

**From:** David Mayes s9(2)(a) privacy  
**Sent:** Wednesday, 16 August 2017 1:25 p.m.  
**To:** macroprudential  
**Subject:** Serviceability restrictions submission

I attach a few comments in response to the consultation paper. I am sorry there was not time for more as this is an important topic.

I hope you find them useful.

Please acknowledge safe receipt

Many thanks

David G Mayes

## SERVICEABILITY RESTRICTIONS AS A MACROPRUDENTIAL TOOL

### A RESPONSE TO THE CONSULTATION PAPER OF JUNE 2017 BY DAVID G MAYES<sup>1</sup>

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These comments are made in a personal capacity. They may be published in full.

#### Measuring serviceability

- 1 Serviceability is the most important concern for a lender and banks investigate all significant borrowers before advancing them funds to make sure that there is a plausible probability of them being able to make all projected payments in full and on time. Such checks include a review of current and projected sources of income, other commitments and expenditures, assets and other characteristics that are good indicators of both ability to pay and willingness to pay. Considerable research has gone into the effectiveness of these indicators as predictors and banks can use them with some confidence. An essential ingredient is that effective measures have a large number of dimensions that have to be taken together in forming a judgement.
- 2 In the United States the resulting scores (FICO) from one such calculation are used in the assessment of the quality of mortgage and other standardised loans. Relatively objective measures of loan quality are also required in other countries if mortgage loans are to be saleable or used as collateral at reasonable discount rates. FICO scores are compiled by independent agencies but some lenders prefer to use their own assessments, as independence does not entail accuracy and there is a degree to which people can organise their previous use of credit so as to maximise the score.
- 3 Clearly there are drawbacks to these scores as the experience of the US in the global financial crisis shows. If people lie about their financial circumstances, particularly if aided in doing so by mortgage agents then the scores will be overestimates of quality. Similarly if bank staff fudge the scores and do not check the sources of income, value of assets etc that have been declared, the system will not work very well. While it is not clear why a bank would want to deceive itself, if regulatory constraints and the costs of finance are dependent on these scores, there is a clear incentive to try to bump them up if the chances of discovery are relatively low - which is likely to be the case in normal times if the degree of manipulation is limited.
- 4 Thus if this serviceability information were available on a common basis across banks and the quality of the data was maintained by occasional random checks or other means of auditing then this could provide a basis for macroprudential tools. Indeed this would simply be a return to the past when much greater controls were placed on the ability to offer loans, either through direct regulation or through self-regulation in the case of building societies. However, then the reasons for such controls were micro-prudential and reasons being

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<sup>1</sup> I am currently Professor of Banking and Financial Institutions at the University of Auckland and have among other affiliations have been Advisor to the Board at the Bank of Finland, the Finnish central bank, and Chief Manager at the Reserve Bank of New Zealand. I have in the past advised many central banks and micro and macro-prudential regulators but I have no current relationship with any bank or banking system regulator. I have published widely on banking regulation and macroprudential topics and am currently in the final stages of putting together The Handbook on The Economics of Central Banking for Oxford University Press.

advanced now are not the same. The concern is not so much with individual bank risk management but that normal bank lending behaviour interacts with assets prices, particularly, house prices, to generate unnecessary harm and loss of long run living standards and income. Hence, trying to smooth the credit cycle beyond what micro-prudence would suggest is desirable. This inherently requires that the losses on the downside be greater than the gains on the upside. A point that is fundamental to the Consultation Paper and one I return to later.

### **Debt to income ratios**

- 5 The Consultation Paper, however, focuses on the debt to income ratio (DTI) as a measure of the serviceability of a loan. This is a very crude measure. First of all it varies with the level of income. The better off a person is the smaller the proportion of their income required to cover essential expenditure. While the level of 'essential expenditure' is to an extent income dependent, the cost of basic necessities is to quite some extent absolute and hence in using a DTI attention needs to be paid to the level of income as well. Similarly, other characteristics of the borrower are ignored such as other assets that can be realised in the case of difficulty or guarantees.
- 6 The question then is: 'are there better simple indicators that might be used instead?' If a good indicator could be derived then it might be reasonable to use it rather than trying to get a common multi-dimensional score agreed along FICO or related lines, which would be a complex and quite possibly expensive exercise.
- 7 As discussed in the Consultation Paper, a somewhat less crude but still uni-dimensional measure that is widely used is the funds that are available to meet debt servicing after all necessities and other unavoidable commitments are met. The example of 'net income surplus' is given. While the approach is general, each bank is using its own specific means of calculation and hence statistics across banks will not be strictly comparable. Furthermore, NIS can be a rather soft measure unless there are clear rules about what should be included. Borrowers have a clear incentive to make their income look as high as possible and banks have some means of verifying this from payment records. Thus the asset side of the calculation is likely to be complete or possibly overstated. However, the liabilities side is more uncertain. Other hidden debts and obligations, particularly within the family, are more difficult to uncover, although banks will have some indication from previous transaction records. Thus while NIS may be a more relevant measure, it too will not be an accurate indicator of the ability to service a loan and it is likely to be biased in favour of a greater capability than actually exists.
- 8 To an extent it might be possible to get round the drawbacks of the crudity of DTIs by using a 'speed limit' approach whereby any restriction on DTIs only applies to a proportion of lending, in the same way that loan to value ratios (LTVs) have been applied thus far in New Zealand. But how this might be calibrated is not an easy question to answer as it is not simply a matter of a risk appetite but the combination of poor measurement and risk appetite where the weights are not known.
- 9 In any case it is necessary to judge how much the instrument is being used to control asset prices and house prices in particular rather than reduce the vulnerability of banks to serviceability problems when the financial cycle turns down. While the calculations in the Consultation Paper are suggestive they do not make this distinction.

## The balance between avoiding booms and managing downturns

- 10 The reason for emphasising the distinction is that the policy implications are different. In first case, smoothing is the objective, in the second it is the ability to limit the costs of the downside when the housing market and the economy turn down. Much less emphasis has been put on the second in New Zealand than in most other advanced countries. Open Bank Resolution (OBR) is designed as a deterrent, both to limit risk taking and to encourage early private sector solutions for troubled banks. But if it does have to be applied it is expensive. It is particularly expensive because there is no deposit insurance in New Zealand and hence some of the direct impact of OBR is likely to fall on depositors and hence have a bigger effect on consumers than elsewhere. Secondly there are no deposit insurance or resolution funds that are available. Such funds, which need to be built up in good times, slow lending growth and then when they are utilised they reduce the impact on consumption and economic activity in the downturn.
- 11 There are other aspects where the New Zealand system does less than others to reduce the harm of downturns in financial cycles. There is no system in place for ameliorating the problems with mortgage defaults. There is no insurance through the public sector. There is no facility for sale by the banks to a corporation that could work through the problems and restructure mortgages. The reason behind much of this lack of safety net is moral hazard but this does not alter the fact that if the downturn occurs the costs are still higher in this framework and hence the emphasis in New Zealand on trying to smooth credit and asset price cycles has been on the up phase as illustrated by this Consultation Paper.
- 12 A further aspect of ameliorating the costs of the down phase, which is yet to be addressed in New Zealand but is being considered elsewhere, is the handling of non-performing loans (NPLs). The typical cycle with NPLs is to fail to recognise their actual or potential size as problems start to emerge. Secondly, insufficient provision is then made for such non-performance. Then when the problems emerge the bank faces twin difficulties. Any actual losses lead to a fall in capital ratios and a need to raise more capital just when it is most difficult in the market. Second, because of the pressure on capital the credit crunch will be much harsher, with the bank unable to resolve problem loans because of their immediate effect and unable to make new (profitable) loans. Tax and accounting incentives to make provisions for NPLs and to act early rather than allowing a credit crunch to build up will be helpful but the pro-cyclical problems of marking to market have to be taken into account.
- 13 Thus in seeking to look at what further macro-prudential tools ought to be introduced it is worth focusing more on the downside amelioration than simply considering adding to the armoury of tools that could restrict lending, particularly those like DTIs, which are crude and need to be tighter than optimal because they will be constraining loans that are serviceable in order to have sufficient impact on the loans that might become non-serviceable in the event of a downturn.

## The choice of measures

- 14 DTIs, LTVs and capital charges can be thought of as part of a continuum of restraints to encourage financial stability. DTIs discourage banks and borrowers from taking on commitments the borrowers may not be able (willing) to service. LTVs try to reduce the chance that in the event of default the loss falls on the bank rather than just on the

borrower, whereas capital charges seek to ensure that if the bank does nevertheless make losses that it can withstand these losses without a drastic impact on the supply of credit or indeed the need for resolution. This presupposes that borrowers are better able to bear losses than banks and that this contributes more to stability in the financial and real economy.

- 15 This is debatable. While DTIs are often cast as protecting the borrower they are protecting the bank from the temptation to overlend and hence seek to limit the amplitude of credit cycles. It is thus might be difficult to justify DTIs beyond the justification for general constraints to prudence by banks. The difference lies in the consequences for fluctuations in asset market prices. The more leveraged people are able to become then the greater the chance of default and major losses in the event of an economic downturn and the greater the consequences for the real economy from the spiral of default, asset sales, falling asset prices and hence further defaults. It is not clear how much DTIs add to the determination of which loans will default and the consequences these will have on the borrower's consumption and the extent of the loss given default for the banks and hence on their viability and the amplitude of the financial cycle. Thus DTIs are not a substitute for LVRs and capital charges. However, LVRs and Capital charges are in part a response to the lack of sufficient risk management of potential serviceability.

#### **Implications for the explicit questions in the Consultation Paper**

- 16 *Question 1* DTIs are an inaccurate means of assessing serviceability limits and consumption stress. In particular they do not focus on those with low incomes who will meet the serviceability constraints first. Using an average will overestimate the consumption stress.
- 17 *Question 2* Clearly there will always be marginal borrowers who will be the first to hit the serviceability constraint. The fact that DTIs already seem high in New Zealand compared to other countries suggests that the must be a particularly poor indicator here of serviceability limits. DTIs will be high because banks have assessed that the limits are not relevant to the probability of default. There are no obvious grounds for suggesting that banks in New Zealand are particularly incompetent at assessing these risks compared to those in other countries. However, there are also no grounds for suggesting that New Zealanders will be any less innovative than their counterparts elsewhere in managing to meet increased interest payments when they occur. There is no clear indication that it is the marginal DTI rather than marginal LVR which is the main source of likely problems in a downturn. Someone with negative equity is more likely to decide to default as a least they can get some of the problem written off. Similarly for the banks it is the LVR which contributes to the loss given default.
- 18 *Question 3* The implication of the previous discussion is first that more sophisticated measures of serviceability are preferable to DTIs or to other ratios which ignore the fact that there is a large absolute element in essential expenditure, which is not captured by the use of measures relative to incomes. Second, it is not at all clear that additional measures to limit the upside of financial cycles is the right priority. New Zealand has a lot fewer measures in place than other advanced countries to limit the costs of financial downturns and righting that balance through deposit insurance, deposit and resolution funds and measures to improve the management of non-performing loans would be better addressed first.

- 19 *Question 4* It follows from the crudeness of DTIs that they do not address the problem of serviceability well and hence both detailed information and monitoring will be required to make them work effectively unless the scope for discretion involved is sufficiently large to make the constraints largely ineffective
- 20 *Question 5* Having a speed limit to try to take account of the mismeasurement of the serviceability risk is clearly eminently sensible and necessary. The focus on low income/inexpensive homes however confuses social policy and financial stability. Those at the low end, desperately trying to get into the housing market and buying their first home, are likely to be the most stretched and are the most likely to default from the inability to service. Exceptions are most sensible for high incomes where the serviceability constraint is less likely to bite for any given DTI ratio. The problem for those at the low income/starter home part of the market needs to be addressed through having means of managing the cost not through encouraging them to take on a loan they cannot service when interest rates rise or their circumstances worsen.
- 21 *Question 6* no further comment
- 22 *Question 7* The potential costs and benefits are very speculative and model dependent. The analysis is correct in suggesting that at current calibrations the losses from restraining asset price and credit booms a little more are smaller than the losses incurred in enduring deeper downturns. However, the implication of my analysis is that more effort should therefore be put in to reducing the cost of downturns rather than simply reducing their frequency and amplitude through restraining the upturn. Just assessing the net benefits of one measure on its own is likely to come up with a favourable assessment. That does not mean it is the best choice to make. The analysis will only be valid for a policy choice in so far as it compares DTIs with other possible macro-prudential measures

### **Concluding remark**

- 23 The analysis here suggests that DTIs are not a good measure of serviceability but ensuring standards of serviceability is at the core of ensuring financial stability. There are better means of measuring serviceability. Not only should banks be encouraged to improve their methods but better statistics on the distribution of serviceability will be helpful for macro-prudential purposes. DTIs or related measures with speed limits rather than outright constraints are normal part of the macroprudential toolkit in extreme circumstances. However, New Zealand lacks other aspects of the toolkit used in other advanced countries, particularly those relating to ameliorating the costs of downturns and implementing those should be a much higher priority. This should start by implementing the tools that most other advanced countries think desirable and move on to participating in the new areas to which those countries are now considering such as the way to handle non-performing loans in a way that causes the minimum damage to financial stability.