

M E Jackson
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July 31, 2017

Attention: Head, Macro Financial Department
Reserve Bank of New Zealand
PO Box 2498
Wellington 6140

Email: macroprudential@rbnz.govt.nz

Dear Sir/Madam

Re: Serviceability Restrictions as a Potential Macroprudential Tool

I write on my own behalf, as a depositor in local banks, and do not represent any organisation, and seek your consideration of my comments on the Reserve Bank's [consultation paper](#) of June 8 2017.

The RBNZ seeks that market participants, such as depositors, inform themselves about the risks they face when entrusting their wealth with a bank. In seeking to do my part and understand the risk, I have concluded the banking system is vulnerable to self-induced financial crisis. The vulnerability is caused by a combination of insufficient capital and unsustainable lending practices, enabled by inadequate regulation. A depositor's exposure to this vulnerability is not substantially varied by his choice of a particular bank, the problem is of the whole banking system.

From this perspective, I welcome the RBNZ's DTI proposal, but unfortunately the RBNZ is saying that it would not implement a DTI limit "in the current market conditions". It is unfortunate because the recent trajectory of the ratio of incremental household debt to incremental household income (see *Figure 1*) clearly shows that the control parameters of the banking system are not working.

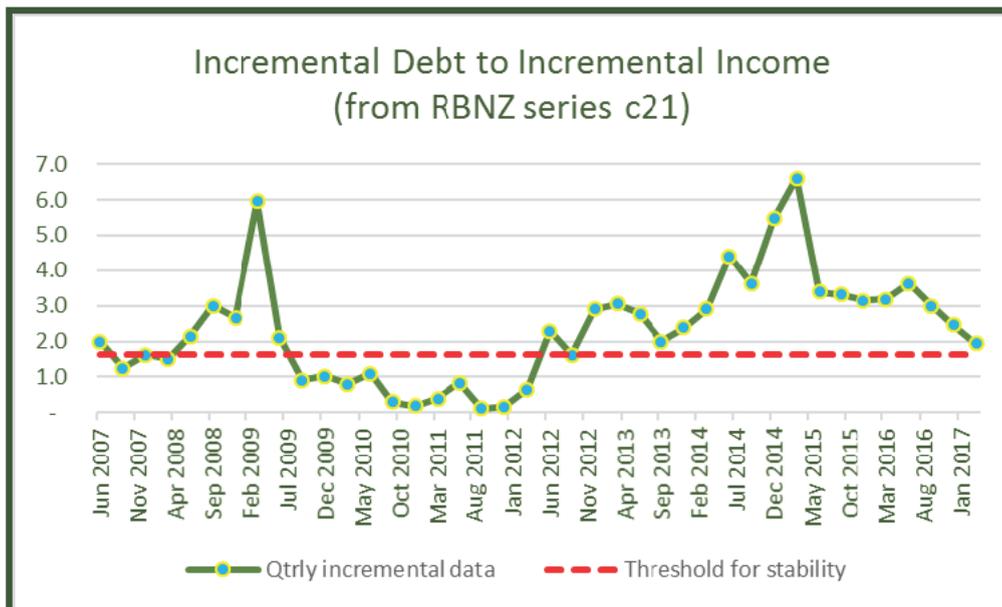


Figure 1
(See *Attachment A* for the basis of the "threshold for stability". Exceedance of this threshold indicates debt is being created that has neither sufficient equity nor income support)

DTI, LVR, and Bank Capital requirement are not independent

I note that, at more-or-less the same time as this consultation is being undertaken, another consultation is being undertaken by the RBNZ as to capital adequacy requirements. Please see **Attachment A** for my perspective as to the interrelationship between the financial system parameters that are important for financial soundness. You will see there the basis by which I submit that the system parameters of DTI limits, LVR limits, and bank capital cannot be considered independently of consideration of the other.

For instance, in the absence of permanent DTI and LVR limits, I determine that an increase in bank total capital ratio (Tier 1 plus Tier 2) of about 30% would be necessary to achieve financial stability, whereas financial stability could also be obtained with only the current levels of bank capital provided that there is a *permanent application* of the current LVR limits and a *permanent application* of the RBNZ's proposed limit of 5.

Given the current required level of bank capital, I provide in the accompanying *figure* alongside this paragraph my calculation of the necessary relationship between the LVR limit and the DTI limit to ensure financial stability.

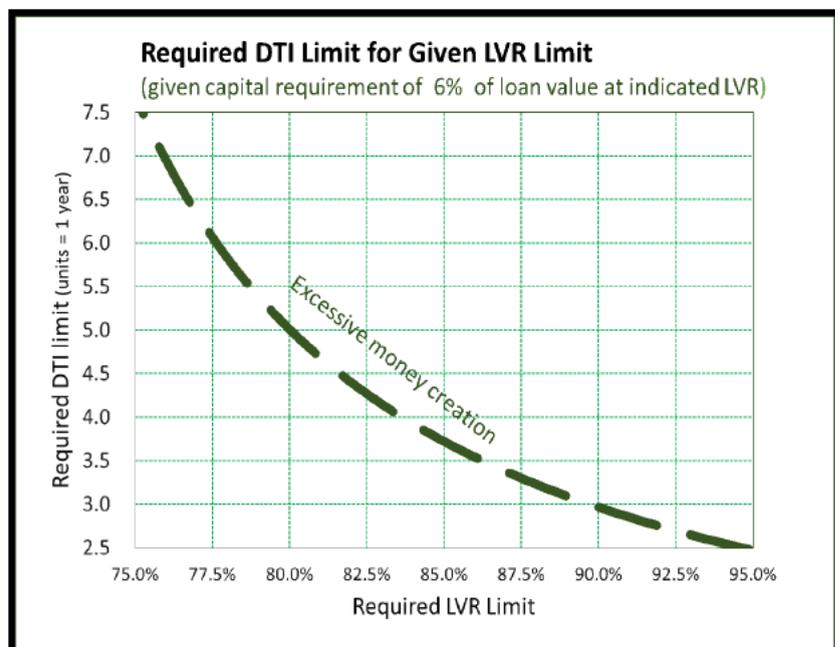
The most recently published ratio of household debt to household income is 1.671 (*Ref RBNZ C21*). This ratio is already in excess of the threshold ratio that I maintain is consistent with financial stability (of 1.618). This exceedance is a symptom that there is neither adequate

income support nor adequate equity support for the loans being written by banks (See Box A.3). Creating debt without adequate income or equity support creates serious imbalances in the financial system. From my perspective these imbalances are enabled by inadequate regulation and have been manifesting as: excessive debt (as illustrated in figure 1); ballooning house prices relative to income; a large rental property sector that is growing despite miniscule rental yields; and a high proportion of interest-only loans. Ultimately, these imbalances lead to financial instability or stagnation. I am of the view that it is inevitable that there will be difficult outcomes for New Zealand if capital and macroprudential parameters are not tuned for stability at the earliest opportunity.

Tenure of LVR and DTI limits

Unless the RBNZ is contemplating to increase bank capital requirements considerably, the DTI and LVR limits are necessary as permanent constraints. I set out my views as to why these limits should be permanent in **Attachment B**.

Figure 1 above shows how excess credit can be issued very quickly, before the central bank has time to measure the effect let alone react. The only way that household debt to income ratio can be controlled is for these macroprudential limits to be in place permanently. I ask that the RBNZ learns



from the hard-won experience of others such as the CBIE, and recognises that “macro-prudential tools need to be permanent features of the financial landscape”.

RBNZ’s Questions

I provide my responses to the RBNZ’s questions in **Attachment C**.

Summary

The [money creation](#) capacity of the banking system is one of the central causes of destabilizing financial cycles and financial crises. The extent of recent money creation by private banks in New Zealand has been vastly in excess of what could be supported by savings, equity, or income.

I support the *permanent* implementation of the proposed DTI limit, to be applied along with the current LVR limits, and submit that the RBNZ should implement it as soon as practicable, because:

- It will arrest the recent excessive growth in private debt and the concomitant unsustainable asset price increases (which in the case of New Zealand housing has resulted in a disconnection between house prices and underlying income);
- It is necessary for the bank to achieve its mandate to deploy prudential tools to promote the maintenance of a sound and efficient financial system;
- It will reduce the likelihood that bank lending at high debt-to-income ratios will undermine the credibility of the RBNZ’s monetary policy;
- It is more efficient than the alternative of further lowering LVR limit for owner occupiers (reducing below the current limit of 80%);
- It will reduce welfare costs of excess money creation, which I have estimated as being more than 2 percent of GDP each year to the cost of the holders of financial assets, that are not offset by benefits to New Zealand;
- It will incentivise domestic saving and attenuate unproductive domestic spending to prevent further deterioration in New Zealand’s NFL¹ position;
- It will preserve the value of bank depositors’ savings.

Thank you for the opportunity to make a submission. I hope the Reserve Bank will consider the interests of bank depositors in its future decisions and actions.

Yours faithfully

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¹ NFL = net foreign liabilities

Attachment A: Calculations on financial stability

Introduction

The calculations in this Attachment A summarise how I identify and quantify excess [money creation](#), and how that is linked to the magnitude of the overall debt to income ratio. They are based on the following “givens” as to how banks create money and its implications if done to excess:

- Banks fund new loans by creating new deposit money². That is, credit is not predicated on the availability of existing savings. In creating new money, banks provide borrowers new purchasing power that did not previously exist (See Attachment D);
- The money creation capacity of the banking system has the potential to cause financial instability and financial crises. To reduce financial risk, there should be no money creation in excess of: (a) what can be supported by asset equity, and (b) equity necessary to support the loan.

Box A.1: Collateral required to prevent Excess Money Creation

- Assumption: Loans are only raised if the asset buyer can provide as an amount of cash (“s”) that is a proportion of the asset value of 1;

| | Bank Loan against asset of value equal to 1 | Money created to support the bank loan | |
|---|---|--|--|
| By the requirement for collateral, the maximum loan that can be raised with equity of s | $(1 - s)$ | s | Limit money creation to the monetisation of the buyer's resultant net equity in the asset. |
| | | $s \times (1 - s)$ | Limit money creation to that needed to support the loan as equity |
| | | EMC $= (1 - s)^2 - s$ | Excess Money Creation (EMC), in excess of that necessary to support the loan |

- For financial stability, money creation per unit of income should be less than 1:

i.e. For $EMC < 0$, the money created per unit of income saved $\frac{(1-s)^2}{s} \leq 1$

On the basis of these assumptions, the minimum level of collateral to support an asset purchase should not be less than 0.382 of the value of the asset.

Box A.2 Relationship of DTI limit, LVR limit, and required bank capital for financial stability

Criterion for financial stability:

- To achieve financial stability at a system level, at loan origination for lending to housing, the loan needs to be supported by an adequate level of collateral (S_{min});

² This ability of an individual bank to create money by lending is constrained by its access to reserve assets. However, because the RBNZ commits itself to supply sufficient reserves via the payments system to keep the [OCR](#) as its target, if banks collectively want to expand credit, the payments system automatically meets the demand for reserves. This means that while a single bank on its own may be limited in its ability to create money as credit, the banking system as a whole is not. The perspectives in this Attachment A are looking at banking as a system rather than any individual bank.

- Assume suitable collateral can be not only in the form of savings from income held by the prospective purchaser, but assume also the following are treated as equivalents to such savings:

- Required bank equity capital;
- Equity equivalent implied by capping the debt-to-income ratio.

From the above assumptions, the criterion can be expressed as:

$$(1 - LTV) + LTV \times (BC + \frac{K}{(K+DTI)}) > Smin$$

Where:

LTV = LVR limit on lending required by the RBNZ;

BC = Bank Capital requirement when lending at the LVR limit (as percentage of bank assets);

DTI = DTI limit on lending;

Smin = the minimum collateral required to support an asset purchase (This minimum collateral is equal to 0.382 given the objective is to avoid money creation at rates greater than is supported by income growth in the economy).

K = 1, a constant representing the unit of time over which income is measured (here, the unit is equal to 1 year)

For example, if:

Given *Smin* = 0.382

LVR limit = 80% (as currently applied to owner occupiers)

BC = 6.0% (e.g. from risk weighting of 75% for lending at the LVR limit of 80%)

Then *DTI* needs to be about 5 (as proposed by the RBNZ)

Note that, by this analysis, in the absence of permanent macroprudential LVR and DTI limits, and where banks in NZ have demonstrated their willingness to lend at [DTIs of 9 to 12](#), bank capital needs to increase to 30% to prevent financial instability (consistent with recommendations by analysts such as [Admati](#)).

Box A.3 The “Threshold of Financial Stability”

In order for debt to income to be kept to a limit, the rate of growth of debt (*D*) must be less than the rate of growth of income (*Y*).

$$\frac{\delta D}{D} \leq \frac{\delta Y}{Y}$$

This means that, at the margin of lending, the rate of change of debt to change in income must be less than the ratio of debt to income:

$$\frac{\delta D}{\delta Y} \leq \frac{D}{Y}$$

From above Box A.1, if a minimum equity backing is required for debt (*Smin*), and if debt can only increase following an increase in overall income, then the rate of change debt to a change in income is limited to:

$$\frac{\delta D}{\delta Y} = \frac{(1-Smin)}{Smin}$$

Given the minimum collateral for stability is 0.382, then if it is applied, the associated threshold of the debt to income ratio is therefore 1.618 (“threshold for financial stability”). The extent to which this ratio is exceeded enables an estimation of the equity or collateral that is being applied to support loans, and that estimate enables the extent of excess money creation to be quantified.

Attachment B: Why LVR and DTI limits should be permanent

Box B.1: The macroprudential tools of LVR and DTI limits are simply the codification of “*prudent norms*” and should not interfere with the fundamentals of the housing market. Thus there should be no inefficiency caused by their permanent establishment. As the Central Bank of Ireland has stated in relation to their implementation of macroprudential rules:

- *“As long as changes in house prices are motivated by fundamentals – genuine demand for housing – the rules should have little effect. But if the housing market has become speculative, where credit and house prices grow partly based on expectations of further house price increases, the rules will have a significant effect. The reason is that, at that stage, buyers’ incomes will neither pass the loan-to-income rule, nor will they support sufficient savings to accumulate future deposits. Hence, the (irrational) expectation of ever-increasing prices is thwarted, and credit and house price growth will revert to a sustainable path. Hence, macroprudential regulation, by putting **prudent norms** in the credit market on a legislative footing, can counteract financial bubbles **without significant side effects in normal times.**”*
- *“One thing is clear – allowing lending and prices to spiral off again is not a solution, and would be a betrayal to the next generation of Irish home buyers. Ideally, banks and mortgage brokers should be capable of upholding prudent credit standards on their own. But experience in Ireland and many other countries has shown they are not. Higher deposit requirements slow individual households entry into the property market, but for borrowers collectively they are beneficial, as they prevent us from overbidding each other with ever-increasing amounts of borrowed money.”*
- *“Episodes of financial instability are very difficult to predict. Macro-prudential tools therefore need to be permanent features of the financial landscape”.*

I submit that overseas experience shows that the RBNZ’s approach of discretionary application of macroprudential constraints is not consistent with its mandate under the RBNZA (1989) to deploy prudential tools for the purpose of promoting financial system soundness and efficiency. The RBNZ seems to have achieved some improvement with the current LVR limits, but is clear from the rates of debt growth shown in *figure 1* (in the cover letter) that those constraints should have been in place in 2012.

New Zealand is now in the fifth year of a housing crisis fueled by [easy credit](#), and the RBNZ is still only talking about the possibility of a DTI constraint. Moreover, the RBNZ has not yet applied the countercyclical buffer despite high rates of debt growth over the last five years.

The Central Bank of Ireland has warned from its experience in relation to implementation of macroprudential tools, “*the worst policy mistake is to delay implementation too long, until loan levels and house prices have reached unsustainable levels. As we know all too well in Ireland, at that stage no policy option is appealing*”. With houseprice-to-income ratios in Auckland now greater than 10, house prices there have been beyond sustainable levels for some years³.

The BIS also emphasises that: “*Costs of a mistimed activation are asymmetric, as delayed action is generally more costly than a premature intervention.*”

The RBNZ itself has previously [expressed](#) similar aspirations:

- *“The ‘smoke detector’ or ‘macro-prudential’ role emphasises that the central bank has a*

³Given prudent norms of lending such as an LVR of 80% and a DTI ratio of 5.2, a sustainable level of price-to-income for houses is more like 6.5 (=5.2/0.80)

fundamental responsibility to act before the first flames of financial crisis appear”;

- *“It also requires the willingness and capacity to act before those first signs of financial fragility develop into a fully-fledged financial crisis”*

The RBNZ has not succeeded in meeting its own objectives as regards pro-active implementation, this is because it is now clear that the time-lag for implementation of measures is very much longer than the time necessary for control (the time necessary for control is a matter of months not years). Obviously, there is zero lead time available for prevention.

In the absence of the RBNZ being willing to increase capital requirements of banks to the levels recommended by [Admati et al](#) (of 30%), it must be recognised that permanent DTI and LVR limits are essential for prudent management of the banking system. These limits are not asymmetric in their effect, there is never a time when lending in exceedance of *prudent norms* is appropriate. The alternative to requiring banks to adhere to these prudent credit standards is to tolerate high financial stability risk, and/or economic stagnation, and/or continued wealth transfer from savers and the RBNZ to private banks and property speculators.

Attachment C: Responses to RBNZ's Questions

Q1: Do you have any comments on the evidence that high DTI borrowers are more susceptible to mortgage default and consumption stress?

I have no difficulty with the evidence offered. It should now be well accepted following the GFC that increases in credit availability (relative to income) during house price booms results in considerable economic damage during the inevitable downturn after a boom. The risk of this is very high in New Zealand because of the extremely low elasticity of supply for housing.

I am concerned that mortgage payment stress on investors in residential rental property with high DTI can also be manifested as failure to maintain the rental property to an adequate standard. While there may be no failure to meet mortgage payments, the health and well-being of tenants can suffer, leading to high expenses to the state in respect of health (e.g. illnesses are exacerbated, the educational progress of children suffers setbacks, etc). I therefore believe it should be a priority to apply DTI limits to property "investors". I therefore welcome the RBNZ's proposal to apply the DTI limit to investors. The propensity of the property rental sector to borrow incautiously must be constrained.

Are there other relevant studies, or other relevant channels through which a DTI policy would influence financial stability?

For reasons outlined in the body of this submission, DTI is a tool that should work alongside the other macroprudential tools, being LVR limits and bank capital, to prevent excess debt growth and maintain financial stability. The choice not to put in place a permanent DTI limit simply means that bank capital and LVR limits have to be made more constraining than otherwise to prevent excess credit growth and ensure financial stability. This is unlikely to be the optimum result.

That is, if the DTI is not implemented then either the LVR limit will need to be lowered further, or bank capital requirements will need to be substantially increased.

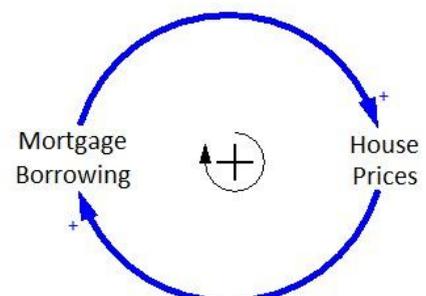
Q2: Do you agree that the current levels of debt (relative to income) that some borrowers are able to borrow risk putting them under pressure, especially if interest rates rise?

Yes, the reported level of lending (debt relative to income) provided by banks is alarming and should be of great concern to depositors whose funds are being applied in this way. It is very clear that high-DTI borrowers will be under considerable pressure if interest rates are allowed to rise.

I am concerned as a depositor that the RBNZ will not allow interest rates to rise when they need to because the RBNZ may want to protect those high DTI borrowers so as to prevent the trouble that will be caused when they default. It is for this reason that high DTI lending should never be allowed, except perhaps to *de minimis* levels (perhaps for a limited proportion of FHBs). In short, a tolerance of high DTI lending undermines the credibility of the RBNZ's monetary policy because with high housing debt the RBNZ will be seen as being in fear of igniting the housing "[powder keg](#)".

Why are the DTIs achievable in New Zealand apparently higher than in other markets like the UK?

Higher DTIs are achievable in New Zealand only because of the evident lax and unbridled lending by New Zealand banks. This goes along with the apparent willingness of borrowers, particularly in the property rental sector, to borrow recklessly while relying on future capital gains to rationalise their "investment". The speculators' reliance on capital gains is not irrational, because institutional support for such speculation



exists not only in the tax system, but also in the current macroprudential and bank capital requirements that enable and incentivise excess debt growth. Mortgage borrowing feeds a positive feedback loop that generates even higher house prices. Speculation with easy credit has been a very profitable feedback loop for some, albeit dangerous for New Zealand.

Banks have the power of creating money and, as was once normal practice by banks earlier last century, bankers should exercise that power within the strict limits of sound banking policy. However, it is very apparent banks no longer uphold prudent lending standards, their incentives for transgression are far too strong and current regulatory controls are weak. The RBNZ's paper on page 12, referring to Coleman's analysis from 2007, clearly outlines how banking policy has become increasingly lax over the last three decades. *Figure 1* in the cover letter is indicative of just how lax their standards have become in their propensity to issue [easy credit](#).

Given the huge incentives for pushing the boundaries of risky lending, it is essential for the soundness and efficiency of the financial system that the bank managers are prevented from pursuing these incentives. Despite the experience of the GFC, New Zealand's banking institutions have demonstrated once again they are happy to pursue risky loans, putting at risk the financial stability of the New Zealand economy in so doing. It is clear that the banks internal risk management criteria and systems are woefully ineffective from a system stability perspective. As the RBNZ said in the paper: "*bank incentives lead them to take decisions that result in outcomes that are not aligned to the interests of wider society*", and "*a bank may have limited reason to assess or internalise the marginal increase in system wide risk ahead of its more immediate concerns such as market share and profitability.*"

New Zealand needs quantifiable enforceable constraints, such as DTI and LVR limits, that assure depositors that managers of banking institutions cannot be successful in pursuing the huge incentives to make risky loans.

In summary: New Zealand is not different, it has not achieved high DTIs without negative consequences, many of which are now apparent, and some have yet to arrive though there is no doubt they will. Macroprudential limits are an essential complement to capital requirements because:

- They prevent banks from competing on the basis of increasing the risk of their lending;
- They prevent parties competing to buy assets on the basis of their willingness to ignore the risk of their borrowing.

Q3: Do you agree with our assessment of other possible policies that are under the Reserve Bank's control, or do you think one or more of them could be preferable to DTI limits?

I have described in the cover letter the basis for my view that bank capital, LVR limits, and DTI limits should all be implemented and tuned together to obtain the optimal result. As the RBNZ has said, it makes little sense to further lower LVR limits when DTI is unconstrained. Nevertheless, as explained in this submission, if DTI is unconstrained, then LVR limits needs to be further lowered to achieve financial stability. I have also shown that, if there are no permanent DTI and LVR limits, then bank capital should be increased to about 30 percent of bank assets.

Disclosure of Lending Standards

Contrary to the RBNZ's assessment, it would be helpful for depositors to have access to the lending standards of banks in order to assist in the depositors' assessments of the risk to which their funds are being exposed. The RBNZ need not monitor or regulate these standards at all, other than to require that the bank's directors attest that the disclosed standards are complete and are the true standards to which the bank operates. However, such disclosure would not substitute for adequate settings of LVR limits, DTI limits, and bank capital.

Are there other policy options under the Reserve Bank’s control that we haven’t listed that could be relevant?

Specified Minimum Proportion of Collateral as Cash

Many bank loans for the purchase of rental properties are raised with equity attributed to houses already owned by the housing “investor”. This can result in the “investor” contributing no money savings to the asset purchase even though he might have the requisite 40% equity in the form of property value. Incentives for borrowing in this way are strong, but could be reduced if the “investor” is required to provide some of the required equity as cash. This approach has already been [applied by the Monetary Authority of Singapore](#) (see extract of MAS requirements in the adjacent box).

By similar analysis, an owner occupier seeking to borrow against the value of his home (e.g. for its renovation) should have a lower LVR limit than a prospective homebuyer that applies money as equity.

| | | |
|---|---|---|
| (B) Buyers taking out a loan from a bank and with 1 other outstanding housing loan, whether on HDB flat or private property. | | |
| HDB flat <ul style="list-style-type: none"> • Loan tenure does not exceed 25 years; and • Sum of loan tenure and age of borrower at the time of applying for the loan does not extend beyond retirement age of 65 years. | 50% of purchase price or market valuation, whichever is lower | First 25% strictly cash only. Next 25% cash and / or CPF |
| Private property <ul style="list-style-type: none"> • Loan tenure does not exceed 30 years; and • Sum of loan tenure and age of borrower at the time of applying for the loan does not extend beyond retirement age of 65 years. | | |

Adjust BS13 Parameters of Core Funding

In calculation of the core funding dollar amount, in relation to non-market funding that has a residual maturity less than a year, the percentages to be applied (set out in Table 2 of [BS13](#)) to such funding could be reduced to a maximum of 50 percent (from the current maximum of 90 percent). In this way, a significant proportion (at last 38%) any incremental deposits created by lending would need to be converted to longer term lending by depositors before it could be applied to new lending by the banks.

Q4: If a DTI policy was used, what would be the challenges and issues that could arise in the detailed rules and (for lenders and the Reserve Bank) monitoring compliance with the policy?

The main challenges would seem to be in preventing *application fraud* that can be perpetrated by bank customers and mortgage brokers, and *accounting control fraud* perpetrated by bank managers..

The investigation of such frauds will be important to have confidence in the declared level of debt and income that are specified in mortgage applications. However, improvement of investigation into these frauds is required independent of any DTI implementation.

Q5: Do you agree that a DTI policy (if implemented) should be broadly as described above (a speed limit, with similar exemptions to the LVR policy)?

A speed limit is a pragmatic means to allow the banks a means to address special cases. However the speed limit proposed is too wide.

To provide a “speed limit” tolerance of 20% for the proposed DTI limit, the effective DTI limit would be

about 6.4 (e.g. when applied to calculations such as those in Attachment A.2). If the tolerance were reduced to 5%, the effective DTI limit would reduce to about 5.4. In short, creating tolerances means that the specified limits have to be tighter than otherwise for those whom the tolerance does not apply.

I support similar exemptions as have been applied to the LVR policy, because constraints to new house-building must be minimised, even to the extent of some small incremental risk to financial stability.

Please refer to Attachment B about the proposed intermittent or temporary use of DTI limits . In short however, it is disturbing that the RBNZ plans to implement the DTI limit “*only when the risks are clearly apparent*”. This is worrying because when the risk is apparent it will be too late for effective implementation. I consider that imbalances must be prevented, mainly because they cannot be resolved easily once formed;- and this means permanent application of constraints. As the CBIE has said: “*the worst policy mistake is to delay implementation too long*”.

Are there other design options or additional exemptions (besides the suggestion described above for relatively inexpensive owner occupied homes) that would be worth considering?

The suggested additional exemptions should not be considered, except perhaps if there are political constraints or interference preventing the RBNZ from properly fulfilling its mandate under the RBNZA(1989) .

Q6: Do you agree with our assessment of the impacts of a DTI policy as described on the housing market – in particular, that it would not materially affect construction, and would if anything tend to increase the homeownership rate?

Yes, I agree with these assessments.

Are there other potential consequences of the policy for the housing market that we have not discussed?)

Yes, there are at least two additional benefits, including:

- The incentives for holding interest-only loans would be reduced, which would have significant economic benefits given their alarmingly high use in New Zealand as they represent a very inefficient use of capital;
- The tax-shield subsidy (known as negative gearing) for rental property owners, that is enabled by high DTI lending, would be reduced. The reduction of the negative gearing subsidy would allow tax to be redirected for more productive purposes in the economy.

Q7: Please comment on the Reserve Bank’s analysis of the potential costs and benefits of a DTI policy.

The RBNZ’s analysis is difficult to appreciate because it is not clear what the assumptions are with respect to whether the current LVR limits are retained in place or not, or whether bank capital requirements are improved or not.

The RBNZ has indicated that it believes there is a GDP loss associated with a reduction in debt creation when a lending limit is applied. I disagree that this is a real cost because not all debt is productive. Any gain in GDP by growth in unproductive debt is not sustainable, because any such gain in GDP from unproductive debt will soon unwind in financial crisis or stagnation. That is, because the RBNZ is making the assessment on lending at high DTI, the GDP reductions associated with the imposition of DTI limits are not a reflection of a loss of efficient production, they are simply an earlier unwinding of an unsustainable position.

As regards the assessment of benefits, the RBNZ has seemingly not estimated the following benefits

from improving lending:

- Reduced need for foreign funding of the economy; because excess money creation will otherwise artificially increase demand without matching internal production, leading to an increase net foreign liabilities;
- Increased investment in the economy's productive base rather than toward raising the price of existing housing assets to the detriment of a large proportion of the New Zealand population.

CBA should be examining the optimal mix of constraints, not whether there should be constraints

From my frame of reference outlined in the letter and Attachment A, you will see that I consider the cost analysis should be directed differently. From my perspective, it is simply a necessity for there to be constraints on imprudent lending to maintain financial soundness and efficiency. The cost benefit analysis therefore should examine the trading-off of one constraint versus another, while maintaining the same level of stability. Justifying the DTI limit on the basis of trading off the reduction of excess credit growth with a reduction in unsustainable GDP is a spurious exercise: - it should be a given that necessary prudential tools are deployed to prevent excess credit growth.

For a constant level of bank capital, the trade-off is between the DTI limit and LVR limit. Currently we have an LVR limit that is too high given that there is no effective DTI limit. To achieve financial stability either the LVR limit needs to be lowered further or the DTI implemented. However, reducing the LVR further is not optimal because the implied cost of capital of house buyer equity would have to be very low, well below the cost of mortgages, for that to make sense. Given a reasonable cost of capital, it makes more sense to maintain LVR limits where they are and put in place the DTI limit as proposed.

Do you see other material costs or benefits, or have views about the magnitudes of the costs and benefits or the method used to derive them?

A benefit that has not been examined is the reduction of value transfer by excess [money creation](#). With inadequate bank capital and/or failure to apply the macroprudential tools of DTI and LVR to adequate levels, there has been significant value transfer from savers to banking institutions and holders of assets that are purchased with debt. From the calculations in the box below I estimate that, over the last 5 years, excess money creation has transferred tens of billions of dollars of value from holders of New Zealand's financial instruments (such as deposit holders) equivalent to more than 2% of GDP each year. Such costs are welfare costs to New Zealand except if the benefits of the excess money creation were secured by the Crown (which is its prerogative, by *seigniorage* via the RBNZ).

Estimate of welfare loss to New Zealand of inadequate regulation of lending

According to RBNZ statistics series C21, in the last 5 years since March 2012 Household debt has increased from 197.5B to 264.5B, and household income has increased from 135.6B to 158.2B. The ratio of incremental debt to incremental income has therefore been 2.96.

For this ratio to have been achieved, the collateral required by the banks to support lending can only have been about 25% (as opposed to the 38.2% that I have said in this submission is the minimum necessary).

By the equations in Attachment A, the excess money creation is therefore 1.2 times the increased income. From the statistics above the incremental income has been 22.6 B, and so the excess money creation over the last five years amounts to 27B. This amount represents about 2.2% of GDP per year, and is consistent with the findings of the [Copenhagen School of Business](#) in respect of the United Kingdom's banking system. By way of comparison: "broad money" has increased by about 91B over the last five years, representing about 7.5% of average GDP per year (suggesting that about one third of broad money growth has been excessive).

Attachment D: Money Creation by Lending

In Attachment A I stated as a “given” that: “*Banks fund new loans by creating new deposit money*”. My assumption is not only supported by the cited references from the [Bank of England](#), the [IMF](#), and the [Deutsche Bundesbank](#), my assumption is not new, the understanding has long been known. Here are a few other references, including from Federal Reserve, the Bank of International Settlements, and Norges Bank, that show that it is not just a theory, it is a long established “*simple fact*”:

- (1928) “*I am afraid the ordinary citizen will not like to be told that the banks can create or destroy money. We are in the habit of thinking of money as wealth, as indeed it is in the hands of the individual who owns it, wealth in the most liquid form, and we do not like to hear that some private institution can create it at pleasure. It conjures up a picture of an autocratic and irresponsible body which by some black art of its own contriving can increase or diminish wealth, and presumably make a great deal of profit in the process.*”“*While banks have this power of creating money it will be found that they exercise it only within the strict limits of sound banking policy*”. “Post-War Banking Policy - a series of Addresses”, Right Honourable Reginald McKenna P.C. (Chancellor of the Exchequer)
- (1954) “*it is highly inadvisable to construe bank credit on the model of existing funds being withdrawn from previous uses by an entirely imaginary act of saving and then lent out by their owners. It is much more realistic to say that the banks ‘create credit’, that is, that they create deposits in their act of lending, than to say that they lend the deposits that have been entrusted to them. And the reason for insisting on this is that depositors should not be invested with the insignia of a role which they do not play. The theory to which economists clung so tenaciously makes them out to be savers when they neither save nor intend to do so; it attributes to them an influence on the ‘supply of credit’ which they do not have.*”. Schumpeter
- (1969): ‘*In the real world, banks extend credit, creating deposits in the process, and look for the reserves later.*’ Alan Holmes (1969), former Senior Vice President, Federal Reserve Bank of New York
- (2007): ‘*...by far the largest role in creating broad money is played by the banking sector ... when banks make loans they create additional deposits for those that have borrowed the money ... Under the present system banks do not have to wait for depositors to appear and make funds available before they can on-lend, or intermediate, those funds. Rather, they create their own funds, deposits, in the act of lending.*’ Berry et al. (2007), Bank of England
- (2011): ‘*banks ..create additional purchasing power in the form of deposits through the act of extending credit ... Through the creation of deposits associated with credit expansion, banks can grant nominal purchasing power without reducing it for other agents in the economy ... The banking system can ...expand total nominal purchasing power*’ Borio and Disyatat (2011), Bank of International Settlements .
- (2015): the “*theory that banks create money through loans*”... “*is not a theory that needs to be proved, [it is a simple fact](#)*”. Bank of England, Working Paper No. 529;
- (2017): “*When you borrow from a bank, the bank credits your bank account. The deposit – the money – is created by the bank the moment it issues the loan. The bank does not transfer the money from someone else’s bank account or from a vault full of money. The money lent to you by the bank has been created by the bank itself – out of nothing*”. Norwegian Central Bank -[25 April 2017](#).

Glossary

| | |
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| B | billions of NZ dollars |
| CBIE | Central Bank of Ireland |
| DTI | Debt to Income ratio, or Debt to Income Limit |
| EMC | excess money creation |
| FSR | Financial Stability Report |
| GDP | gross domestic product |
| IMF | International Monetary Fund |
| LVR | Loan-to-value ratio |
| NFL | net foreign liabilities |
| NZD | New Zealand dollar |
| RBNZ | Reserve Bank of New Zealand |
| RBNZA (1989) | Reserve Bank of New Zealand Act 1989 |
| ROE | Return on Equity |

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