An Update on the Household Cash-flow Channel of Monetary Policy

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Abstract

The household cash-flow channel refers to the effect that changes in the cash rate have on households' debt repayments and interest income, and the subsequent effect that these changes in available cash flow have on households' spending decisions. This article presents updated evidence on the strength of this channel. In aggregate, the effect of a cash rate change on household disposable income is currently around its pre-pandemic average, after declining temporarily over the pandemic period due primarily to an increase in the share of fixed-rate mortgages. The effect of a cash rate change on aggregate household spending via the cash-flow channel also declined during the pandemic period but is estimated to have returned to around its pre-pandemic level.

Introduction

The cash-flow channel of monetary policy refers to the effect that interest rate changes have on households' required debt repayments and interest income, and the subsequent effect that these cash flow changes have on households' spending (RBA 2024). It is one of several ways through which changes to the cash rate can affect households – though according to estimates from the RBA's MARTIN model, it is not the strongest transmission channel of monetary policy (Ballantyne *et al* 2019).[1]

The direct impact of the cash-flow channel on economic activity depends on three key factors:

- the extent to which changes in the cash rate are passed through to the lending and deposit rates faced by households

- the relative size of households' holdings of interest-sensitive assets and debts

- how households adjust their spending in response to changes in their cash flows.

Previous analysis has shown that Australian households hold more interest-sensitive debt than assets in aggregate, and that the spending of borrower households (i.e. those households who have more debt than assets) tends to be more sensitive to changes in income compared with other household types (Hughson *et al* 2016). This means that, in aggregate, an increase in interest rates reduces households' available cash flow and weighs on household consumption. In this article, we use more comprehensive and timely data on household debt, deposits and interest rates to update previous research on the cash-flow channel.

Key findings

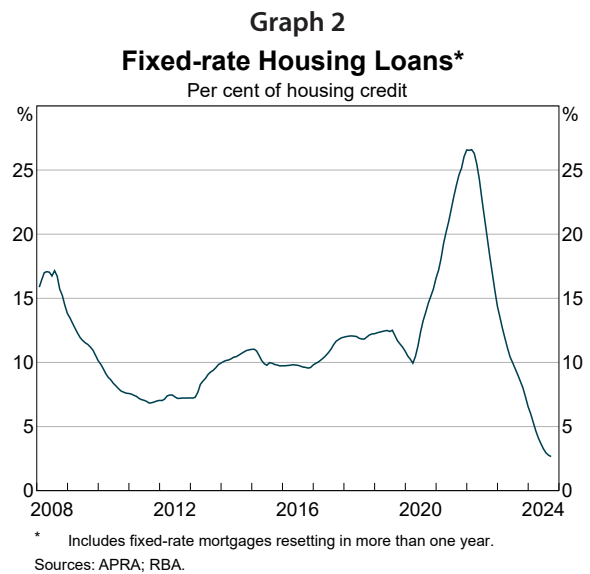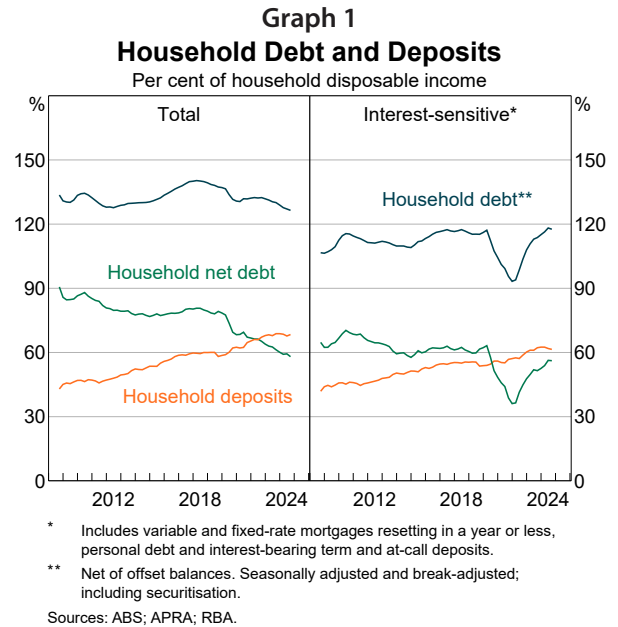The key findings presented in this article are that:

- In aggregate, the change in net household cash flows resulting from a change in the cash rate ('cash-flow sensitivity') has remained broadly stable as a share of disposable income over the past decade, though it weakened significantly for a time during the pandemic due to an increase in the share of fixed-rate mortgages. However, the sensitivity of households' gross interest income and payments to changes in the cash rate are at historical highs.

- The sensitivity of an individual household's cash flow depends on the amount of assets and debt it holds. The majority of debt is housing loans and much of this, though not all, is held by higher income households who are typically able to adjust to interest rate increases by cutting their discretionary spending or drawing down on their savings.

- The consumption response to changes in the cash rate via the cash-flow channel is estimated to be around its pre-pandemic level after having declined temporarily during the pandemic period, consistent with the effect of cash rate changes on household disposable income.

Estimating the interest rate sensitivity of aggregate household cash flows

The sensitivity of a household's cash flows to changes in interest rates is determined by the size of their holdings of 'interest-sensitive' assets and debt. We define these as deposits and loans that are either variable rate or are fixed for a period of a year or less.[2] All else equal, holding a higher stock of interest-sensitive deposits or debt would mean a greater increase in interest income or payments for a given increase in the cash rate. The total outstanding stock of interest-sensitive deposits and debt is influenced by trends in overall household wealth and debt, as well as the extent to which households shift between interest-bearing and non-interest-bearing savings products, and fixed- versus variable-rate loans (Graph 1):

- Total household deposits (excluding offset balances) and interest-bearing deposits have risen steadily as a percentage of household disposable income since 2008. Growth in interest-bearing deposits has been a little slower than growth in total deposits over this period as the share of deposits held in non-interest-bearing accounts has generally increased since 2008 (De Zoysa, Dunphy and Schwartz 2024).

- Total household debt (net of balances held in mortgage offset accounts) has declined as a share of household income since 2018 and is currently below its pre-pandemic average. By contrast, the stock of interest-sensitive household debt is currently a bit above its pre-pandemic average, after reducing significantly over 2020–2022. These contrasting trends mostly reflect changes in the fixed-rate share of mortgages over recent years. The fixed-rate share increased sharply during the pandemic, as borrowers took advantage of historically low fixed rates and locked in their mortgage repayments (Lovicu *et al* 2023; RBA 2023; Ung 2024). This caused the stock of interest-sensitive household debt to decline temporarily, though the stock has since returned to the level it was at the onset of the pandemic as the fixed-rate share has fallen to historical lows (Graph 2). For further discussion of recent trends in household debt, see Appendix A.

Overall, taking deposits and loans together, the stock of households' net interest-sensitive debt as a proportion of disposable income is currently a little below its pre-pandemic level and around 14 percentage points below its peak in mid-2010.

Graph 1
Household Debt and Deposits
Per cent of household disposable income

* Includes variable and fixed-rate mortgages resetting in a year or less, personal debt and interest-bearing term and at-call deposits.

** Net of offset balances. Seasonally adjusted and break-adjusted; including securitisation.

Sources: ABS; APRA; RBA.

Graph 2
Fixed-rate Housing Loans*
Per cent of housing credit

* Includes fixed-rate mortgages resetting in more than one year.
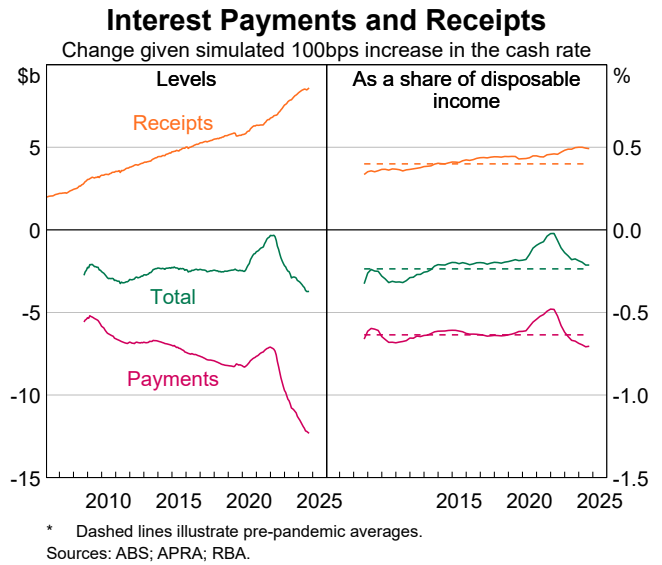
Sources: APRA; RBA.

Consistent with previous analysis, we estimate the strength of the cash-flow channel on household disposable income by calculating the effect of a 100 basis point increase in the cash rate on the interest received and paid by all households within one year of a cash rate change (see Appendix B for further detail). We estimate:

- Changes in interest earned on interest-sensitive deposits after an increase in interest rates.

- Changes in interest paid on interest-sensitive debt after an increase in interest rates.

- The aggregate change in household cash flows given an increase in interest rates, which is the difference between the change in interest income and interest payments. Because Australian households hold more interest-sensitive debt than assets in aggregate, an increase in interest rates leads to an overall reduction in aggregate household disposable income.

We estimate that a 100 basis point increase in the cash rate would lower total household disposable income by around 0.2 per cent in September quarter 2024 (Graph 3, right-hand panel, green series). This is around the pre-pandemic average but smaller than in the years immediately following the global financial crisis.[3] While the *net* effect on aggregate cash flow is around average, the individual effects on interest income and repayments are at historical highs, both in nominal terms and as a share of household disposable income.

The sensitivity of household cash flows to cash rate changes declined significantly between 2020 and 2022, reflecting the large increase in the fixed-rate share of mortgages over this period. In March quarter 2022, a 100 basis point increase in the cash rate was estimated to have had a negligible effect on aggregate household disposable income. While the effect of cash rate changes on income was temporarily reduced during this period, monetary policy continued to affect economic activity and inflation, mostly through other channels (Kent 2024). As the fixed-rate share of mortgages has declined, the sensitivity of aggregate household disposable income to changes in interest rates has returned to around its pre-pandemic average.

Graph 3

Interest Payments and Receipts

Change given simulated 100bps increase in the cash rate

* Dashed lines illustrate pre-pandemic averages.
Sources: ABS; APRA; RBA.

Differences in cash rate sensitivity across households

This article has so far focused on the effects of monetary policy on household cash flows in aggregate. However, it is important to note that the effects of interest rate changes on cash flows vary considerably across individual households depending on their home ownership status, age, income and wealth. To explore the differences in experience across households, we apply the approach used above to data from the Household Income and Labour Dynamics in Australia (HILDA) Survey from 2022.[4] In this section, we focus on the median change in cash flows among each household group.[5] Of course, within any of these groups, individual households face a wide range of experiences.

By home ownership status

Home ownership status is the most important factor determining the sensitivity of household cash flows to interest rate changes, reflecting the fact that most household debt in Australia is mortgage debt. The share of households that are mortgagors has risen a little in the past decade to 35 per cent. These households typically face a decline in their disposable income from a rise in interest rates, particularly those mortgagors with high principal amounts remaining on their loans, such as those with new or interest-only loans. However, mortgagors also tend to have higher incomes than other household types, which attenuates the proportional

decline in their income. Households that own their homes outright (approximately one-third of households) tend to be older and many of these households source the majority of their income from wealth (including deposits), rather than wages. This group experiences a net increase in disposable income when interest rates increase. For the median outright homeowner household, the size of this increase is only around one-third of the decrease in cash flows experienced by the median mortgagor household. Meanwhile, renters tend to have much lower levels of both assets and debt, meaning changes in interest rates have very little direct effect on their cash flows (Graph 4).
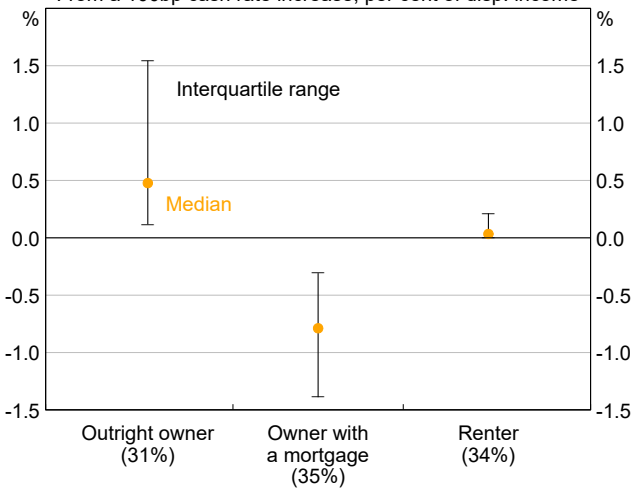
By age

The sensitivity of a household's cash flow to interest rate changes tends to be different across age ranges (noting that home ownership status is also correlated with age). The reduction in cash flows following an interest rate increase is highest on average for households aged 30–54. This is because a greater share of these households have mortgages, generally with a larger average outstanding balance. Conversely, many older households own their homes outright (or have low outstanding mortgage balances) and have large deposit savings, meaning this group typically benefit from higher interest rates (Graph 5).

Graph 4

Cash Flow Impact By Housing Status

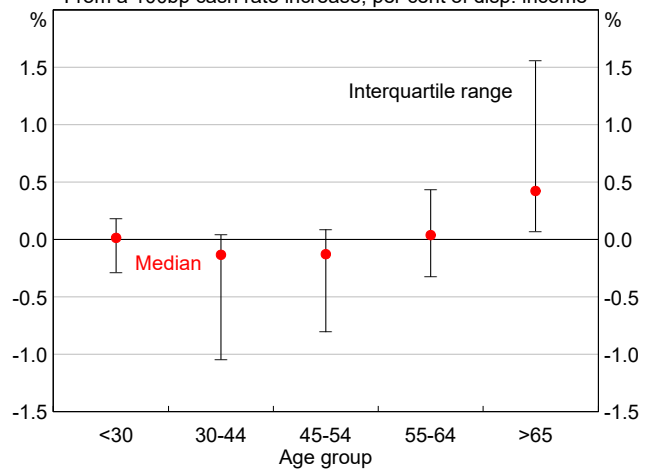From a 100bp cash rate increase, per cent of disp. income

Sources: Author's calculations; HILDA Survey Release 22.0.

Graph 5

Cash Flow Impact By Age

From a 100bp cash rate increase, per cent of disp. income

Sources: Author's calculations; HILDA Survey Release 22.0.

By income

The cash flows of higher income households tend to fall in aggregate when the cash rate increases, because a large share of these households have a mortgage. Cash flows of lower income households tend to increase, as this group includes a larger share of renters, whose cash flows are not materially impacted by interest rate changes, and outright owners, which includes older, retired households that tend to source more of their income from deposits and so benefit from higher interest rates (Graph 6).[6] Looking just at households with housing debt, the impact of interest rate increases on disposable income is greater for lower income households (Graph 7). Lower income borrower households are also likely to have lower savings buffers meaning they are less able to service higher loan repayments without cutting their spending. If we instead consider only saver households, the increase in cash flows from a cash rate raise is highest among the top and bottom income quintiles, with the latter reflecting the presence of mostly older, asset rich but low-income households.

Graph 6

Housing Status by Income Quintile

As of 2022

Sources: Author's calculations; HILDA Survey Release 22.0.

Graph 7

Median Cash Flow
Impact by Income and Housing Status

From a 100bp cash rate increase, per cent of disp. income

Sources: Author's calculations; HILDA Survey Release 22.0.

By wealth

The decline in cash flow as a share of income following an increase in interest rates is largest, on average, for households in the middle of the wealth distribution. This is because these households are the most likely to have mortgage debt. Households in the top wealth quintile are more likely to own their home outright and/ or hold more interest-sensitive assets than debt. Meanwhile, the lowest wealth households are not materially affected by interest rate changes in aggregate because these households typically have little mortgage debt and deposits (Graph 8).

Graph 8

Cash Flow Impact By Wealth

From a 100bp cash rate increase, per cent of disp. income

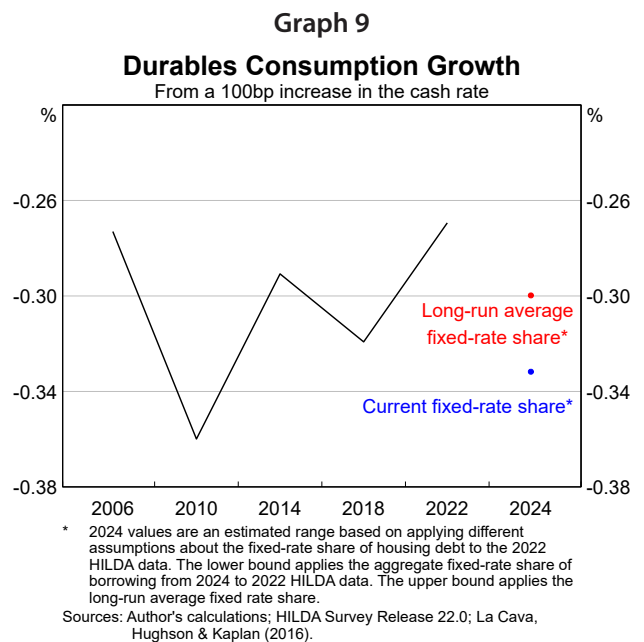Sources: Author's calculations; HILDA Survey Release 22.0.
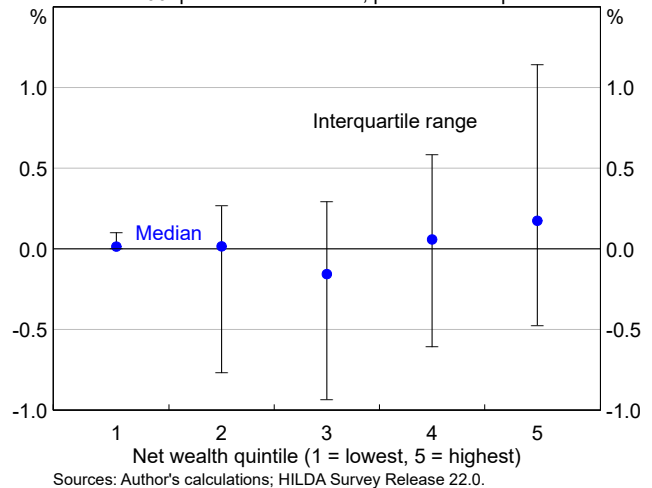
The effect on household spending

The direct effect of an increase in the cash rate on total household consumption through the cash-flow channel depends on the spending responses of individual households, which tend to be quite different across saver and borrower households. The amount that a household changes their consumption spending for each dollar change in income is known as their marginal propensity to consume (MPC). For example, if a household's income drops by $100 and spending declines by $20 then this household has an MPC of 0.2. MPCs can differ across households for a range of reasons, such as the extent to which households can fund spending through their wealth or borrowing, or because households want to save different amounts based on their expectation of how much they will earn and spend in the future. Previous analysis has found that the cash-flow channel primarily affects spending on durable goods (Hughson, Kaplan and La Cava 2016). We therefore re-use estimates from this work which suggest that, on average, borrower households have an MPC for durable goods that is around three times as high as the average saver household.[7] This difference means that the strength of the cash-flow channel depends not only on the effect that cash rate changes have on households' combined cash flows, but also how these cash flow changes are distributed across borrower and saver households. Changes to interest rates can therefore affect household spending even if they have only a small impact on aggregate household cash flows, as was the case during 2022.

We combine these MPCs with the estimated sensitivity of each individual household's real cash flow calculated from the HILDA data to track how the effect of interest rate changes on household consumption via the cash-flow channel has changed over time. Our results suggest that this effect increased between 2006 and 2010 because of strong growth in mortgage debt and a decrease in the share of non-interest-sensitive fixed-rate housing debt over this time (Graph 9). This effect then decreased between 2010 and 2014, and again between 2018 and 2022, because of increases in the share of non-interest-sensitive fixed-rate housing debt. Our estimates suggest that the cash-flow channel was particularly muted in 2022, reflecting the fact that the fixed-rate share of housing debt was at its highest level in many years at this time.

We do not have more timely estimates for the strength of the cash-flow channel because the HILDA data underlying these calculations is only available every four years. However, we can apply the latest fixed-rate share from the aggregate data to the 2022 household data to see how the recent decline in the fixed-rate share of borrowing is likely to have affected the strength of the cash-flow channel. This suggests the cash-flow channel could be marginally stronger at present than it was in 2018 – though given that these estimates rely on a number of assumptions and are likely to be quite uncertain, this difference is unlikely to be significant.[8] If we abstract from movements in the fixed-rate share of borrowing by setting it to its 2006–2022 average of around 12 per cent, the cash-flow channel would instead be marginally weaker than in 2018, though again these differences are relatively small. Overall we conclude that the strength of the cash-flow channel at present, and for a more typical fixed-rate share of borrowing, is likely to be similar to before the pandemic. Of course, other factors that are not captured here including changes to household balance sheets will have also affected the strength of the cash-flow channel since 2022.

Graph 9

Durables Consumption Growth
From a 100bp increase in the cash rate

* 2024 values are an estimated range based on applying different assumptions about the fixed-rate share of housing debt to the 2022 HILDA data. The lower bound applies the aggregate fixed-rate share of borrowing from 2024 to 2022 HILDA data. The upper bound applies the long-run average fixed rate share.

Sources: Author's calculations; HILDA Survey Release 22.0; La Cava, Hughson & Kaplan (2016).

Conclusion

The household cash-flow channel is one of a number of channels of monetary policy transmission. We find that the aggregate effect of cash rate changes on household disposable income is currently around its pre-pandemic average (after temporarily declining over the pandemic period), as households' accumulation of deposits and other interest-sensitive assets has allowed the increase in interest receipts to broadly offset any increase in interest payments on interest-sensitive household debt. Reflecting these developments, our household-level estimates suggest that the effect of cash rate changes on household spending is similar to before the pandemic.

Appendix A: Trends in household credit

Prior to the global financial crisis, personal credit made up around 20 per cent of all outstanding household credit. Since 2007, this share has been steadily declining and is now around 6 per cent. The structural decline in personal credit up until the pandemic had been led by a decline in the use of 'other revolving credit' facilities, which were comprised primarily of overdraft facilities secured by residential property (RBA 1999). Offset accounts may be considered substitutes of these overdraft facilities and the increase in their use by Australian mortgagors has likely contributed to the decline in the use of personal credit (Graph A.1).

During the pandemic, households also paid down other forms of personal debt such as fixed-term loans and credit cards. Lockdown restrictions provided households fewer opportunities to spend, and the substantial suite of policy support assisted households in paying down personal debts. Overall, outstanding household credit (net of offset payments) has broadly declined as a proportion of disposable income since 2018 and is now at its lowest share since 2004 (Graph A.2).

Graph A.2

Household Credit*
Share of disposable income

Graph A.1

Household Short-term Liquidity Tools*
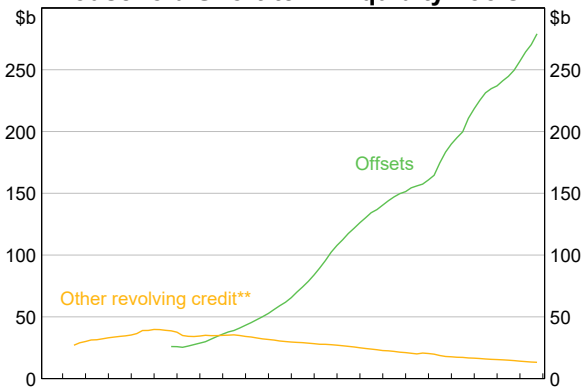
*   Seasonally adjusted and break-adjusted. Includes off-balance sheet securitisation.
**   Other revolving credit consists of overdraft facilities, secured and unsecured revolving credit facilities, and reverse mortgages. It excludes credit cards and margin lending.
Sources: APRA; RBA.
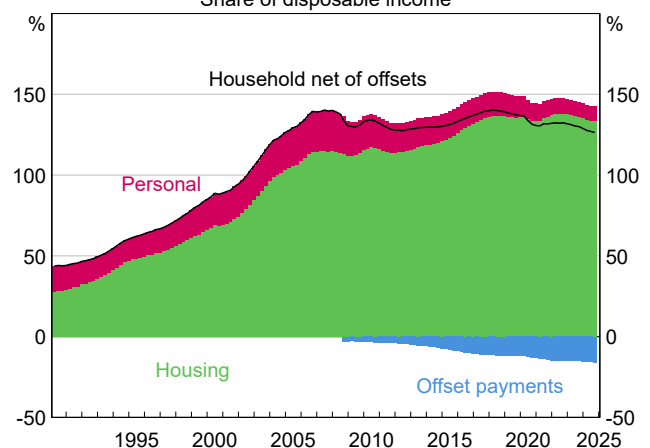
*   Seasonally adjusted and break-adjusted; including securitisation. Includes housing and personal credit. Data to September quarter 2024.
Sources: ABS; APRA; RBA.

Appendix B: Estimating cash flow changes

We calculate the change in interest receipts given a 100 basis point increase in the cash rate using simple interest, while we estimate changes in interest paid using a credit-foncier model to align with the estimation method used by Hughson, La Cava and Kaplan (2016). We extend previous analysis by accounting for imperfect pass-through of the cash rate to deposit and lending rates by applying a simplifying assumption of an 80 per cent pass-through to both lending and deposit rates. This assumption is based on mid-range estimates of the average historical pass-through during previous tightening phases (De Zoysa, Dunphy and Schwartz 2024; Ung 2024).

Pass-through to deposit and lending rates is affected by many factors and has varied greatly over historical monetary policy phases. In recent periods, heightened mortgage lending competition – particularly from mid-2022 onwards – lowered the spread between deposit and lending rates as banks competed for customers and had access to low-cost deposit funding; however, we do not capture the effect of competition on lending and deposit rates in this exercise given the assumption of an average rate of pass-through.

Endnotes

* Sarah Jennison is from Domestic Markets Department and Marcus Miller is from Economic Analysis Department. The authors would like to thank Peter Wallis, Tom Williams, Ashwin Clarke, Venura De Zoysa, Tim Taylor, Gabrielle Penrose and Hamish McLean for their comments and contribution to the analysis.

1   For a fuller discussion of the different transmission channels of monetary policy, see Kent (2023).

2   Estimates of the total stock of interest-sensitive assets and debts are constructed using data reported under the Economic and Financial Statistics (EFS) collection. These data cover deposits and debts held by all reporting authorised deposit-taking institutions (ADIs) and registered financial corporations (RFCs) who operate within Australia (Australian Prudential Regulation Authority 2017). Because this analysis estimates the household cash-flow sensitivity over a one-year horizon, only loans and deposits that have a variable interest rate or are fixed for a year or less are included in the stocks. This includes households' term and interest-bearing at-call deposits, variable-rate mortgage debt (including fixed-rate loans that roll-off within a year or less), and interest-sensitive personal debt (credit cards, variable-rate fixed-term personal loans, finance leases, margin lending and other revolving credit). Mortgage debt is adjusted for offset balances, as funds in these accounts are netted against the borrower's outstanding mortgage balance before interest is calculated on the loan. While some households with fixed-rate mortgages resetting in just over a year may also adjust their spending in anticipation of cash flow changes, they are not captured in this exercise.

3   These calculations are smaller in magnitude and of the opposite sign of estimates from Hughson *et al* (2016), given original estimates were made based on a negative shock to the cash rate. Hughson *et al* (2016) also use a broader measure of interest-sensitive debt (sourced from the Australian Bureau of Statistics) and assume that cash rate changes are fully passed through to the interest rates households receive and pay on their deposits and debt.

4   The HILDA Survey is a longitudinal study that has followed approximately 9,000 households since 2001. Every four years the survey includes a wealth module, which collects detailed information on household assets and liabilities; the latest observation available is for 2022. While less timely, this survey has information about individual households' finances and demographics, which allows us to explore how monetary policy changes affect different groups of households using a similar approach to the one used on aggregate data. The HILDA Survey does not include any information about the interest rates paid/received by households. We therefore assume that each household faces the same interest rates, in line with the aggregate data. The results from the HILDA data suggest that changes in cash flows following interest rate changes are different than implied by the EFS data, though the trends are similar.

5   These estimates based on individual household-level data are in some cases different to the aggregate results presented above. This is partly because we consider median rather than mean effects. That is, using HILDA data, we calculate individual household results before estimating the median while EFS results are estimated as the average or mean.

6   The effect that interest rate changes have on the price of rents paid by these households is estimated to be relatively small (Twohig, Yadav and Hambur 2024). Renter households could still be indirectly impacted by changes to the cash rate, such as through changes to their employment or wages.

7   We estimate MPCs using the separate durable goods consumption elasticity estimates for borrower and saver households from Hughson, Kaplan and La Cava (2016) and Hughson *et al* (2016). We use the 'other cash flow' elasticities of consumption from Table 4 of Hughson, Kaplan and La Cava (2016), which are 0.44 for borrower households and 0.18 for saver households. These elasticities are then applied to updated income and consumption figures to get an MPC estimate for saver and borrower households. The same MPC is used for each year in our sample. We are unable to update these elasticity estimates because the HILDA survey no longer includes information on household spending on durable goods.

8   For this exercise, we assume that every household with housing debt has a share of this debt with a fixed rate and the remainder with a floating rate, with these relative shares set at the same values as the aggregate data.

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