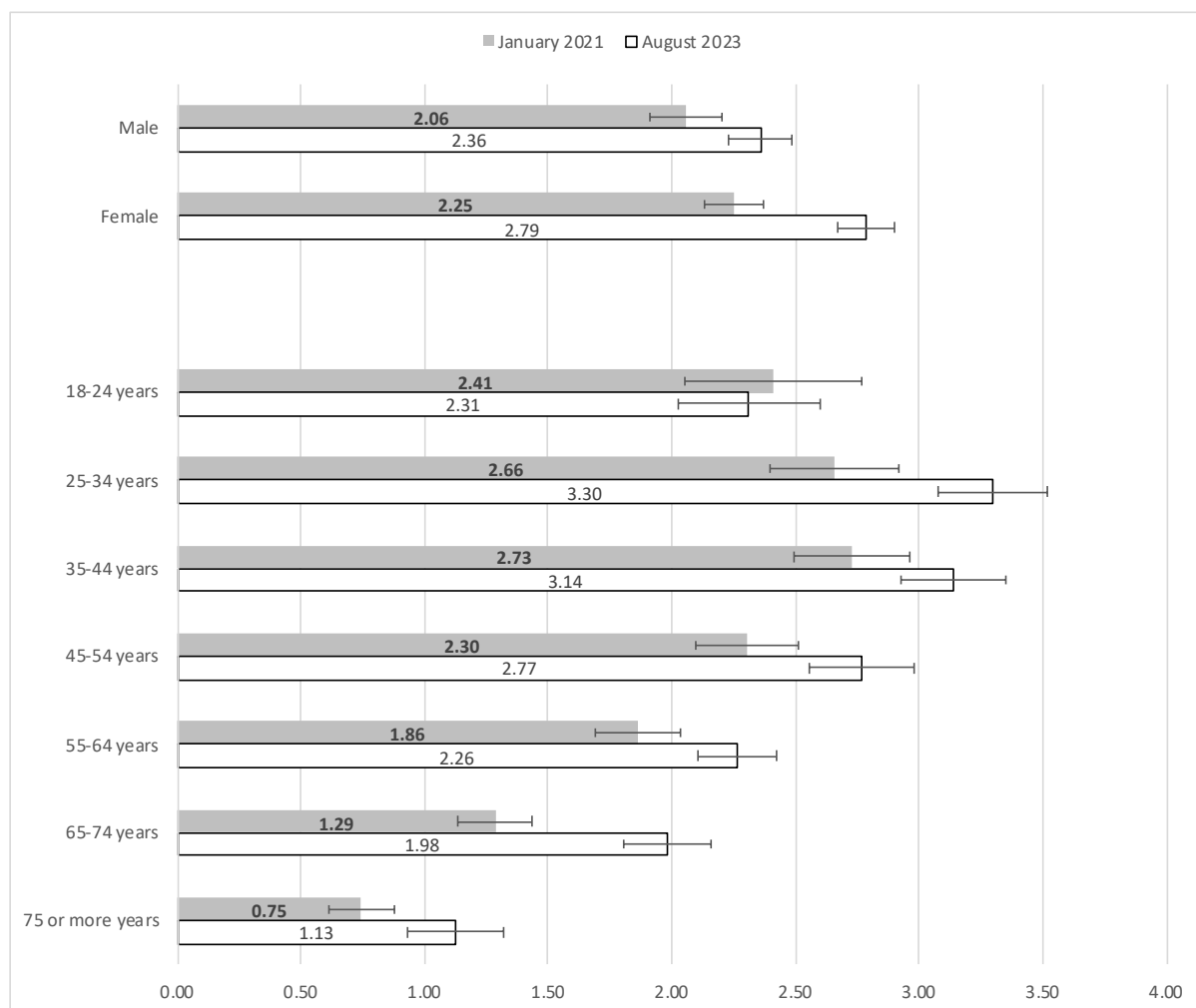


Source: ANUpoll: January 2021; August 2023.

Females experienced slightly more of the financial actions in the 12-months leading up to the January 2021 survey compared to males (Figure 13, 2.25 for females, 2.06 for males). However, there was also a larger increase over the period for females, with a 23.9 per cent increase between January 2021 and August 2023, compared to 14.9 per cent for males. Females were far more likely to have renegotiated bills in the 12-months leading up to the August 2023 survey (24.4 per cent) compared to the January 2021 survey (14.8 per cent). They were also more likely to have spent less on groceries and essential items (62.0 per cent compared to 46.9 per cent).

By age, the largest increases over the period were at the upper end of the age distribution, with a 53.9 per cent increase for those aged 65 to 74 years and a 51.0 per cent increase for those aged 75 years and over. However, younger Australians, and particularly those aged 25 to 44 years, still experienced far and away more actions in August 2023 than older Australians.

Figure 13 Average number of financial actions in the 12-months preceding the survey by age and sex, January 2021 to August 2023



Source: ANUpoll: January 2021; August 2023.

7 Relationship between financial stress and other measures of wellbeing

Financial stress can have substantial impacts on broader measures of wellbeing. While there are clearly many other factors that feed into a person’s mental health and life satisfaction (Erdogan et al. 2012) their financial situation, as well as those of their household and community are key determinants. Life satisfaction has been measured consistently in ANUpoll across the COVID-19 period, and in each wave including August 2023 respondents have been asked:

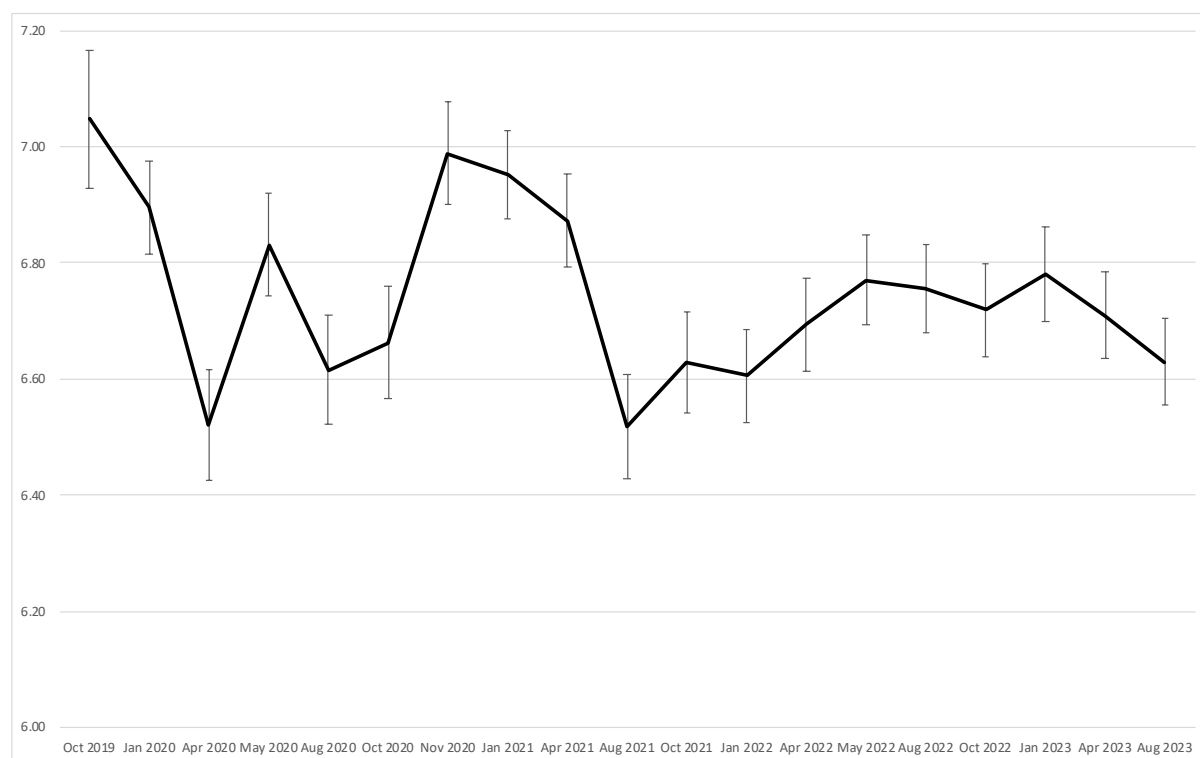
‘The following question asks how satisfied you feel about life in general, on a scale from 0 to 10. Zero means you feel ‘not at all satisfied’ and 10 means ‘completely satisfied’. Overall, how satisfied are you with life as a whole these days?’

Figure 14 shows that in the early pandemic period, life satisfaction declined quite substantially,

reaching the equal lowest value observed over the period. Life satisfaction then fluctuated depending in large part on the level of COVID-19 restrictions in place (Biddle et al. 2022).

Between May 2022 and January 2023 as Australia had opened its borders and no longer had any COVID-19 restrictions, it appeared that life satisfaction had reached a reasonably stable state, albeit one that was below the pre-COVID and late 2020/early 2021 peaks. However, the last two data points in Figure 14 suggest there may have been a decline in life satisfaction as economic uncertainty has replaced COVID-19 concerns.

Figure 14 Life satisfaction, October 2019 to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: ANUPoll: October 2019; January, April, May, October and November 2020; January, April, August and October 2021; January, April, May, August and October 2022; January, April and August 2023.

All of the waves of the COVID-19 Impact Monitoring surveys (i.e., since April 2020) have measured mental health using the Kessler (K6) module (Kessler et al. 2002). Although the K6 module was not asked just prior to the pandemic in the January and February surveys, comparable data is available from the Life in Australia™ panel for February 2017.

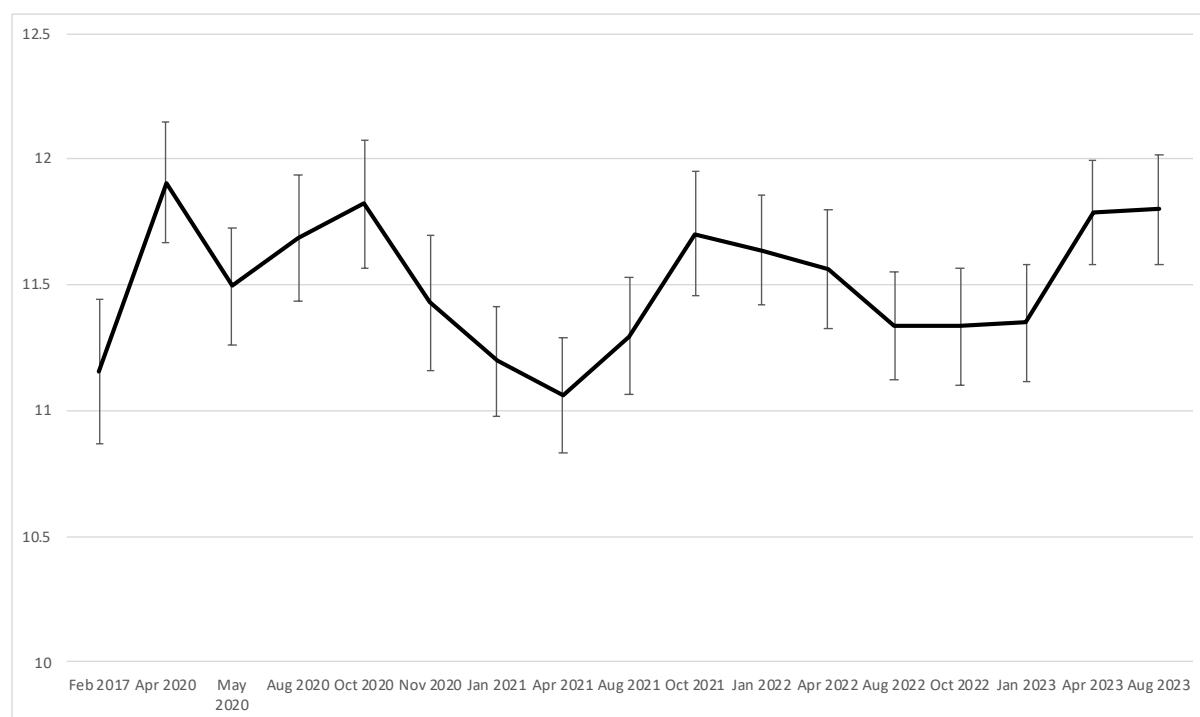
The K6 questions ask the respondent how often in the last four weeks they felt: ‘nervous’; ‘hopeless’; ‘restless or fidgety’; ‘so depressed that nothing could cheer you up’; ‘that everything was an effort’; and ‘worthless’. There were five response categories, from “none of the time” to “all the time”, with values ranging from 1 through 5. Respondents who score highly on this measure are considered to be at risk of a serious mental illness (other than a substance use disorder). It is important to recognise that while the K6 screens for the risk of serious mental illness, it is not a clinical diagnostic measure.

The K6 items can be summed to produce an index, with potential values ranging from 6 to 30 with higher values indicating higher levels of psychological distress. Figure 15 plots the

continuous K6 measure since April 2020 (including a pre-COVID baseline from February 2017). There was a large increase in psychological distress between February 2017 and April 2020, improvements in May 2020, a worsening during the second half of 2020, and then gradual but substantial improvement to early 2021. After April 2021, there was a worsening in mental health outcomes again, with psychological distress starting to decline again in January 2022, but only slightly and with little change between January 2022 and April 2022. After April 2022, there was a much larger decline in psychological distress – from 11.56 in April to 11.34 in August 2022, with psychological distress then steady until January 2023.

Between January 2023 and April 2023, however, there was a large increase in psychological distress, reaching levels not observed since the delta-wave and associated restrictions across the east coast of Australia, or early on in the pandemic (April 2020) when most of the country was experiencing lockdown conditions. Between April 2023 and August 2023, psychological distress has remained high.

Figure 15 Psychological distress (K6), February to August 2023



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

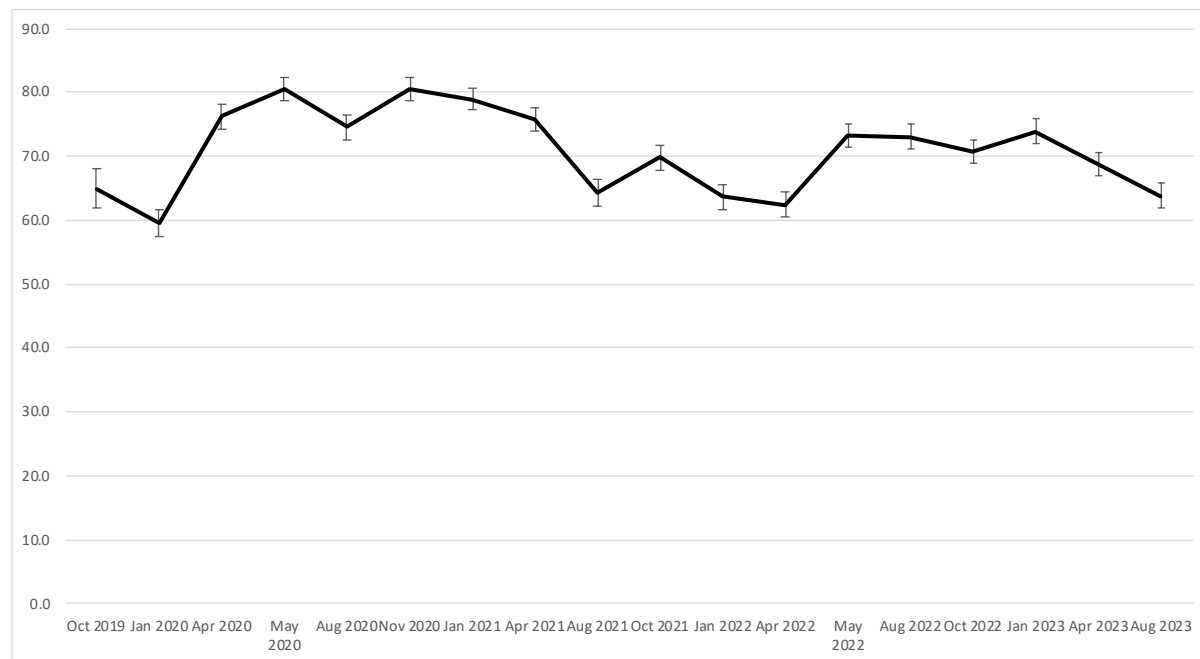
Source: ANUpoll: February 2017; April, May, August, October and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

In addition to asking about how satisfied people are with their own life, we have also asked respondents about their satisfaction with the direction of the country itself. Specifically, the first question asked in the ANUpoll (since it was first collected in 2008) is ‘Firstly, a general question about your views on living in Australia. All things considered, are you satisfied or dissatisfied with the way the country is heading?’

Combining those who were satisfied or very satisfied (Figure 16), there was a significant and substantial increase in satisfaction between April and May 2022 (post-election), with reasonably stable satisfaction between May 2022 and January 2023, with 73.9 per cent of

Australians satisfied or very satisfied at the start of the year. After January 2023, however, satisfaction with the direction of the country declined quite precipitously, reaching 63.8 per cent in August 2023. This is similar to the level of satisfaction just prior to the election (62.4 per cent), and not much above the low observed over the last four years of 59.5 per cent during the black summer bushfire crisis.

Figure 16 Per cent of Australians who were satisfied or very satisfied with the direction of the country – October 2019 to August 2023.



Notes: The “whiskers” on the bars indicate the 95 per cent confidence intervals for the estimate.

Source: ANUpoll: October 2019; January, April, May, August, November 2020; January, April, August, October 2021; January, April, May, August and October 2022; January, April and August 2023.

The wellbeing experience over the period from just prior to the pandemic to August 2023 has been quite different for different segments of the population. In Table 6, we repeat a similar style of analysis to that presented in the previous section, though the dependent variables are now satisfaction with one’s own life, psychological distress, and satisfaction with the direction of the country. Because the first two of these variables are continuous, we estimate using a random effects linear model. For the last of the three variables, we estimate via the random effects probit model. Results are presented as coefficients in the table below.

Controlling for the average differences in each wave, females have a higher level of life satisfaction than males, whereas older Australians have a higher level than younger Australians. Aboriginal and Torres Strait Islander Australians have lower life satisfaction than non-Indigenous Australians, whereas those born overseas have higher life satisfaction than those born in Australia. Those that have not completed Year 12 have lower life satisfaction, whereas those with a degree have much higher values (both compared to someone who has completed Year 12 but does not have a post-school qualification). Geography also matters, and those who live in relatively advantaged areas have higher life satisfaction than those who live in the middle SEIFA quintile, who in turn have higher life satisfaction than those who live in relatively disadvantaged areas. Finally, those who live outside of capital cities have higher life

satisfaction than those in capital cities.

Despite having a higher level of life satisfaction, females experienced a higher level of psychological stress than males. There were also large differences across the age distribution, with higher levels of distress for the young, and lower levels for older Australians. Aboriginal and Torres Strait Islander Australians had much higher levels of psychological distress than non-Indigenous Australians, as did those who spoke a language other than English at home. Education and geography have a similar association with psychological distress as they did with life satisfaction, with better wellbeing outcomes for those with high levels of education, those who live in advantaged areas, and those who live outside of capital cities.

The determinants of satisfaction with the direction of the country are slightly different to the individual wellbeing measures. Females and older Australians were more satisfied, as were those who were born overseas or who spoke a language other than English at home. Education had no association, but area-level advantage did, with those living in the top two deciles having higher levels of satisfaction than the middle and bottom part of the distribution.

Table 6 Regression model estimates of the factors associated with wellbeing measures, January 2020 to August 2023

Explanatory variables	Life satisfaction		Psychological distress		Satisfaction with direction	
	Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.
January/February 2020	0.371	***			-0.870	***
May 2020	0.338	***	-0.355	***	0.181	***
August 2020	0.052	*	-0.128	**	-0.177	***
November 2020	0.483	***	-0.431	***	0.237	***
January 2021	0.499	***	-0.845	***	0.187	***
April 2021	0.467	***	-0.977	***	-0.016	
August 2021	0.092	***	-0.743	***	-0.579	***
October 2021	0.157	***	-0.516	***	-0.359	***
January 2022	0.022		-0.352	***	-0.629	***
April 2022	0.215	***	-0.616	***	-0.663	***
August 2022	0.296	***	-0.820	***	-0.049	
October 2022	0.245	***	-0.835	***	-0.160	***
January 2023	0.305	***	-0.743	***	0.031	
April 2023	0.232	***	-0.857	***	-0.250	***
August 2023	0.192	***	-0.874	***	-0.444	***
Female	0.066	*	0.636	***	0.100	***
Aged 18 to 24 years	-0.038		1.983	***	-0.107	
Aged 25 to 34 years	-0.067		0.850	***	-0.013	
Aged 45 to 54 years	-0.031		-0.823	***	0.054	
Aged 55 to 64 years	0.263	***	-1.961	***	-0.046	
Aged 65 to 74 years	0.596	***	-2.937	***	0.108	*
Aged 75 years plus	0.854	***	-3.350	***	0.214	***
Indigenous	-0.425	***	1.968	***	-0.006	
Born overseas in a main English-speaking country	0.139	***	-0.306	**	0.231	***
Born overseas in a non-English speaking country	0.120	**	-0.115		0.317	***
Speaks a language other than English at home	0.023		0.395	**	0.226	***
Has not completed Year 12 or post-school qualification	-0.146	**	0.409	**	-0.010	
Has a post graduate degree	0.279	***	-0.436	**	-0.001	
Has an undergraduate degree	0.277	***	-0.598	***	0.020	
Has a Certificate III/IV, Diploma or Associate Degree	-0.002		0.175		-0.006	
Lives in the most disadvantaged areas (1st quintile)	-0.193	***	0.372	**	-0.020	
Lives in next most disadvantaged areas (2nd quintile)	-0.059		0.123		0.021	
Lives in next most advantaged areas (4th quintile)	0.063		-0.172		0.166	***
Lives in the most advantaged areas (5th quintile)	0.136	**	-0.445	***	0.107	*
Lives outside of a capital city	0.132	***	-0.582	***	-0.049	
Constant	6.147	***	13.027	***	0.880	***
Number of observations	53,496		50,580		53,609	
Number of individuals	8,416		8,362		8,416	

Notes: Random effects, linear and probit models. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

Source: ANUpoll: January, April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

One of the determinants of these wellbeing measures over the period is people's financial situation. In the results presented in Table 7, we show results from an extended model that includes time varying economic measures. Results show that financial stress and income were associated with life satisfaction, psychological distress, and satisfaction with the direction of the country. Interestingly though, employment and hours worked only had an association with

psychological distress, keeping in mind that we are controlling for a range of other financial and socioeconomic measures.

Table 7 Regression model estimates of the factors associated with wellbeing measures, January 2020 to August 2023

Explanatory variables	Life satisfaction		Psychological distress		Satisfaction with direction	
	Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.
Coping on present income	-0.301	***	0.443	***	-0.136	***
Finding it difficult on present income	-0.780	***	1.427	***	-0.500	***
Finding it very difficult on present income	-1.367	***	2.851	***	-0.821	***
Lives in lowest income household (1st quintile)	-0.121	***	0.140	**	0.047	
Lives in next lowest income household (2nd quintile)	-0.061	***	0.137	***	0.004	
Lives in next highest income household (4th quintile)	0.104	***	-0.248	***	0.055	*
Lives in highest income household (5th quintile)	0.142	***	-0.336	***	0.082	**
Employed	0.017		-0.174	***	0.062	
Employed – Non-employee	0.039		-0.164	*	-0.074	
Hours worked in previous week (not employed = zero)	0.000		-0.005	***	-0.001	
January/February 2020	0.408	***			-0.876	***
May 2020	0.324	***	-0.311	***	0.148	***
August 2020	0.032		-0.063	**	-0.223	***
November 2020	0.435	***	-0.318	***	0.181	***
January 2021	0.488	***	-0.836	***	0.162	***
April 2021	0.453	***	-0.944	***	-0.034	
August 2021	0.069	**	-0.672	***	-0.610	***
October 2021	0.134	***	-0.451	***	-0.393	***
January 2022	0.018		-0.333	***	-0.656	***
April 2022	0.228	***	-0.631	***	-0.673	***
August 2022	0.310	***	-0.838	***	-0.043	
October 2022	0.268	***	-0.868	***	-0.161	***
January 2023	0.347	***	-0.799	***	0.057	
April 2023	0.293	***	-0.946	***	-0.213	***
August 2023	0.250	***	-0.929	***	-0.407	***
Female	0.132	***	0.476	***	0.120	***
Aged 18 to 24 years	-0.036		1.837	***	-0.141	
Aged 25 to 34 years	-0.087		0.851	***	-0.045	
Aged 45 to 54 years	-0.021		-0.822	***	0.050	
Aged 55 to 64 years	0.244	***	-1.975	***	-0.075	
Aged 65 to 74 years	0.603	***	-3.146	***	0.066	
Aged 75 years plus	0.861	***	-3.562	***	0.159	*
Indigenous	-0.301	**	1.656	***	0.039	
Born overseas in a main English-speaking country	0.088	*	-0.195	**	0.166	***
Born overseas in a non-English speaking country	0.125	**	-0.096		0.295	***
Speaks a language other than English at home	0.103	*	0.165	**	0.283	***
Has not completed Year 12 or post-school qualification	-0.037		0.213	**	0.045	
Has a post graduate degree	0.124	**	-0.111	**	-0.079	
Has an undergraduate degree	0.150	***	-0.349	***	-0.034	
Has a Certificate III/IV, Diploma or Associate Degree	0.013		0.162		0.004	
Lives in the most disadvantaged areas (1st quintile)	-0.126	**	0.222	**	0.001	
Lives in next most disadvantaged areas (2nd quintile)	-0.050		0.073		0.016	
Lives in next most advantaged areas (4th quintile)	0.044		-0.127		0.152	***
Lives in the most advantaged areas (5th quintile)	0.050		-0.304	***	0.069	
Lives outside of a capital city	0.145	***	-0.605	***	-0.041	
Constant	6.487	***	12.719	***	1.079	***
Number of observations	48,795		46,547		48,907	
Number of individuals	8,091		8,084		8,091	

Notes: Random effects, linear and probit models. The base case individual is male; aged 35 to 44 years; non-Indigenous; born in Australia; does not speak a language other than English at home; has completed Year 12 but does not have a post-graduate degree; lives in neither an advantaged or disadvantaged suburb (third quintile); and lives in a capital city.

Coefficients that are statistically significant at the 1 per cent level of significance are labelled ***; those significant at the 5 per cent level of significance are labelled **, and those significant at the 10 per cent level of significance are labelled *

Source: ANUpoll: January, April, May, August and November 2020; January, April, August and October 2021; January, April, August and October 2022; January, April and August 2023.

8 Summary and concluding comments

Setting economic policies is always challenging. There are explicit and implicit trade-offs that need to be made, and data is often out-of-date before it is available to be used in decision-making. In the middle months of 2023, Australia is facing a set of economic challenges as tricky as almost any time in recent history. Inflation is higher than it has been for a number of decades and, although unemployment is low by historical standards, wage growth has not kept up with prices so real income has been falling.

The RBA has been attempting to bring down inflation by raising interest rates, whilst avoiding a recession, the so-called hard landing. The government is also having to deal with the ongoing impact of the COVID-19 pandemic on government finances.

The aim of this paper is to outline the financial wellbeing of Australians as our key economic institutions attempt to navigate this 'narrow path.' The paper uses data from the August 2023 ANUpoll which collected data from 4,204 Australians aged 18 years and over, as well as previous waves of data collection that extend back to just prior to the pandemic in Australia. The data presented in this paper comes from the largest survey in Australia with regular, longitudinal tracking of financial and other wellbeing.

The data presented in this paper shows that since April 2023, financial stress has been at its highest level since pre-pandemic, with 30.3 per cent of Australians finding it difficult or very difficult on their current income in August 2023. We also find that real incomes have declined since prior to the pandemic and, although hours worked had increased up until October 2022, since then the average number of hours worked had declined again.

Australians are now far more likely to have had to undertake financial actions that are strongly indicative of being in difficult financial circumstances. There have been very large increases in the per cent of Australians who renegotiated bills other than their mortgage, with 21.5 per cent of people saying they did so in the 12-months lead up to the August 2023 survey compared to 14.0 per cent for the January 2021 survey. There were also large increases in the proportion of people who spent less on groceries and essential items, the proportion of people who cut back on non-essential items, and the proportion who postponed major purchases.

Inflationary pressures are clearly a driver of financial stress. In August 2023, 60.6 per cent of Australians thought that rising prices were a very big problem. This is similar to the levels reported in April 2023 (61.3 per cent), but substantially higher than the 37.4 per cent of Australians who thought that rising prices were a very big problem when asked in January 2022. There is some good news with regards to prices though, as there has been a decline in the per cent of Australians who think that prices will rise faster in the next 12-months than they did in the previous 12-months. In April 2022 58.4 per cent of Australians thought that prices would go up by more in the next 12-months than they did in the previous 12-months, compared to only 27.7 per cent of Australians in August 2023. Australians may be starting to take the view that prices are coming under control, even if they are still feeling much of the pain of the recent price rises.

A consistent finding from the paper is that not all Australians have experienced the same level of financial stress over the period, and the current inflationary period appears to have been

associated with a widening in some of the gaps in financial stress. Specifically, compared to the April 2020 to October 2021 period, since January 2022 there has been a widening gap in financial stress between females and males, those in the middle part of the age distribution and younger/older Australians, Indigenous and non-Indigenous Australians, those with low education and those with high education, and those in disadvantaged areas compared to advantaged areas.

Finally, there is some evidence that those with a mortgage have witnessed the greatest increase in financial stress over the period. This appears to reflect the impact of rising interest rates. Renters are still experiencing more financial stress than those with a mortgage, but there has been some catch-up and the increase has been greater for the latter.

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Endnotes

- 1 Although there are many measures of economic wellbeing for a nation, a reasonable measure that captures access to economic resources for the average person in Australia is Gross National Income (GNI), per capita, in constant US dollars. This takes into account population growth, inflation, and exchange rate fluctuations with the world's reserve currency.
- 2 <https://data.worldbank.org/indicator/NY.GNP.PCAP.KD?locations=AU>
- 3 <https://www.rba.gov.au/speeches/2023/sp-gov-2023-06-07.html>
- 4 <https://treasury.gov.au/speech/opening-statement-economics-legislation-committee-february-2023>
- 5 <https://csrcm.cass.anu.edu.au/research/publications/covid-19>
- 6 The ANUpoll series of surveys are collected on a probability-based, longitudinal panel (Life in Australia™). By using probability-based recruiting (predominantly telephone-based) the unknown and unquantifiable biases inherent in opt-in (non-probability) panels are minimised and it is also possible to quantify the uncertainty around the estimates due to sampling error using standard statistical techniques. This is not possible with non-probability surveys.
- 7 The unit record survey data will soon be available for download through the Australian Data Archive (doi:10.26193/AAZ3QI).
- 8 The contact methodology adopted for the online Life in Australia™ members is an initial survey invitation via email and SMS (where available), followed by multiple email reminders and a reminder SMS. Telephone follow up of panel members who have not yet completed the survey commenced in the second week of fieldwork and consisted of reminder calls encouraging completion of the online survey. The contact methodology for offline Life in Australia™ members was an initial SMS (where available), followed by an extended call-cycle over a two-week period. A reminder SMS was also sent in the second week of fieldwork.
- 9 The specific question that we asked in February 2020 and all surveys since was 'Please indicate which of the following describes your household's total income, after tax and compulsory deductions, from all sources?' Respondents are then asked to choose from one of ten income categories. These categories have been converted into a continuous income measure using interval regression. For the interval regression, the natural log of the lower and upper bound of the income categories is the relevant dependent variable, and we use the same demographic, socioeconomic and geographic measures in the regression equations presented elsewhere in this paper. The predictions from the model are constrained to be in the same income category as they are observed to fall into.
- 10 Quintile cut-offs were set separately for each wave of data collection. We also ran a model which used quintile cut-offs set across the time period. This second model explained slightly less of the variation in financial stress than wave-specific cut-offs.
- 11 Income is adjusted to the 2020 March Quarter CPI, and for the August 2023 value, we assume the same quarterly CPI change between the June and September 2023 quarters as occurred between the March and June 2023 quarters.
- 12 In April and August 2023, 25 per cent of (randomly selected) respondents were told what the change in CPI was in the 12-months leading up to the survey. Figure 9 is

calculated excluding this group, though it should be noted that an ordered probit model does not find that this treatment has a significant association, and that results are similar if this group is excluded in the analysis.