



A PRUDENTIAL APPROACH TO MORTGAGE LENDING

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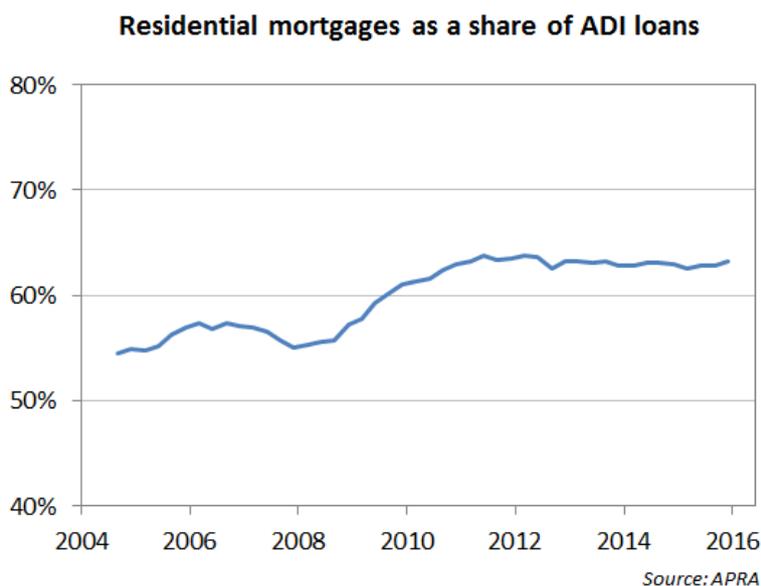
It is a pleasure to be here at this conference and to have the opportunity to learn about ‘booms, bubbles and busts’. I hope to generate some discussion on how prudential supervision can potentially affect lending cycle dynamics in the housing market.

APRA prudentially regulates banks and other deposit-taking institutions (ADIs). In late 2014, APRA (after consulting with our fellow financial regulators) flagged our intent to undertake more intensive oversight to reinforce sound lending standards in the residential mortgage sector. We worked very closely with large and small ADIs over the course of 2015, and our assessment is that this has had a material and positive impact on lending standards. What I will outline this morning is why and how we did this work and describe some of the changes we are observing within the industry.

Why has APRA committed so much energy to this area when residential mortgages have always been a low-risk asset class for Australian banks? In short, the housing market now underpins our financial sector. Housing loans now make up nearly two-thirds of Australian ADI loan portfolios (Figure 1). Although we don’t have comparable data for the earlier period, housing credit overall was less than one-quarter of the total in the early 1990s. This is a major shift, and as a result any disruption in the sector would have a much more significant impact than in the past.

We have never had a real housing market downturn in this country, at least not since the advent of the modern era of mortgage banking or the significant growth in the share of this lending for Australian ADIs. So historical data or models are not very good guides to tell us how a future downturn might evolve.

Figure 1



Historically, housing markets generally did not generate major losses for banks around the world until recently. In fact it has been said that housing finance was one of the ‘villains’ of the global financial crisis. But was the relaxation in lending standards evident in the subprime lending episode really villainous, or was it a predictable financial credit cycle of the sort that has been played out over decades, if not centuries?

Even before the financial crisis, it was well established, and certainly reflected in the academic literature on banking lending behaviour, that bank lending standards vary systemically over the financial cycle. Standards generally loosen over the course of prolonged good times and

tightening once the economy has fallen into a downturn.¹ There are various proposed rationales for this pattern.

One such theory is that when the economy and markets are strong, it may be harder for lending officers to distinguish between good and bad credits. When house prices are rising strongly, lenders may have less incentive to differentiate between good and bad borrowers, as the weaker borrowers can easily sell or refinance their property at higher prices. So the capacity to repay may appear less important to making a good loan. Another theory proposes that as institutional memory of the last downturn fades, lending officers lose their ability to properly evaluate risk.²

In practice, it appears that a focus on short-term profits and market share can allow competitive pressures (potentially reinforced by volume-based remuneration practices) to carry the day over prudence. It is all too easy to justify a slight loosening in standards because peers are doing the same. Strong loan growth may be attributed to operating efficiencies or clever marketing, when in fact the real driver is taking on more risk. Ultimately, all lenders pay the price when higher loan losses eventually materialise.

Fortunately, Australian institutions are relatively conservative and there are many countervailing pressures inside organisations (such as strong risk staff and a good risk culture) that have meant ADIs have not generally lost sight of this trade-off. But there is nevertheless good reason for regulators to assume, or at least suspect, that lending standards will continue to be affected by the push and pull of credit cycles. We view it as our job to remind, motivate and if necessary dictate that banks maintain prudent lending standards even at the peak of a credit boom, when competitive pressures are often more intense. Setting some basic risk management expectations that can't be competed away can help arrest the momentum of a race to the bottom for lending standards.

In the first instance, supervisors rely on the risk culture and controls in place at regulated institutions. In 2011, APRA sought written assurances from the boards of the larger ADIs that they were actively monitoring their housing lending portfolios and credit standards; we repeated this request in 2014. While APRA received positive responses, we were nevertheless concerned, as the housing market appeared to pick up steam, that individual ADIs may face a sort of 'wood for trees' problem—they may be able to benchmark aspects of their own lending standards against peers and feel justifiably comfortable that they are 'in the pack'. However, they may not clearly see the impact on the system as a whole. A related risk is adverse selection—when borrowers now have many channels to obtain information about lending criteria across the industry, the lowest-quality borrowers could be expected to be directed toward to the lenders with the loosest standards. This may not be evident to individual lenders.

To ensure there is an explicit set of expectations that credit risk managers should be referring to as a benchmark across the industry, APRA issued a prudential practice guide on mortgage lending in late 2014.³ This guide covers a range of good practices that were in fact highlighted by the benchmarking work that I will discuss in a few minutes. We also reviewed ADIs' self-assessments against this guidance last year.

APRA also runs a regular stress testing program that allows us to target areas of particular concern or vulnerability. In 2014, APRA incorporated two different hypothetical housing market downturn scenarios into our ADI industry stress tests. Although highly dependent on modelling assumptions, this stress test found that losses on mortgage portfolios could amount to 3-4 per cent of loans over a severe but plausible multi-year downturn, including a significant house price

¹ For a useful survey see Della'Arricia, G 'Property prices and bank risk taking', Reserve Bank of Australia conference volume, 2012.

² Berger, A and Udell, G, 'The institutional memory hypothesis and the procyclicality of bank lending behaviour', BIS working paper No. 125, 2003.

³ APRA *Prudential Practice Guide 223 Residential Mortgage Lending*, November 2014.

decline. While much more severe than has been seen in Australia historically, this level of losses could be absorbed by ADIs' capital and earnings.

I will next cover some of the work APRA has done specifically on mortgage lending standards.

Lending standards are the specific criteria lenders use to decide whether or not to grant a loan, such as:

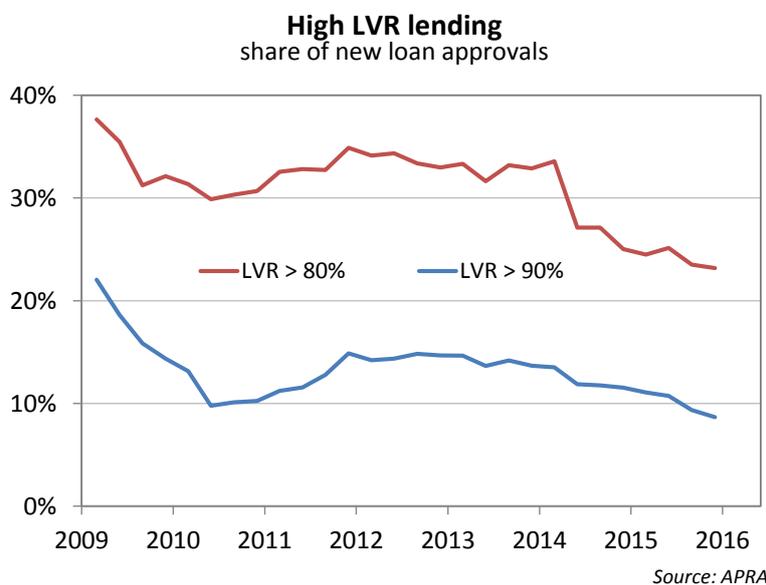
- Can the borrower service the regular payments of interest (and principal)?
- Is there adequate collateral in the event the borrower defaults?
- Are there other factors in the borrower's history that would affect the granting of a loan (existing customer, stable employment, prior defaults)?

Despite what the theoretical models may assume, there aren't 'good' and 'bad' borrowers—in good times, the vast majority of borrowers are able and willing to pay their mortgage until an unexpected turn of events, such as divorce or medical problems. You might say many bad borrowers are good borrowers in bad circumstances. In a downturn, defaults arise largely because of unemployment. But prudent lending standards are nevertheless an important driver of the ultimate risk of a loan because they ensure some cushion for unexpected events.

In practice, it is not straightforward to measure lending standards. There are a number of parameters involved, and significant judgement involved in identifying whether lending standards are 'tighter' or 'looser'. I will discuss some of the common proxy measures, and then summarise how APRA has attempted to measure standards more directly.

One proxy for lending standards is the loan-to-valuation ratio, or LVR. The LVR is a convenient and widely used metric to show the extent to which the borrower's loan performance is backed up by collateral. A higher LVR at origination of the loan increases the risk that the borrower's equity will be eroded to zero during any period where house prices soften. An LVR of say, 80 per cent, means there is a reasonable (though not huge) margin above the loan amount to absorb any house price falls. An LVR of 90 per cent or even 95 per cent means there could be very little, if any, buffer to cover costs in a default and repossession situation.

Figure 2

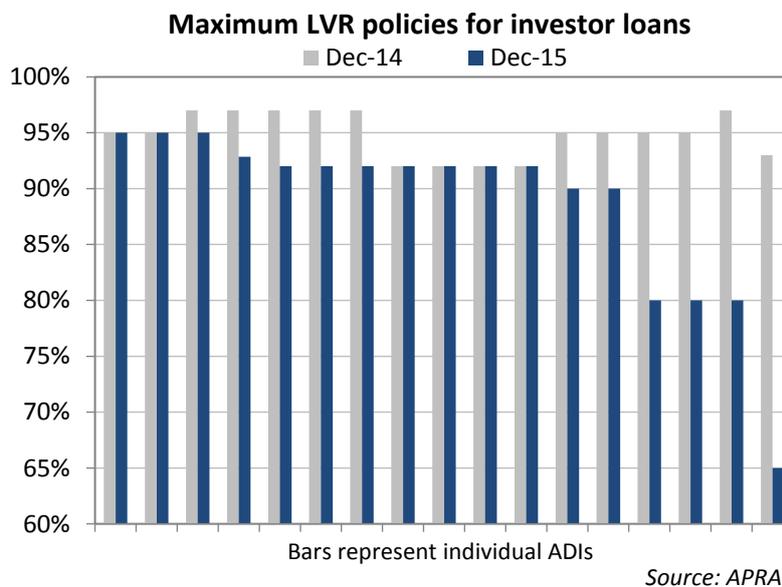


Since 2008, APRA has collected data on LVRs for new housing loans, and APRA supervisors closely monitor their trends. LVRs are also a parameter used in ADI capital requirements. Figure 2 gives an overall picture of recent trends in higher LVR lending by ADIs. Prior to the global financial crisis, we saw loans at LVRs of over 95 per cent, or even 100 per cent, being routinely offered. During and after the crisis, many ADIs tightened up on their LVRs, in some cases capping them at 90 per cent or lower for some types of borrowers or properties. With the introduction of enhancements to the first-home buyer scheme, loans written at relatively high loan-to-valuation

ratios increased somewhat, but have trended downward since 2013. This may reflect, in part, APRA’s supervisory focus on this segment in recent years.

More recently, APRA’s initiative to rein in growth in the investor segment of the market has prompted a number of ADIs to use LVR caps as a lever to reduce loan approvals in this segment. Although many ADIs traditionally required more equity for investment loans, some ADIs reduced maximum LVRs for investors significantly over the course of 2015 (Figure 3). Note the actual distribution of loans approved for investors is much lower than these maximum levels, and overall, LVRs for investors on average tend to be lower than for owner-occupiers.

Figure 3



Borrower debt servicing ability is the other important element of the lending standards picture. To look at how ADIs assess this, we have begun collecting loan-to-income breakdowns (LTIs). These data are based on informal survey data of the larger ADIs, and come with some definitional challenges, so they should be treated as approximations. They are based on gross discounted income (as discussed later) and investment loans are excluded.

These data indicate that mortgage lending at four times gross income is relatively common, at one-third of all new ADI housing loans. Lending at six times or more of gross income is much smaller but still material--nearly 10 per cent.

Although it is difficult to compare LTI levels across countries given differentials in tax rates and other aspects of the calculation, it is noteworthy that some countries have begun placing restrictions on lending at higher LTI levels. For example, the Bank of England recently imposed a limit on the share of mortgage loans above 4.5 times income. APRA supervisors will continue to monitor the trend in higher LTI lending closely, and are encouraging ADIs to use loan-to-income type metrics in their own internal risk management.

The most recent element of our program to intensify APRA’s supervisory oversight of mortgage lending is a series of deep dives into ADIs’ methodologies to calculate the borrower’s capacity to repay. This work has allowed us to benchmark lending standards more directly, rather than relying on indirect proxies. This approach was previously presented in a speech by APRA’s Chairman last year.⁴ I will give an overview and an update on this work.

⁴ Wayne Byres, ‘Sound lending standards and adequate capital: preconditions for long-term success’, speech given to COBA CEO & Director Forum, 13 May 2015.

Serviceability is essentially the calculation of whether a borrower can afford the repayments on a loan, after other expenses and income are taken into account. This assessment of loan serviceability is not only a legal obligation for lenders under responsible lending rules; it is also an important, prudent risk management practice. Most banks calculate serviceability on a loan application by aggregating all sources of income (including rent on properties the borrower owns) and subtracting living expenses, interest and principal payments on the new debt and servicing costs of any other debt the borrower may have. The resulting number is called the net income surplus, or NIS. For most banks, the crux of the lending decision is whether or not the NIS is positive (although some add additional buffers). This is a simplification, as clearly banks also take into account qualitative factors including whether the borrower is an established customer or not, any past default history, industry of employment and location of the collateral.

To better understand how these NIS assessments work in practice, APRA asked the larger banks to provide serviceability assessments for four hypothetical borrowers that we invented (two owner-occupiers, and two investors). We provided basic information on each borrower. This included family size and income, broken down by type of income, the loan size and type requested, any other debt including credit card limits. For example, we had one borrower who was an owner-occupier, married with two children, earning \$145,000 PAYG and applying for a 30-year amortising loan of \$650,000. We had another borrower applying for an interest-only loan of \$350,000 for an investment property, with existing debt of \$350,000 plus credit cards, and significant bonus and rental income. We asked each ADI to provide the maximum loan they would offer each borrower, along with the details of the NIS calculation.

This sort of benchmarking can be done by lenders, and in fact there have been industry efforts in this direction. APRA has some advantages in our ability to ensure consistent reporting and to provide feedback on better practices we have observed.

We used the results of this exercise to provide several rounds of very detailed feedback to ADIs last year on areas of their serviceability methodology APRA expected to see strengthened. Our objective was not to eradicate differences in risk appetite or the ability to offer competitive terms. In fact, many ADIs have supported the concept of minimum expectations. For individual ADIs, there has been no first-mover advantage to tightening their policies, and they have pressed us for consistency not just in expectations but in timing of implementation.

Before I go into the detail of our most recent exercise, we should acknowledge that these types of hypothetical exercises have inherent drawbacks for supervisory purposes. They are based on stylised borrower information that can never replicate actual information that would be available to an ADI on say, an existing bank customer. There is no reference to credit checks or past default history. And in practice, lending officers have authority to approve or reject loans that might, on paper, meet the serviceability calculations; our study abstracts from any such exercise of judgement or the practical realities of a lending operation.

Nevertheless, we found this approach to be quite insightful, because it allowed us, for the first time, to benchmark lending policies (which I noted earlier are hard to measure directly) in a consistent way, to identify drivers of inconsistencies and highlight outliers and poorer practices. Short of a true 'mystery shopping' exercise, it has given us the clearest window into how lending standards can change across the cycle.

APRA conducted the first exercise as of end-2014 with 17 ADIs, and recently repeated the exercise as of end-September 2015 with the same group, expecting to see changes in lending policies. So I will now to review some of the detailed findings, and the impact of our efforts to ensure sound lending practices.

The results of the first exercise showed that it was not uncommon to find the most generous ADI was prepared to lend 50 per cent more than the most conservative. We found this disparity was particularly the case for our hypothetical investor borrowers. Even for owner-occupiers, however, we saw ADIs willing to lend at levels ranging from 5x to 6.5x gross income. This was surprising since, with mortgage comparison sites and on-line calculators now readily available

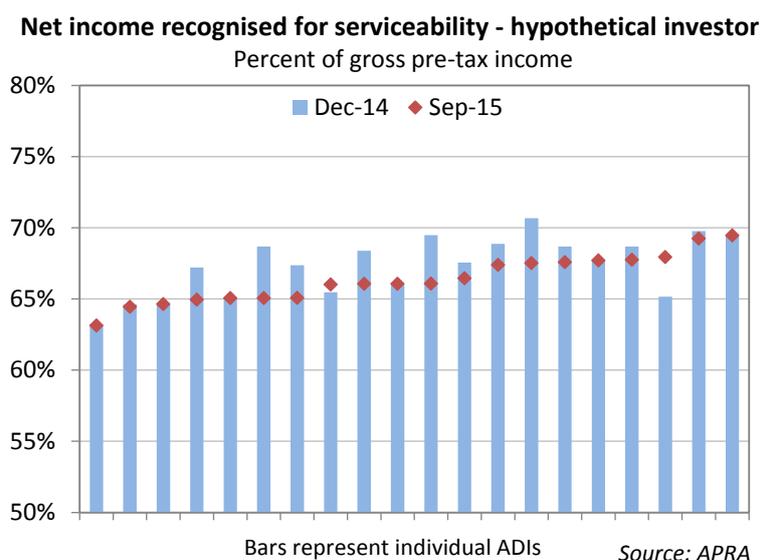
and mortgage insurers providing some oversight, one might expect to see reasonable consistency in how loan applicants are assessed.

In the following charts, the bars represent individual ADIs (or in some cases distinct ADI lending brands). The blue bars show the results from the 2014 exercise, while the red dots show the 2015 results for the same lender. Each chart is sorted with the most conservative (as at September 2015) lender for that particular component on the left and the least conservative on the right. Our analysis of the results focused primarily on ADIs' assessment of income, expenses, and the calculation of debt servicing.

On the income side, the largest difference we saw across ADIs was the discounting or 'haircut' applied to non-PAYG income, including rental income on investment properties. Wage and salary income is typically given full value, but other less certain sources are generally subject to haircuts.

At the time of the first exercise in late 2014, some ADIs were applying no haircut (i.e. accepting these income sources at face value) whereas others were applying discounts of 20 per cent or more to reflect uncertainty and other costs. In the case of rental income, bearing in mind the cost of real estate fees, strata fees, rates and maintenance, not to mention periods of vacancy, the 20 per cent norm that we observed did not seem particularly conservative. All ADIs are now applying at least minimum haircuts on uncertain income sources, and some have gone further to apply larger discounts to rental or other income. Figure 4, showing the net allowable income relative to total gross income, illustrates that there is still some variation in discounting of income for NIS purposes across ADIs, but overall the approaches are more conservative than in the first survey.

Figure 4



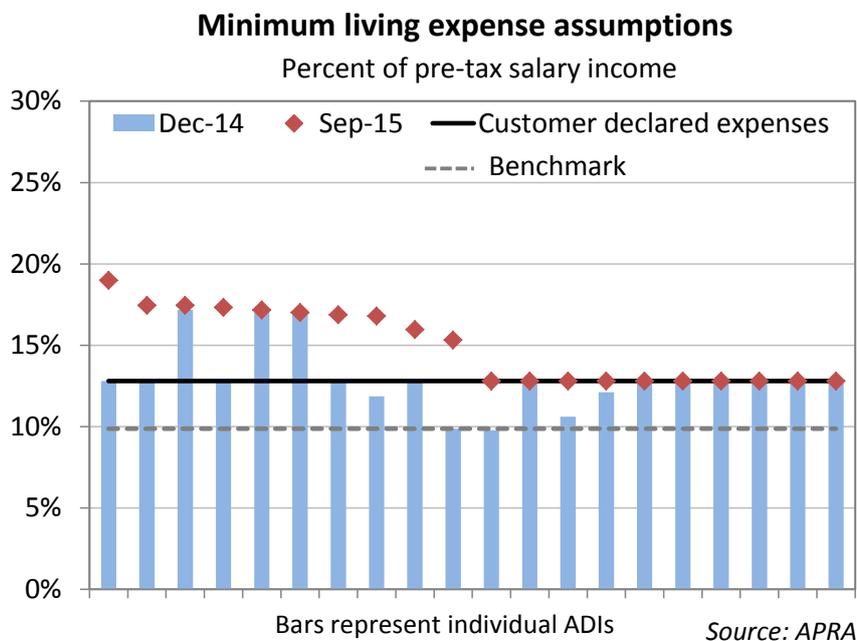
Some ADIs also include anticipated future tax benefits from negative gearing on a rental property in the calculation of allowable income. We did see a few ADIs applying more aggressive interpretations in this regard, where negative gearing tax benefits increased the possible loan size for one of our hypothetical investor borrowers by up to 10 per cent. More prudent practice is not to rely on negative gearing to get a borrower over the line.

On the expense side, the major differences across ADIs seen in the original exercise related to whether the ADI used a benchmark living expenses measures, such as the Household Expenditure Measure (HEM), the customer's own reported expenses, or a more targeted calculation of the

benchmark.⁵ Most people have a hard time actually estimating their own living expenses, so the customer-declared figure may not be particularly accurate. However, the basic benchmark measures are also simplistic; scaling expense assumptions to the borrower’s income level (and potentially other factors including geography) is a more realistic and prudent approach.

Figure 5 shows the increase in expense assumptions in many of the ADIs; about half of the ADIs in our exercise were still using the basic HEM, but others have moved to implement more sophisticated approaches or are in the process of doing so. At a minimum, all ADIs now reflect the customer’s declared living expenses where these are higher than the benchmark.

Figure 5



Estimation of interest and debt repayment costs is the other key area where practices differ across ADIs. In this respect, I will focus on the interest-rate applied in the assessment, as well as other parameters such as the assumed amortisation term.

Given the predominance of variable-rate loans in Australia, it has been standard practice to add a buffer (or impose a minimum floor rate, or both) in the serviceability calculation. This aspect is critical because it takes into account the possibility that interest rates could rise over the life of the loan.

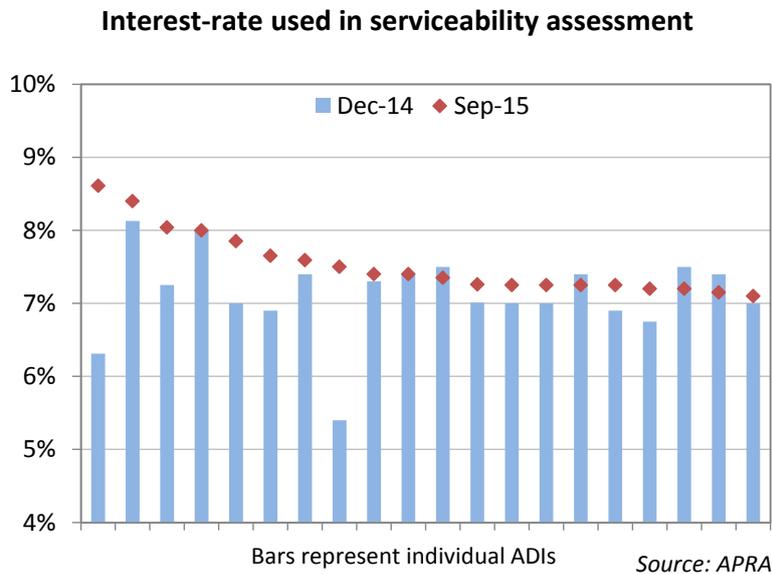
In APRA’s letter to all ADIs in December 2014, we expressed an expectation that interest-rate buffers used are at least 2 per cent above the loan rate, with a floor of 7 per cent. This expectation was based on a view is that serviceability needs to be tested at interest-rates on a ‘through the cycle’ basis; that is, assuming interest-rates could at some point in a 30-year loan normalise to more historical average levels. It is easy to forget that as recently as 2011, mortgage interest-rates were above 7 per cent. Using both a buffer (to cover shifts relative to actual rates) and a floor (to provide a minimum benchmark) is good practice.

The interest-rate buffer has probably been an easy target for competitive pressures. Prior to APRA’s close examination, interest-rate buffers were often in the range of 1-2 per cent. The minimum floor, if there was one, was often in the range of 6-7 per cent. Some ADIs had either a buffer or a floor, but not both. Some applied the buffer to the new loan, but not to existing loans.

⁵ The HEM is produced by the University of Melbourne. See: www.melbourneinstitute.com/miaesr/publications/indicators/hem.html.

Figure 6 shows the change in the minimum (floor) assessment rate between the 2014 and 2015 exercises. All ADIs in our exercise have brought their assessment rates up to at least 7 per cent, and most are above this level.

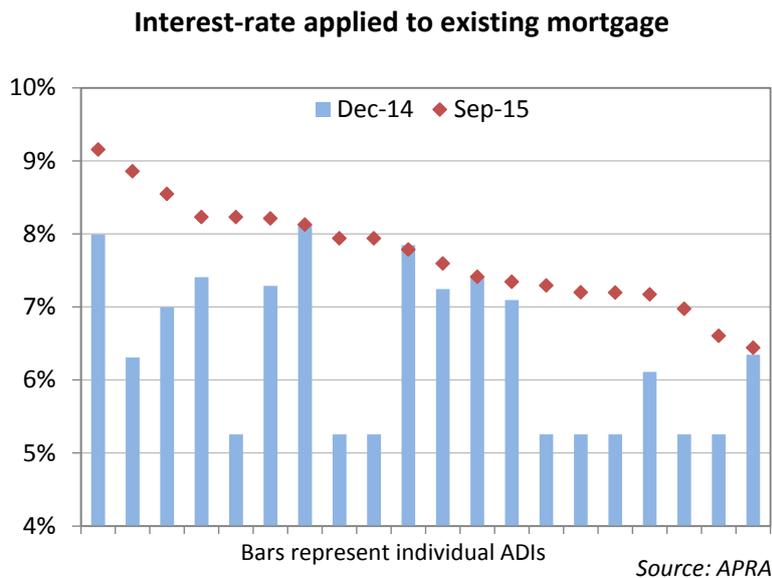
Figure 6



In a few instances, some ADIs that already applied relatively higher floor rates have in fact, lowered these to stay ‘in the pack’, or to counteract tighter policies elsewhere in their approach. This illustrates the finely balanced nature of the serviceability calculation, where small changes in parameters can lead to appreciable differences in how each ADI perceives its own competitiveness.

The treatment of the borrower’s existing debt also has a material impact on the overall NIS outcome. Many borrowers have existing mortgages on other properties. Failing to stress the interest-rate on those loans is not particularly sensible and undermines the prudent serviceability assessment. We found that some lenders were not doing this at all, or were applying a lower stressed rate than they were to the new loan.

Figure 7



In practice, it is not entirely straightforward to apply an interest-rate buffer to existing debt without full information on the terms of those loans. Many ADIs do not have application processes and systems that are set up to capture all of a borrower's outstanding loans and the rate, term and repayment schedule, and ADIs are concerned that doing so could slow down the approval process. However, reasonably prudent proxies can be devised, and in the longer-term we would expect ADIs to enhance their systems and processes to capture more complete information on prospective borrowers' other debt.

The next chart shows the interest rate used in the serviceability assessment for an existing mortgage commitment. Here, the changes from APRA's first exercise to our second one are even more striking. There remains considerable dispersion in the rate applied for this hypothetical investor, which results from the different methodologies used by different ADIs.

Another area that our investigations have highlighted is the extent of interest-only lending. Interest-only lending, particularly among owner-occupiers, has become considerably more commonplace in the last few years. This may be due to products that offer flexibility in repayment options (such as offset accounts) and interest-rates (split fixed/floating-rate loans). Our serviceability investigations confirmed that prudent lending criteria applied by ADIs to interest-only loans do in fact reflect the borrower's capacity to service the repayments including the principal amortisation. However, the hypothetical borrower exercise showed that some ADIs were not reflecting amortisation over the shortened repayment term; we have since clarified expectations in this regard.

In its recent review of interest-only lending, ASIC has indicated that an interest-only term of more than five years for an owner-occupier could be at risk of non-compliance with responsible lending obligations unless there is clear demonstration of the borrower's objectives in taking out such a loan.⁶ APRA supervisors have also queried ADIs as to the rationale for lending to owner-occupiers at lengthy interest-only terms. More recently, some ADIs have recently moved to implement more prudent maximum interest-only periods, with five years now being more common, although a number of ADIs still offer interest-only periods up to 10 years.

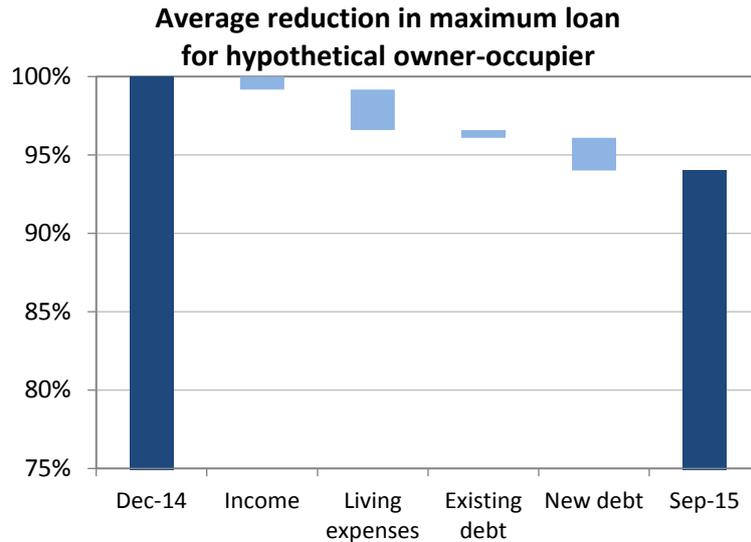
In summary, the hypothetical borrower exercise illustrated a material tightening of lending standards that we believe is appropriate and reflects more sensible risk assessment practices. Between 2014 and 2015, the maximum loan sizes that could have been extended to our four hypothetical borrowers declined by, on average, around 12 per cent for investors and 6 per cent for owner-occupiers. The actual change for individual ADIs was greater, up to 25 per cent in some cases. This should not be interpreted as an indication that actual loan sizes are shrinking, however, only that the maximum allowable loan for a given borrower income profile is now more conservative.

The next two charts illustrate the key drivers of this result. For owner-occupiers, the largest impact has come from the use of more realistic estimates of living expenses. For investors, interest-rate buffers that ADIs now apply more consistently to the borrower's other debts are most significant. I should mention that there are also changes to standards at some ADIs that are yet to be implemented, due to systems constraints or other hurdles, so these results will continue to evolve and we will most likely conduct additional exercises in the future.

These changes reflect the policies of each lender, but it is always possible that practice may be divergent from policy. Lenders generally allow some scope for the standard credit criteria to be overridden by experienced lending staff. APRA would clearly be concerned if these tighter policies were being undermined in practice to any material degree.

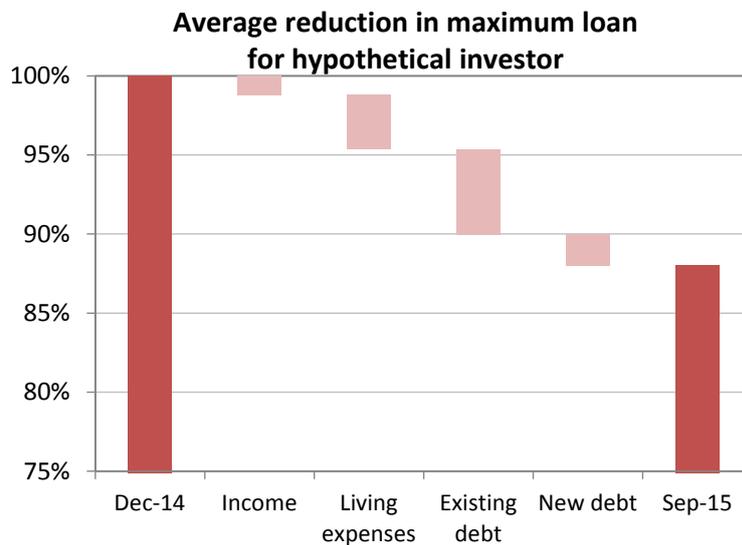
⁶ Australian Securities and Investments Commission, *Review of interest-only home loans*, August 2015.

Figure 8



Source: APRA

Figure 9



Source: APRA

As a result, we are taking a hard look at loans approved outside serviceability policy. Many loans are approved or declined based on automated criteria. In some cases, however, an application might be referred for a manual decision because it marginally fails a serviceability test. The loan might ultimately be approved by a lending officer with appropriate delegation if there is other evidence that the borrower can service the loan—this might be, for example, because there is other income that was not captured in the decisioning tool, the borrower is on maternity leave with temporarily lower income, or for bridging finance. However, there is also the potential for weaker loans being approved, and in our view ADIs need to have good oversight and monitoring of these approvals. APRA data shows a recent uptick in loans approved outside serviceability; anecdotal evidence indicates much of this relates to loans in the pipeline that were pre-approved under older, looser criteria now being settled. So we expect to see this volume taper off.

To conclude, APRA’s deep dive into lending standards has accompanied a significant change of practice by ADIs throughout 2015. ADIs have made tangible progress in meeting APRA’s expectations in this area, although there is still further work to be done. Debt serviceability assessments are now both more prudent and more consistent across ADIs than they were in recent times. We are now considering how to embed the learnings from this process into APRA’s

prudential framework, so that we can rely more on lenders to enforce prudent standards even in the face of competitive pressures and the push and pull that characterise lending cycles.

As long as housing lending remains such an important element of our financial system, you can expect to see APRA continuing to probe and challenge regulated lenders. And as the market evolves, our approach will probably evolve as well.