Recent Drivers of Housing Loan Arrears

Ryan Morgan and Elena Ryan^[*]



Photo: xijian – Getty Images

Abstract

Housing loan arrears rates have increased from low levels since late 2022, with banks expecting them to rise a bit further from here. Understanding what has been driving this increase is important for the RBA's assessment of risks to financial stability and the economic outlook. Using loan-level data for variable-rate owner-occupier borrowers, we find that the main drivers have been challenging macroeconomic conditions and a modest ageing of the loan pool rather than risks specific to lending in a given year. Overall, highly leveraged borrowers have been most likely to fall into arrears since 2022, consistent with their generally higher arrears rates and greater vulnerability to challenging economic conditions. We assess that financial stability risks remain contained as these borrowers represent a relatively small share of total housing lending and very few loans are estimated to be in negative equity, where the loan amount exceeds the property resale value.

Introduction

Housing loan arrears rates have increased steadily from low levels since late 2022, alongside rising household budget pressures from higher inflation and interest rates (Graph 1; RBA 2024). While arrears rates remain around pre-pandemic levels, banks expect them to increase a bit further from here.



Understanding this development is important for the RBA's assessment of risks to financial stability and the economic outlook. Housing loans are classified as in arrears when borrowers miss their minimum scheduled payment, but are still expected to return to fully servicing their loan. A default occurs when a borrower is no longer expected to fully service their loan. As housing loans account for around two-thirds of banks' total domestic lending, increases in arrears could pose risks to the Australian financial system if they result in defaults and losses. If large enough, these losses could lead to lenders sharply restricting the supply of credit to even very sound borrowers, disrupting economic activity. As an important indicator of mortgagors' financial health, housing loan arrears rates also capture information about conditions in the broader economy and are therefore relevant to the assessments formed by the Reserve Bank Board as part of their consideration of monetary policy settings.

This article presents a detailed analysis of recent developments in housing loan arrears, supports a

deeper understanding of the main drivers, and discusses the financial stability implications of the results.

Developments in housing loan arrears rates

Data used for assessments

To assess developments in housing loan arrears, the RBA monitors data collected by the Australian Prudential Regulation Authority (APRA) and loanlevel data from the RBA's Securitisation Dataset. While APRA data provides a representative view of trends in banks' aggregated housing loan arrears rates, the more granular Securitisation Dataset allows for a deeper understanding of developments in arrears rates for certain types of loans.^[1]

To track how household financial stress is evolving, we focus on the arrears rates among variable-rate owner-occupier borrowers. Variable-rate borrowers have been more exposed to rising interest rates than fixed-rate borrowers and owner-occupiers tend to have fewer margins of adjustment compared with investors. Investors can more easily sell their property if they encounter debt serviceability challenges. Assessing the share of variable-rate owner-occupier borrowers 90 or more days in arrears helps us look through the volatility among earlier-stage arrears (which can be administrative or temporary in nature) and focus on more persistent financial stress.^[2]

Risky loan characteristics

The Securitisation Dataset can be used to assess which borrowers have been more likely to fall behind on their payments. Loan characteristics typically perceived as more risky include:^[3]

• High leverage:^[4] Borrowers with high current debt relative to the value of their property (loanto-value ratio (LVR) greater than 80) or income (loan-to-income ratio (LTI) greater than four) tend to have a lower stock of savings buffers as well as lower capacity to build buffers over time.^[5] These borrowers have also seen larger increases to their scheduled minimum loan payments than others. Smaller equity buffers before a shock also mean borrowers are less able to avoid entering arrears by selling their property.

- Lower income: These borrowers tend to have lower capacity to adjust their budgets and build savings buffers because their essential household expenses comprise a larger share of their income relative to higher income borrowers. These borrowers also tend to take out larger loans relative to their income and have lower savings buffers at origination. We focus on borrowers in the first mortgagor income quintile (in May 2024 this captures borrowers estimated to earn less than \$93,000 in combined household income).^[6]
- **Borrowed at low interest rates:**^[7] Many borrowers that took out (or refinanced) loans during the pandemic had their borrowing capacity assessed at an interest rate below their current rate.
- Recent first home buyers: First home buyers tend to take out loans with high LVRs as saving for a deposit can be difficult. Those who bought recently also have had less time to build equity or savings buffers; we focus on first home buyers who purchased within the past three years.

Recent developments in arrears

A comparison of recent developments in arrears among borrowers with the characteristics identified above shows that arrears rates among highly leveraged borrowers are highest and have increased at the highest rate (Graph 2).^[8] This largely reflects their smaller buffers making them less resilient to changes in their mortgage payments or budgets. Arrears rates among this group also declined more significantly during the pandemic, particularly for high LVR borrowers. By contrast, arrears rates among recent first home buyers and those who borrowed at low rates are lower than the aggregate. Many of these borrowers would have been able to accumulate savings buffers during the pandemic and are therefore less likely to be liquidity constrained compared with currently highly leveraged borrowers. Newer loans also generally have lower arrears rates (discussed below). However, the arrears rate among those who borrowed at low rates has recently increased at a faster rate than arrears rates among recent first home buyers and the aggregate.



Graph 2

Main drivers of housing loan arrears

Insights from bank liaison support our understanding that the main reason borrowers fall into arrears is due to an unexpected loss of income and, to a lesser extent, unexpected pressure on their budgets. These shocks can be driven by:^[9]

- Idiosyncratic factors unrelated to economic conditions, including loss of work or personal misfortune such as ill health or a relationship breakdown. These shocks happen even during periods of strong growth and, as such, there will always be some borrowers who experience difficulty making payments.^[10]
- Macroeconomic factors including declining • real wages, higher interest rates and rising unemployment that contribute to a cyclical increase in arrears rates. These factors – also referred to as *common time factors* – make it more difficult for all borrowers to service their debt, particularly those who are more highly leveraged or who have borrowed closer to their maximum capacity.

Borrowers that experience these shocks do not necessarily enter arrears immediately. Many borrowers have savings buffers that they can draw on until they find additional income or make further adjustments to their expenses. Around half of all variable-rate owner-occupier borrowers have enough buffers to service their debts and essential expenses for at least six months, slightly higher than before the pandemic (RBA 2024). Many borrowers also live in households with multiple incomes. This makes it less likely they will lose their entire household income. Lenders can also provide support by offering hardship arrangements under certain circumstances.

The arrears rate can also change for other reasons:

- Cohort-specific factors also affect arrears rates, reflecting, for example, lending standards or credit demand from borrowers common to the year a loan was originated. More prudent lending standards at origination means borrowers are less likely to encounter stress in the first instance, and also can support borrowers to build resilience over the course of their loan (such as saving buffers). This helps to mitigate the effects of adverse macroeconomic conditions on mortgage arrears.
- The seasoning factor, or age of a loan, also affects the arrears rate. This is because with more time since loan origination, although borrowers have the opportunity to accrue buffers over a longer period, the cumulative chance of a borrower experiencing a shock idiosyncratic or macroeconomic increases. In addition, borrowers' circumstances tend not to change so quickly that they fall behind on their repayments soon after taking out the loan. As a result, arrears are typically higher among older loans and the average arrears rates increases with the age (or *seasoning factor*) of the loan pool (Graph 3).^[11]





Sources: RBA; Securitisation System.

Modelling the main drivers of housing loan arrears

The interaction of seasoning, time and cohortspecific factors makes it difficult to assess their separate contributions to changes in arrears rates. For example, higher arrears for a given cohort at one point in time could reflect cohort-specific factors (including changes in lending standards) or the impact of common time factors at an earlier point in their seasoning before borrowers have built resilience.

To disentangle the effects of these factors, we use a factor model, shown below (see Appendix A for more details). This more in-depth analysis of the Securitisation Dataset allows us to estimate the effect (β) of each factor on the arrears rate, holding the others constant. We also assess whether these factors affect borrowers differently depending on the risk characteristics discussed above.

 $arrears_{atc} = \beta_a seasoning + \beta_t month + \beta_c cohort + \varepsilon_{atc}$

Seasoning factor effects

After controlling for cohort and time factors, we find that the seasoning factor results in higher arrears rates after around one year (Graph 4). For example, a five-year-old loan is around twice as likely to fall into arrears as a two-year-old loan on average. This is consistent with our understanding that arrears increase with time since origination, but that borrowers' circumstances tend not to change quickly.



As a result of this seasoning effect, a modest ageing of the loan pool has contributed to the increase in arrears rates since 2022. Over the same period, the average seasoning in the Securitisation Dataset has increased alongside slower new housing loan commitments and credit growth (Graph 5).^[12]

The seasoning effect is stronger for highly leveraged borrowers (Graph 6). That is, arrears rates tend to increase by more with loan age among highly leveraged borrowers (high LVR or LTI) than borrowers with lower leverage. We find that seasoning affects loans with other risk characteristics in a similar way to all other loans. These results support our understanding that highly leveraged borrowers are less resilient to shocks that occur over the lifetime of their loan than other borrowers. For example, after five years, the estimated average seasoning effect for borrowers with a high LVR is around three percentage points



Graph 6



higher than for borrowers who do not have a high LVR.

Time factor effects

After controlling for seasoning and cohort factors, we find that challenging macroeconomic conditions (common time factors) have recently contributed to a higher arrears rate (Graph 7). Challenging macroeconomic conditions associated with the pandemic have also contributed to a higher arrears rate from 2020. This effect started to ease from mid-2021 with the combination of significant policy support, limited spending opportunities because of lockdowns (which supported savings), and the subsequent strong economic recovery (which featured a very tight labour market). This all contributed to a lower arrears rate. However, these effects eased from late 2022, consistent with a higher cash rate flowing through to mortgage rates and an extended period of elevated budget pressures.^[13]



The contribution of common time factors to arrears has had a stronger effect among highly leveraged borrowers, and to a lesser extent, borrowers on lower incomes and those that borrowed at low rates (Graph 8). For highly leveraged and lower income borrowers, this supports our understanding that these borrowers have been less able to make adjustments in response to challenging macroeconomic conditions. Moreover, policy stimulus and a tighter labour market during the pandemic appears to have had a stronger downward effect on arrears among these borrowers.

In addition, those who took out loans at low rates have experienced challenging macroeconomic conditions earlier in their loan term and have not had as much time to build resilience to the large changes in their repayments. We find that recent challenging economic conditions have affected recent first home buyers in a similar way to other borrowers, consistent with previous research showing that they do not tend to be more likely to report financial stress (Alfonzetti 2022). While they have had less time to repay the principal on their loans, many of these borrowers were able to accumulate savings buffers during the pandemic in the lead up to a period of rising budget pressures.^[14]



Graph 8 Estimated Time Effects by Risk Characteristic* Average time effect relative to comparison group**

Cohort factor effects

We find that *some* cohorts have higher or lower arrears rates over time, after controlling for seasoning and time factors (Graph 9, blue bars). These effects are also smaller than the estimated effects for the other factors. The negative average cohort effects between 2014 and 2020 (before the pandemic) likely reflect that Australian regulators significantly tightened housing lending standards (Kearns 2019). By contrast, the positive cohort effect on arrears linked to loans originated in 2022 is consistent with the slightly stronger estimated effect of time factors on the group who borrowed at low rates (between March 2020 and April 2022, discussed above). This suggests that this group of borrowers have fallen into arrears at slightly higher rates than others. The 2022 cohort has had a reduced capacity to save, with less time than other borrowers in this group to accumulate buffers and prepare for large changes in repayments before

interest rates increased. Other cohort-specific factors include increased household indebtedness and credit demand; high debt-to-income (DTI) lending increased temporarily over 2021 and 2022 (Graph 10).^[15] We find no significant difference in arrears rates among borrowers that took out a loan after 2022 when budget pressures had already started to rise.



Graph 10



Financial stability assessment

Our findings help us understand how risks to financial stability from housing lending are evolving. We find that the recent increase in arrears has mainly been driven by a modest ageing of the loan pool (*seasoning factors*) and challenging macroeconomic conditions (*time factors*), rather than meaningful differences between the groups of borrowers taking out loans in a given year (*cohort factors*). We also find that both seasoning and time factors have had a stronger effect among more highly leveraged borrowers. To inform our assessment of financial stability risks from lending to borrowers with these risk characteristics, we focus on three main aspects:^[16]

- 1. **Group size:** the share of total housing loans with these risk characteristics and whether this is increasing.
- 2. **Stock of buffers:** capacity for these borrowers to weather shocks by drawing down on savings.
- 3. **Equity:** whether these loans are in negative equity and pose an outsized risk to bank losses.

We consider risks to financial stability from housing lending to borrowers with these riskier characteristics to be contained. From an aggregate perspective, sound lending standards and the general increase in housing prices over recent years continue to support financial system resilience. Highly leveraged borrowers comprise a relatively small share of total loans; in the Securitisation Dataset around 11 per cent of variable-rate owneroccupier loans have a higher LTI ratio and around 2 per cent have a high LVR (Graph 11).^[17] This share is expected to remain small as new lending to highly leveraged borrowers has fallen to historical lows (Graph 10). Moreover, while many highly leveraged borrowers have low buffers, some higher LTI loans are taken out by higher income borrowers who have greater means to service a larger loan.

Overall, less than 1 per cent of all housing loans are 90 or more days in arrears, and less than 3 per cent of highly leveraged borrowers – the group of households most at risk – are in arrears.



For loans in arrears to lead to bank losses, borrowers must both default on the loan and be in negative equity - that is, the value of the property collateralising the loan is lower than the outstanding value of the loan.^[18] However, bank profit reports suggest that the share of loans in negative equity on their books remains very low, at around 1 per cent on average.^[19] While usually a last resort and very disruptive for owner-occupier borrowers, this would allow almost all borrowers to sell their properties and repay their loans in full before defaulting. Moreover, lenders can also enter into financial hardship arrangements. The share of borrowers that have given hardship notices to their lenders (and accounts under hardship arrangement) has increased significantly since 2022.^[20] However, this group accounts for a small share of total loans. While some of these arrangements could have contributed to an increase in earlier-stage recorded arrears rates, they can also allow borrowers time to make adjustments and therefore return to servicing their loan.

Conclusion

We find that the main drivers of the recent increase in arrears have been challenging macroeconomic conditions and a modest ageing of the loan pool. We assess that financial stability risks remain contained, with highly leveraged borrowers - the group of households most at risk - representing a relatively small share of total housing lending and very few loans estimated to be in negative equity. Looking ahead, household budget pressures are expected to remain elevated for some time but to ease a little as inflation moderates further. The expected gradual further labour market easing will be challenging for households who lose work. Banks expect housing loan arrears rates to increase a bit further, based in part on their latest assessments of the economic outlook. This assessment is broadly consistent with RBA analysis that shows that nearly all borrowers are expected to be able to continue servicing their debts even if budget pressures were to remain elevated for an extended period (RBA 2024). Banks are well placed to withstand increased loan losses, supported by their previous provisioning, strong profits and capital positions, and are further protected by the very low share of loans estimated to be in negative equity (RBA 2024).

Appendix A: Factor model details

Data

Using the Securitisation Dataset, we focus on the arrears rates of variable-rate owner-occupier borrowers who are 90 or more days in arrears for our assessment of how financial stress is evolving among indebted households because:

- Borrowers who are still on low, fixed rates during the pandemic continue to have substantially lower arrears rates as they have been shielded so far from rising interest rates.
- Investors tend to have higher incomes and larger savings buffers than owner-occupiers that they can use to
 manage adjustments to borrowing costs. Investors are also more likely to sell an investment property if they
 encounter debt serviceability challenges before entering arrears compared with owner-occupiers, for whom
 selling their home can come with significant financial and personal costs.
- We can observe variable-rate owner-occupier borrowers' savings more completely in the Securitisation Dataset than those of other borrowers, allowing for a fuller assessment of their financial positions.
- Arrears rates among earlier stage loan arrears rates are more volatile. Liaison with lenders suggests that some increases in earlier stage arrears reflect borrowers needing to update their payments when their interest rate increases rather than borrowers experiencing servicing difficulties.

For more detail on the Securitisation Dataset, see Hughes (2024).

Model

To isolate seasoning, cohort, and time factors, we estimate a factor model. This model decomposes the share of loans in arrears (*arrears*_{atc}), of seasoning *a*, observed in month *t*, and originated in period *c* into three additive factors: β_a (seasoning), β_t (time), and β_c (cohort) factors:

$arrears_{atc} = \hat{\beta}_{a}seasoning_{a} + \hat{\beta}_{t}month_{t} + \hat{\beta}_{c}cohort_{c} + \hat{\varepsilon}_{atc}$

Where *seasoning*_a is the age of a loan in terms of months from origination and *month*_t is a monthly date variable (equivalent to a time fixed-effects term). To overcome linear dependence that leaves the model unidentified, we constrain *cohort*_c to be the year a loan was originated. For example, loans originated between January and December 2020 are assigned to cohort 2020, loans originated between January and December 2021 to cohort 2021, and so on. This implicitly assumes that all loans written in a year have equal cohort factors. This could be considered a fairly strong assumption, but is simple to implement and necessary for the model to be identified.

To examine the effects of these factors across the specific risk characteristics identified above, we estimate the above model for each risk group pair and interact each factor with a dummy variable equal to 1 if a loan falls within the risk group *i*:

$$arrears_{atc,i} = \hat{\beta}_{a,i}seasoning_a\delta_i + \hat{\beta}_{t,i}month_t\delta_i + \hat{\beta}_{c,i}cohort_c\delta_i + \hat{\varepsilon}_{atc,i}$$

We define the risk characteristics as follows:

Risk characteristic	Risk group	Comparison group
High LVR (current, offset adjusted)	LVR > 80	$LVR \le 80$
Higher LTI (current, offset adjusted)	LTI > 4	$ T \le 4$
Lower income	Lowest mortgagor income quintile	Highest mortgagor income quintile
Borrowed at low rates	Borrowed between March 2020 and April 2022	Borrowed before March 2020 and after April 2022
Recent first home buyer	First loan taken out within the previous three years	All other loans not for first home buyers or taken out more than three years ago

For example, δ_i is equal to 1 in the high LVR specification when a loan has a LVR greater than 80, and 0 otherwise. As in the aggregate model, we constrain the cohort factor to be the year a loan was originated.

To determine whether a factor, under either the aggregate or risk characteristic specification, is significantly different from zero, we run a two-sided t-test for significance. To determine whether estimates using the risk characteristic specification are significantly different to the estimates for the risk characteristic comparison group, we run a Wald test. Both tests use robust standard errors. We find no further information in model residuals.

Endnotes

- [*] Ryan Morgan contributed to this work while in Financial Stability Department; Elena Ryan is from Financial Stability Department. They would like to thank Ben Beckers for his contribution to this article.
- [1] Hughes (2024) notes that the arrears rate for loans in the Securitisation Dataset mostly follows a similar trend to the arrears rate of the broader mortgage market, but at a lower level. However, trends in the two arrears rates have diverged at specific times, reflecting changes to the composition of the dataset (i.e. loans being securitised). For our sample period, this appears to have happened at times in 2020, in part reflecting the introduction of the Term Funding Facility, which led to a notable increase in self-securitised deals in the dataset. The results of this study are robust to excluding these periods from the sample, or only using loans from marketed deals (not selfsecuritisation) for the analysis.
- [2] For a more detailed explanation why we focus on this measure of arrears and this group of borrowers, see the data section in Appendix A.
- [3] These characteristics are not mutually exclusive. For discussion of these risk characteristics, see RBA (2023).
- [4] Current loan balances are net of offset and redraw account balances, and current property values are estimated by growing forward values at loan origination using house price indices at the SA3 level. We use LTI instead of DTI as we only see mortgage loans (and not total debt) in the Securitisation Dataset. See Hughes (2024) for a discussion of the representation of highly leveraged borrowers in the Securitisation Dataset. Note highly leveraged borrowers are classified in Hughes (2024) at origination instead of current as in this article, and LTI is classified as high above a ratio of six (a subset of the group used in this article, with a ratio above four). High

LVR loans tend to enter the Securitisation Dataset with a longer lag and are therefore underrepresented in the dataset relative to their cohort in the broader mortgage market often for up to two years. However, high LTI loans are overrepresented.

- [5] Loans to borrowers with high leverage at origination tend to be more risky for the same reasons. However, the majority of these borrowers manage to reduce their debt and build savings buffers over time. We therefore focus on the group of borrowers most at risk – that is, borrowers who continue to be highly leveraged.
- [6] By comparison, the bottom quartile of all household incomes extends to around \$40,000 (based on data from Wave 22 of the Household, Income and Labour Dynamics in Australia (HILDA) Survey, released in December 2023, grown forward by Wage Price Index growth), reflecting that mortgagors tend to have higher incomes than other households.
- [7] Borrowers who took out loans between March 2020 and April 2022, including those who refinanced their mortgages during the pandemic and may have had existing savings buffers.
- [8] This analysis uses arrears rates weighted by loan balance rather than number to facilitate the chosen modelling. Some analysis in RBA's *Financial Stability Review* is shown with arrears rates by number so levels may differ.
- [9] For discussions on factors that might cause borrowers to fall into arrears, see Debelle (2019) and Kearns (2019).
- [10] Data collected from the Australian Securities and Investments Commission (ASIC) between July 2022 and December 2023 from 30 lenders show that financial hardship notices related to medical, family and natural disaster reasons accounted for around one-quarter of all applications. The most common reasons given in a

hardship notice were overcommitment, reduced income and unemployment. These data relate to hardship notices for all credit contracts that are regulated under the National Credit Code; home loans accounted for around 40 per cent of total notices (most of which were owneroccupier home loans), see ASIC (2024).

- [11] The sample size of loans in the Securitisation Dataset originated before 2018 is smaller than for more recent cohorts.
- [12] While the level of average seasoning in the Securitisation Dataset likely differs from the population of all loans due to compositional differences (Hughes 2024), we expect slower new lending to have a similar effect on arrears rates among all loans. A main difference between seasoning in the Securitisation Dataset and the population of loans is the significantly lower average seasoning in 2020 as a result of the introduction of the Term Funding Facility, which led to a notable increase in new self-securitised deals in the dataset (Graph 5, shaded area).
- [13] For more details on cash rate pass-through to mortgage rates, see Ung (2024).
- [14] For more details on the indicators of household financial stress, see RBA (2023).
- [15] Differences between these estimates and those presented in Kearns (2019) include that they are calculated on updated data and are estimated average effects, rather than relative to a specific period.
- [16] This risk assessment is complemented by a broader suite of information received through the RBA's liaison program with lenders and community organisations and

discussions with regulators through the Council of Financial Regulators.

- [17] For a discussion of how borrowers with a high LVR are underrepresented and borrowers with a high LTI ratio are overrepresented among newer loans in the Securitisation Dataset, see Hughes (2024). As a robustness check for the estimated share of highly leveraged loans, we use Wave 22 of the HILDA Survey and find that around 20 per cent of variable-rate owner-occupier borrowers had a high LTI in 2022 and around 2 per cent had a high LVR in 2022.
- [18] Being in negative equity increases the probability that a borrower who cannot service their mortgage defaults on their loan. For more details on determinants of mortgage defaults in Australia, see Bergmann (2020).
- [19] Estimates from the RBA's Securitisation Dataset suggest that the share of loans in negative equity, defined as a current LVR greater than 100 per cent, is around 0.1 per cent. The median LVR for loans in the dataset is lower than in the population as counterparties are incentivised to securitise prime loans (typically with LVRs below 80 per cent) to reduce the haircut applied when posting collateral. For more details, see Hughes (2024). Further, APRA data show that almost all of the small share of owner-occupier housing loans currently at least in 90-day arrears are well secured (i.e. the collateral value is sufficient to cover the outstanding loan amount). This has been little changed since 2022.
- [20] ASIC (2024) sets out the findings of ASIC's review of the end-to-end policies, processes and practices of 10 large home lenders responding to customers experiencing financial hardship.

References

Alfonzetti M (2022), 'Are First Home Buyer Loans More Risky?', RBA Bulletin, March.

ASIC (Australian Securities and Investments Commission) (2024), 'Hardship, Hard to Get Help: Findings and Actions to Support Customers in Financial Hardship', Report No 782, May.

Bergmann M (2020), 'The Determinants of Mortgage Defaults in Australia – Evidence for the Double-trigger Hypothesis', RBA Research Discussion Paper No 2020-03.

Debelle G (2019), 'Mortgage Arrears', Speech at the FINSIA Signature Event: The Regulators, Sydney, 15 November.

Kearns J (2019), 'Understanding Rising Housing Loan Arrears', Speech at the Property Leaders' Summit, Canberra, 18 June.

Hughes A (2024), 'How the RBA Uses the Securitisation Dataset to Assess Financial Stability Risks from Mortgage Lending', RBA *Bulletin*, July.

RBA (Reserve Bank of Australia) (2023), '5.3 Focus Topic: Indicators of Household Financial Stress', *Financial Stability Review*, October.

RBA (2024), Financial Stability Review, March.

Ung B (2024), 'Cash Rate Pass-through to Outstanding Mortgage Rates', RBA Bulletin, April.

HILDA Disclaimer