The Cash Rate and the Consumer: A Modern Australian Socio-Politico-Economic Saga

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Purpose

As in many developed economies, the residential mortgage market is one of Australia's most important retail financial markets, not least from the perspective of consumers and lenders, but also from that of Australia's central bank, the Reserve Bank of Australia (RBA). From the household point of view, as at March 2012, some 67 percent of Australian households possessed residential property (either owned outright or mortgaged), with 36 percent of households bearing a home loan, with a median value of $200 thousand dollars for debt-holding households and gearing (the ratio of home loan debt to assets) of 44 percent (RBA 2012). Consequently, Australian households are now among the most indebted in the world, with globally and historically high levels of debt gearing and service (interest payments on debt to income) and increasingly unaffordable housing markets (Worthington 2012).

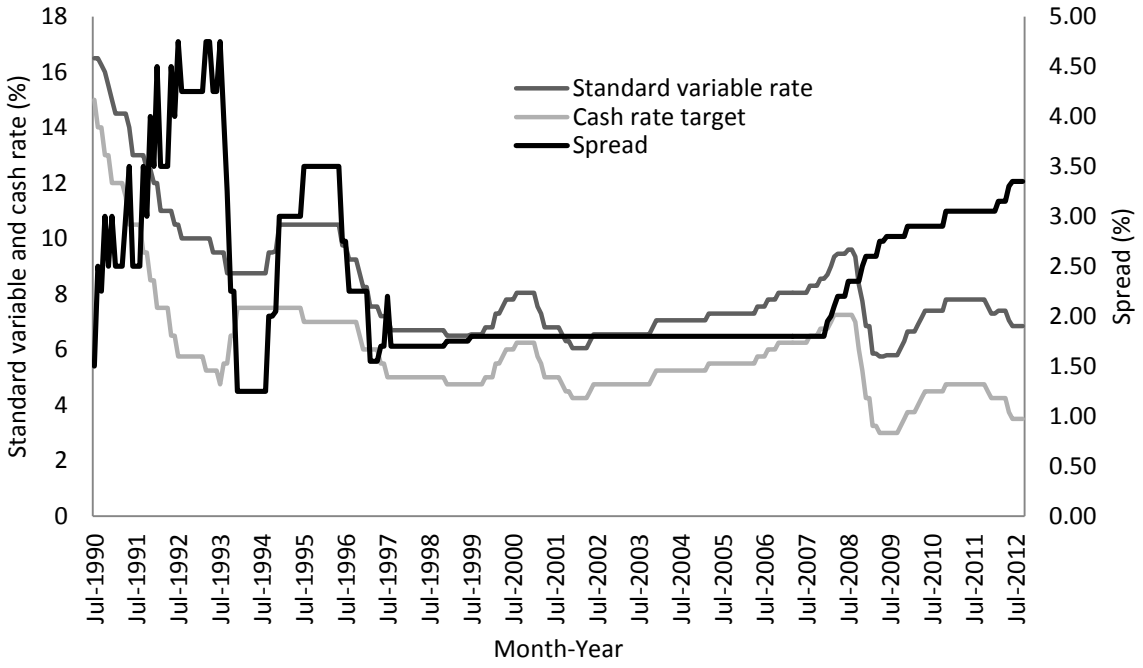

Figure 1. Australian monthly mortgage and cash rates

From the lender perspective, several hundred lenders offering literally thousands of products have ever-increasingly competed for a share of the $1.2 trillion mortgage market with net interest margins (the difference between lending rates and funding costs) becoming progressively narrower and financially savvy households increasing attuned to the different attributes of the many competing products offered. Finally, residential mortgages are an important part of the monetary policy transmission mechanism. This

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is because as the majority of home loans in Australia are variable (adjustable) rate mortgages (in contrast to the dominance of fixed rate mortgage in the US), moves by the RBA in setting short-term interest rates exert a powerful impact on household disposable income and consumption.

There is, of course, a link here in that while many factors affect mortgage rates—including the cost of funding, credit and liquidity risk, and marketing strategies—efforts made by the RBA in the pursuit of monetary policy are a primary determinant of the level of funding costs and hence the level of lending rates (Deans and Stewart 2012). Since 1990, the RBA has targeted the desired interest rate on overnight loans in the money market. This policy instrument, referred to as the cash rate, is the equivalent of the federal funds rate in the US.

Importantly, consumers of residential mortgage loans in Australia have become increasingly mindful and well informed through the media and elsewhere of the impact of changes in the official cash rate on their own borrowing rate. As shown in Figure 1, variable mortgage rates generally track the cash rate, however, the cash rate-mortgage rate spread has occasionally widened, most recently post-GFC when Australian banks have shifted from cheaper longer-term borrowing to expensive short-term deposit funding. There is no regulatory requirement for lenders, including major, regional and smaller bank and non-bank lenders, to pass on these rate cuts. However, the public have formed the expectation that rate cuts should instantaneously pass on in full (i.e. a 25 basis point cut in the cash rate results in a 25 basis point reduction in the mortgage rate), whereas lenders that pass on rate increases are accused of being predatory and insensitive to customer needs. At the same time, politicians on both sides typically respond to the demands of consumers (read voters) in the same way, and when not calling outright for the cutting of mortgage rates and singling out individual banks for harsh criticism, encourage consumers to shift to banks with more competitive rates.

Analysing the behaviour of banks in response to changes in the cash rate is then one of the more topical issues with tangible implications for borrowers. In particular, relative mortgage rates affect decisions by consumers on switching loans from one lender to another, while the speed and accuracy with which rate cuts and increases are passed on to borrowers, especially highly indebted households, affects their financial wellbeing.

Literature Review

A number of studies have investigated differences in the pass-through of monetary policy interest rate changes into mortgage rates in a range of market contexts. The first group of these identifies asymmetry in short-run changes in mortgage rates that favor lenders. See, for instance, Kim and Nguyen (2008), de Haan and Sterken (2011) and Valadkhani and Anwar (2012). For example, Hofmann and Mizen (2004) examined the interplay between 90-day deposit and mortgage rates for seven banks and found evidence of downward rigidity in the UK, US and Dutch mortgage markets. Likewise, Payne and Waters (2008) analyzed the long-term interest rate pass-through of the federal funds rate to the prime rate over the period from February 1987 to October 2005, also concluding that the response of the prime rate to changes in the federal funds rate was asymmetric.

The second group of these studies argues that this asymmetric behavior largely favors borrowers. See, among others, Frost and Bowden (1999) and Liu et al. (2008) for the analysis of mortgage interest rates in New Zealand, Chong et al. (2006) in Singapore, and Lim (2001) in Australia. For example, Liu et al. (2008) found that in contrast to the evidence concerning short-run pass-through, the long-run pass-through for most retail rates in New Zealand was complete. The findings suggested "…banks value their borrowing customers and tend to pass on decreases in the loan rates faster than they pass on increases" (Lim, 2001, p. 146).

Elsewhere with Australian data, Lowe and Rohling (1992) examined the asymmetric effects of changes in the funding cost on the mortgage rate. Lowe and Rohling (1992) provided two explanations for the stickiness of various types of Australian loan rates, including the mortgage rate, comprising switching costs (such as loan establishment fees, stamp duty, and early repayment fees), and risk sharing. They further assert that changes in the cash rate can have little influence on mortgage rates when competition is weak and customers' decisions are interest rate inelastic. More recently, Lim et al. (2010) concluded that unlike the US, pass-through was relatively higher on Australian loan rates.

Method

We use official weekly cash rate data from the RBA (2012) and weekly standard variable mortgage rates for Australia's Big-4 banks from www.canstar.com.au. The Big-4 banks, comprising the ANZ Bank (ANZ), Commonwealth Bank of Australia (CBA), National Australia Bank (NAB), and Westpac Banking Corporation (WBC), collectively account for nearly 90 percent of the Australian residential mortgage market. As shown in Figure 2, the mortgage rates of the individual banks typically track each other (and the cash rate). However, Figure 3 illustrates significant differences in the speed and magnitude of the adaption to changes in the cash rates in terms of the cash rate-mortgage rate spread.

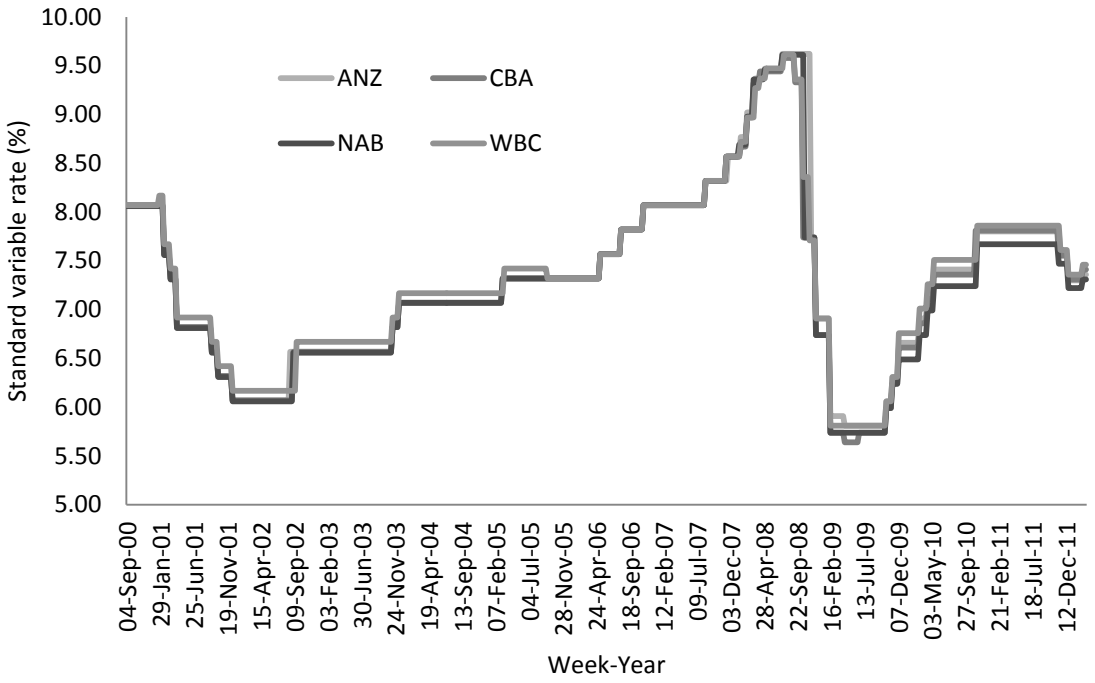

Figure 2. Big-4 bank mortgage rates

Our method of analysis is to regress the weekly time series of the standard mortgage for each bank against the cash rate and three lags (in weeks) along with a dummy variable indicating whether the change in the cash rate was positive (an increase) or negative (a decrease). The estimated coefficients for these variables indicate both the speed and magnitude of the response to the change in the cash rate and an indication of whether the banks respond asymmetrically by more quickly passing on rate increases to mortgage rates. The data for each bank comprises 601 weekly observations running from 4 September 2000 to 5 March 2012.

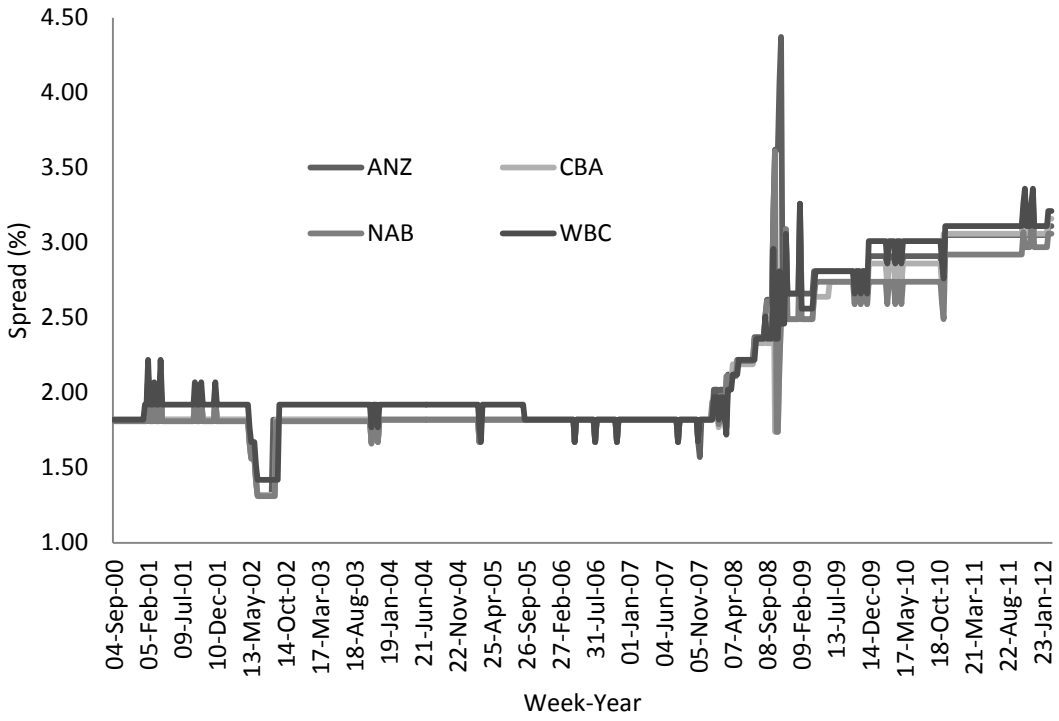

Figure 3. Big-4 bank cash rate-mortgage rate spread

Findings

Table 1 provides the estimated coefficients, standard errors, and p-values of the models of Big-4 bank mortgage responses to official RBA cash rate changes. The table also includes the value of R^2 as a measure of goodness-of-fit and F-statistics for the test of the null hypothesis that all of the slope coefficients are jointly zero. As shown, all of the values for R^2 are high (above 85 percent) and the null hypothesises that the slope coefficients in each of the four models are jointly zero are rejected at the .01 level. If we infer the value of R^2 reflects overall macroeconomic conditions, including monetary policy stance, then bank-specific lending conditions account for between 11.4 (NAB) and 14.6 (ANZ) percent of the observed mortgage rate.

The estimated value of the intercept provides the long-run spread of each bank's standard variable mortgage rate over the official cash rate. This ranges from 3.181 for NAB to 3.554 for WBC. The estimated coefficients for instantaneous adjustment provide an indication of the speed at which each bank responds to a rate change. The estimated coefficients for ANZ (-1.056), NAB (-0.538) and WBC (-0.685) are negative and statistically significant. This indicates that as the cash rate changes (both + and -), these banks are slow to react in passing on the implied change in their own borrowing rate to their own borrowers, with ANZ being the slowest and NAB the quickest.

The estimated coefficients for the one, two and three week lags provide an indication of when each bank factors the changes to the cash rate into its mortgage rate. As shown, ANZ makes most of its adjustments to its mortgage rate in the same direction as the cash rate with a lag of one week and three weeks, CBA adjusts in two and three weeks, NAB in one week, and WBC in one, two and three weeks. Summing the instantaneous and lagged coefficients provides an estimate of how much of each 100 basis point (1 percent) change in the cash rate each bank passes on within one month. These range from NAB passing on 78 percent of any rate change in the month down to WBC passing on 72 percent of any rate change within the month.

Table 1

Estimated coefficients

	Parameter	Estimated coefficient	Std. error	p-value	R^2	F-stat.	F-stat. p-value
ANZ	Intercept	3.355	0.101	0.000	0.854	322.937	<0.01
	Instantaneous adjustment	-1.056	0.332	0.002			
	One-week lagged adjustment	1.843	0.594	0.002			
	Two-week lagged adjustment	-0.889	0.593	0.134			
	Three-week lagged adjustment	0.854	0.329	0.010			
	Asymmetric adjustment	0.111	0.051	0.030			
CBA	Intercept	3.325	0.095	0.000	0.868	366.202	<0.01
	Instantaneous adjustment	-0.489	0.312	0.118			
	One-week lagged adjustment	1.857	0.557	0.001			
	Two-week lagged adjustment	-1.042	0.556	0.062			
	Three-week lagged adjustment	0.424	0.309	0.170			
	Asymmetric adjustment	0.125	0.048	0.009			
NAB	Intercept	3.181	0.089	0.000	0.886	438.030	<0.01
	Instantaneous adjustment	-0.538	0.293	0.067			
	One-week lagged adjustment	1.467	0.524	0.005			
	Two-week lagged adjustment	-0.372	0.524	0.478			
	Three-week lagged adjustment	0.223	0.291	0.443			
	Asymmetric adjustment	0.081	0.045	0.074			
WBC	Intercept	3.554	0.094	0.000	0.861	343.967	<0.01
	Instantaneous adjustment	-0.685	0.308	0.027			
	One-week lagged adjustment	1.893	0.551	0.001			
	Two-week lagged adjustment	-1.075	0.551	0.051			
	Three-week lagged adjustment	0.585	0.305	0.056			
	Asymmetric adjustment	0.139	0.047	0.004			

The final estimate in Table 1 is of the asymmetry parameter indicating a rate increase. A frequent criticism by consumers and politicians of the Big-4 banks is their lack of willingness to pass on interest rate cuts but enthusiasm in passing on interest rate increases. The estimates are all statistically significant and range from 0.081 for NAB to 0.139 for WBC indicating that banks are between 8.1 and 13.9 percent more likely to pass on a rate increase almost instantaneously than a rate cut.

Implications

In this paper, we examine how the standard variable mortgage rates of the Big-4 banks in Australia respond to changes in the cash rate. The results we obtain can enhance the efficiency and transparency of the mortgage market as far as consumers are concerned by providing an indicating of the speed and accuracy with which changes in the official cash rate, as a primary determinant of

mortgage rates, are passed on to the flexible mortgage rates most Australian households pay. Overall, we find that the Big-4 banks are slow to react to changes in the cash rate but typically adjust most (75 percent) of their lending rates with the month. This may sometimes benefit mortgage holders in that the banks are slow to pass on rate increases but sometimes not when they are slow to pass on rate increases. However, we find significant evidence of asymmetry in that the sample banks are much more willing to quickly pass on rate increases. This is useful information for current and future consumers of mortgage products and finance sector regulators in Australia, not least the Australian Competition and Consumer Commission (ACCC).

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