# The New Zealand Experience with Macro-Prudential Policy

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## 1. Introduction

My purpose in this article is to share some of the policy thinking behind New Zealand's use of macro-prudential policy over the period from 2013 to 2016. Many Central Banks, including SEACEN members, have been considering or using macro-prudential policies with the common aim of reducing systemic risk in the housing market. The post-GFC environment has seen persistent low inflation and easy monetary conditions globally, leading to an expansion of debt and asset markets in many countries at the same time as goods and services inflation has remained moderate. While the growth in debt and house prices have given rise to financial stability concerns, there has been little scope for monetary policy to assist. Financial authorities have turned to other instruments, such as macro-prudential policy, to help achieve their financial stability objectives.

Many of the policy issues faced in New Zealand are specific to the New Zealand market, but there are also many common elements that have relevance internationally. It is these issues of broad relevance that I will focus on. The article commences with the New Zealand macro-prudential framework and the reasons for the LTV measures taken. It then reviews the policy experience and offers some lessons learned that might assist other Central Banks in improving their macro-prudential frameworks.

## 2. Motivation for Macro-prudential

Two important lessons from the GFC were: 1) that the real economic costs of a systemic financial crisis can be large and long-lasting; and 2) there is a need to assess systemic risk from a macro perspective, not just through cumulative micro-based assessments. With these lessons in mind, the emergence of significant housing imbalances in the post-GFC low-interest environment prompted many Central Banks to consider alternative policy responses, including macro-prudential policy.

Of course, not every housing cycle warrants a macro-prudential response. Housing cycles can have multiple causes, real and financial, and they may or may not present a systemic threat. House price increases can be seen as a market response to bring out extra supply to meet the needs of a growing population, so there is a default case to let the price mechanism work. To view house prices as a

1. Thanks to Hans Genberg and Bernard Hodgetts for comments on an earlier draft.

systemic threat, there needs to be evidence of a significant speculative element, fuelled by credit, that could rapidly correct, presenting a heighted prudential risk. This provides the rationale for imposing transitional and additional prudential requirements while the heightened risk persists.

In the post-GFC environment in New Zealand, we had low interest rates and easy credit conditions, combined from around 2012 with a significant pickup in immigration. So, credit was an important driver but not the only driver. Financial stability concerns became apparent in two important respects: First, systemic housing risk appeared to be increasing as house prices continued to outpace nominal incomes. House price to income ratios (at least for Auckland) were amongst the highest in the world, pointing to a heightened risk of a housing market correction which could seriously impact the banking system. Second, the banks appeared to be contributing to this worsening risk situation through an easing of lending standards.

These two factors together made a strong case for macro-prudential policy: heightened systemic risk from a credit fuelled housing boom **and** the banks actively contributing to the expansion through easier lending standards.

## 3. The New Zealand Macro-prudential Framework

### 3.1 Relationship between the Reserve Bank and the Government

The existing Reserve Bank Act (Part V covering prudential regulation) was sufficiently flexible to allow implementation of a macro prudential policy using existing Reserve Bank of New Zealand (the Bank) prudential powers. However, this was a new policy approach that was never envisaged at the time the Act was passed (1989) and it was also expected to have a higher public profile than conventional prudential policy. For this reason, in May 2013, a Memorandum of Understanding (MOU) was put in place[2] between the Bank and Minister of Finance to clarify the key elements of the new macro-prudential policy framework.

The MOU established the Bank as the macro-prudential policy decisionmaker but required consultation with the Minister and Treasury if any macro-prudential intervention was under active consideration. The objective set down for the policy is to increase the resilience of the financial system **and** to counter instability in the financial system arising from credit, asset price or liquidity shocks. The policy is therefore intended to provide additional buffers to the financial system that are expected to vary with the credit cycle. The MOU sets out four policy instruments that may be used for macro-prudential policy, as set out below in **Figure 1.** Any addition to the policy toolkit needs to be undertaken in consultation with the Treasury.

2. https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/MoU/Reserve-bank-Minister-of-Finance-Macroprudential-MoU.pdf

The Bank is required to be fully accountable for its macro-prudential actions to the Bank's Board, to the Minister and to Parliament, publishing its systemic risk assessments and reviews of policy impact in the Bank's Financial Stability Reports.

The MOU further requires that a review of the MPP framework be conducted after five years. This review was underway at the time of writing in November 2018.

**Figure 1. The Available Policy Instruments**

| | |
|---|---|
| Loan to Value Ratios (LTV's) | Known locally in NZ as "LVR's" |
| Countercyclical capital buffer (CCB) | Widely adopted Basel 3 instrument which adds up to 2 1/2% to the CET1 requirement through the cycle |
| Sectoral capital requirements (SCR) | Additional capital buffer applied to a particular sector |
| Core Funding Ratio (CFR) | An existing prudential liquidity ratio (akin to the Basel NSFR) that could be varied to counter a liquidity shock |

### 3.2 The Decision-making Process

Briefly describing the Bank's internal decision process, management papers reviewing systemic risk and policy options are prepared by the Bank's prudential analysis ream[3] and these are discussed at regular prudential policy committee meetings chaired by the Deputy Governor. The Bank's Governing Committee decides which policy options if any to take forward for discussion with Treasury and the Minister. If the Minister (advised by Treasury) agrees, then a policy measure is announced, to be implemented at a future date subject to consultation with the banks and the public. The final calibration of the LTV policy measures was significantly influenced by the consultation process.

## 4. Emerging Housing Risks: 2012-2013

The boom in residential property that developed, particularly in Auckland, in 2012-13 was founded in a physical shortage of houses but exacerbated by growing investor demand. The physical shortage arose from supply constraints in the face of strong net immigration which was adding 1.0-1.5% per annum to population growth. Supply was constrained by skill shortages, inefficient construction and development sectors and major delays in consenting processes.

3. The advent of macro-prudential policy has led to a significant improvement in the Bank's measurement and analysis of systemic risk; see for example the regular macro-prudential chart pack: https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Financial%20stability/Macro-prudential%20indicators/2018/MPI-chartpack-sep-2018.pdf?la=en

At the same time there was evidence that investors were accounting for an increasing share of house sales and new mortgage credit, the share reaching around 40 percent. This was resulting in a downward trend in home ownership and a declining trend in the rental yield. The fact that investors were continuing to increase their residential property portfolios even when the rental yield fell to the level of bank deposit rates suggests that expectations of capital gains were dominating expected total returns. There was little doubt that credit-fuelled speculation was exacerbating the underlying physical housing shortage.

Adding to systemic risk, house prices were beginning to look very stretched in terms of price to income ratios and banks were lending an increasing proportion of funds at high LTVs and high DTIs. Banks individually argued that their capital was adequate to cover the higher share of risky lending, but individual bank calculations did not allow for the fact that their own lending strategies were, in aggregate, tending to increase systemic housing risk.

In summary, the key factors driving the case for macro-prudential measures were:

- Rapid growth in house prices and new mortgage credit
- A high degree of “stretch” in house prices relative to incomes
- An increasing share of high LTV lending and declining lending standards generally
- Increasing shares of house sales and credit going to residential property investors

### 4.1 The LTV Measures

Once the case for macro-prudential policy had been made, a range of instruments were considered, including sectoral capital requirements and the counter cyclical capital buffer, however LTVs were the preferred tool. While bolstering bank balance sheets, capital overlays were thought to have a relatively weak and uncertain impact on the credit cycle. It was unclear the extent to which capital overlays would be absorbed within existing excess capital holdings and the impact on the banks' overall cost of funds was assessed to be relatively small. In an environment of aggressive competition for new mortgage lending, the Bank considered it unlikely that capital overlays would have any significant impact on the volume of credit expansion.[4] LTVs, on the other hand, were considered likely to have a moderating impact on credit growth as well as reducing risk in bank balance sheets.

Further supporting the case for LTV restrictions, they were seen as a direct response to the increasing proportion of high-LTV lending that had reached 35-38% for new lending, compared to around 20% for the existing stock of mortgages. Also, it was felt that systemic housing risk would be improved more effectively and

4. The Bank did however raise the risk weights on high LTV lending.

unambiguously by reducing expected bank losses through LTVs than by increasing the banks capacity to absorb those losses through higher capital. Certainly, this is consistent with the general principle that prudential oversight needs to focus on maintaining the quality of assets, not just on capital adequacy.

Three rounds of LTVs were applied under the new policy framework in Oct 2013, Nov 2015 and Oct 2016, with a degree of easing applied in Jan 2018. These measures are summarised in **Figure 2**. below. The initial Oct 2013 measure was broad-based, applying an 80% "high LTV" threshold and a "speed limit" of 10%.[5] Subsequent measures added a tighter requirement for Auckland investors (Nov 2015) and then investors nationally (Oct 2016).

**Figure 2. LTV Measures Applied Over 2013-2018**

| | |
|---|---|
| October 2013 | 10% speed limit on LTV>80% |
| November 2015 | Additional overlay of:<br>5% speed limit on Auckland investors with LTV>70% |
| October 2016 | Auckland overlay replaced by:<br>5% speed limit on all investors with LTV>60% |
| January 2018<br>*(Relaxation)* | 5% speed limit on investors with LTV>65%<br>15% speed limit on owner-occupiers with LTV>80% |

In terms of the design specifications of the LTV measures, I will elaborate on three aspects: the use of "speed limits"; the approach to exemptions; and anti-avoidance.

Why should we use a **speed limit** rather that a prohibition of high LTV lending? The main reason was to simplify the implementation of the measures. With any regulatory imposition of this sort there are always special cases and anomalies that warrant exemption in addition to the agreed broad classes of exemptions. Having a speed limit avoids the need for a detailed list of exemptions and gives banks a degree of "wriggle room" in implementing the measures. In this regard, the Bank felt that the likelihood of non-compliance (accidental or otherwise) would be reduced by the use of speed limits. The added degree of flexibility would make the measures more efficient as well as being more palatable to the banks in terms of ease of implementation.

After consultation with the banks, a number of **exemption classes** were defined for the LTV measures including loans for home construction and remediation, refinancing loans and government supported low income housing loans. First home

5. This meant that 10% of a bank's new mortgage lending could be above the 80% LTV threshold. The "speed limit" metaphor is chosen to give the idea of slowing down, but not stopping.

buyers were not exempted, despite considerable political pressure to do so. The Bank felt that such an exemption could not be justified on any prudential grounds. The construction exemption was included so as not to constrain new building activity that could help to alleviate the housing shortage.[6] However, most lending on new builds is at moderate LTV levels to allow for uncertainty around ultimate collateral value, so this exemption has probably not made a big difference to the impact of the policy. The refinancing exemption was to allow borrowers to shift house or bank even though they may have an existing high-LTV loan. Any top-up concurrent with refinancing requires that the whole loan amount be subject to the LTV policy. A further exemption was made for loans made against the combined collateral of a property portfolio. A new investor loan may be exempt from the LTV policy if there is sufficient excess collateral available in the borrower's overall portfolio.

An important further aspect of the LTV design is the **anti-avoidance clause**.[7] This clause requires that banks should not enter into any arrangement to avoid the LTV restrictions. It gives specific examples of avoidance such as banks funding non-bank mortgage lenders or funding mortgage deposits through personal loans. The clause also makes the general point that the Bank will pursue any bank that puts in place arrangements that appear to circumvent the policy. In the early days of the policy it was necessary for the Bank to firmly enforce this clause as a number of avoidance schemes emerged. It was necessary to act quickly and firmly to nip any avoidance in the bud.

## 5. The Policy Experience

I will consider four areas of the New Zealand LTV experience: 1) the impact on the housing cycle (the most visible and high profile area); 2) The impact on systemic risk in the banking system, i.e., the prudential impact; 3) the degree of leakage or disintermediation arising from the policy; and 4) the impact on the behaviour of stakeholders, including the banks and other policy makers.

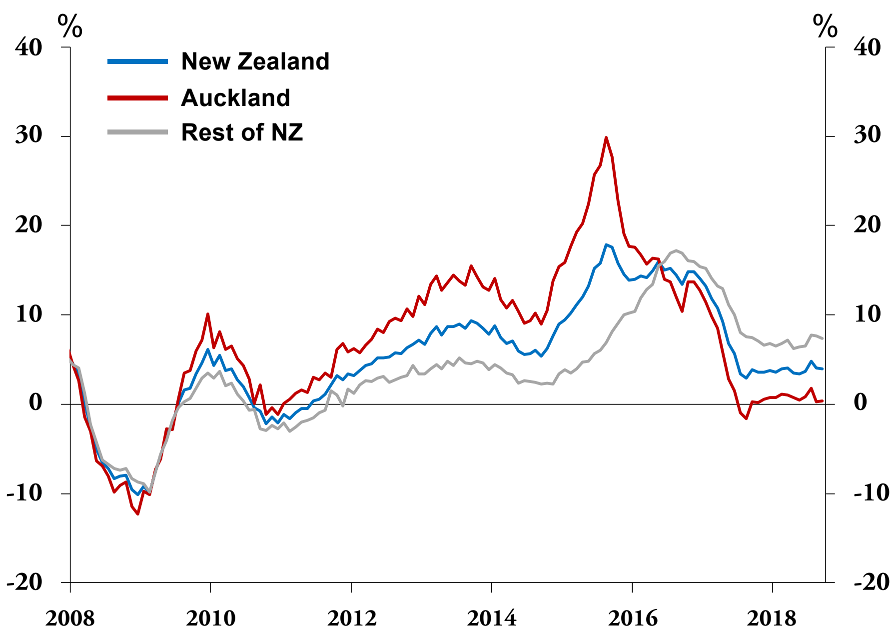
First considering the impact of the policy on house price inflation, Chart 1 shows house price inflation for the whole country, Auckland and ex-Auckland. The vertical lines show when each of the three LTV measures were announced. The general lesson is that the LTV measures had a significant but temporary impact on house price inflation. The initial measure in Oct 2013 saw the housing market ease for about a year before the underlying pressures came through again, particularly in Auckland and particularly in the investment sector.

6. In this regard, the new-build exemption might not be appropriate in a situation of over-supply of housing.

7. See section 7 of BS19: https://www.rbnz.govt.nz/-/media/ReserveBank/Files/regulation-and-supervision/banks/banking-supervision-handbook/BS19-Framework-for-LVR-restrictions-Oct2016.pdf?la=en

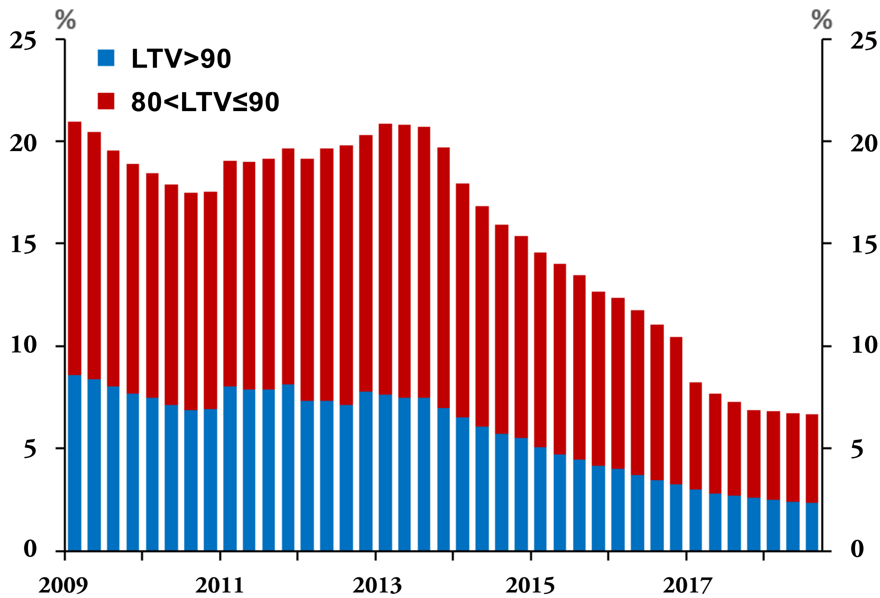
Auckland house prices increased 24% in the year to April 2015 and the share of Auckland house sales going to investors had increased to 41%, up 8% from 2013. Meanwhile house price inflation in the rest of the country remained in low single figures. The stark regional differences and political realities made it very difficult to consider tightening the LTVs on a national basis. Accordingly, the 2015 tightening focussed solely on Auckland investors. The impact of the 2015 measures saw Auckland house price inflation fall back quite quickly to the 10-15% range but some of the Auckland investor buying pressure was shifted to the rest of the country and by late 2016 house price inflation in the rest of the country was on a par with Auckland. This led to the third measure which broadened (and tightened) the Auckland investor LTV restriction to the whole country. The impact of the October 2016 measure, combined with other moderating factors, was substantial, reducing house price inflation to single figures by mid-2017 and keeping it there through 2018. It appears that the tougher LTVs, combined with other factors such as tax changes, restrictions on foreign buyers and increased requirements on landlords, turned investor sentiment around. This in turn has moderated the whole housing market.

**Chart 1. House Price Growth (Annual)**




With regard to the prudential impact, this was unambiguous with the LTV measures contributing to a persistent reduction of risk in bank balance sheets. As seen in Chart 2, the share of outstanding mortgages with an LTV greater than 80 percent has steadily trended down as a result of the LTV policy from 21 percent in September 2013 to 7 percent in December 2017. While there was a coincident rise in the volume of loans with LTVs between 70-80% and an increase in debt to income ratios through the period[8], there is no doubt that overall risk in bank mortgage books was substantially and sustainably reduced. Recent Reserve Bank estimates suggest that banks' credit losses from a severe housing downturn could be reduced by around 20 percent, compared to pre-2013. Also, with larger equity buffers, fewer households would be under pressure to sell their house or cut back on consumption in such a downturn.

**Chart 2. Proportion of High LTV Mortgages Outstanding**




Considering the impact of the LTV policy on leakage, this has not been seen to any great extent, although this may be a function of the New Zealand context given that the banks dominate the New Zealand mortgage market. The share of new mortgages issued by non-banks increased from two percent in 2013 to around four percent in 2018, a significant increase from the non-banks' perspective but relatively small from a system perspective. Unsecured personal lending has not expanded to any marked degree which may reflect the Bank's clear message to banks that such avoidance practices would not be tolerated. Probably the greatest leakage channel has been through the "bank of mum and dad", ie through intra-family lending with parents helping to fund their children's mortgage deposits. However, this effect has not been measurable.

8. The Bank took the view that a Debt to Income (DTI) restriction would be a useful addition to the macro-prudential toolkit. Potential modifications to the toolkit will be considered in the current Review.

A further noteworthy impact of the LTV policy has been on the behaviour of various stakeholders. The initial public response was generally negative with news headlines emphasising the adverse impact on prospective first home buyers. As time went on, however, the public became more accepting of the policy and its potential to make housing more affordable in the future. Certainly, there was broad acceptance of the tougher measures applied to investor lending.

The response of the banks to the LTV policy was also initially negative: "too hard to implement, too intrusive, credit is not the issue for housing, rather it is the lack of supply". However, as time went on the banks took ownership of the LTVs and some are now reluctant to see the measures eased. My characterisation is that the large banks see the LTV risk containment as sensible for the industry and for the housing market. However, if let free, competition for market share could once again become the dominant force and start to push mortgage risk profiles up again.

The impact of LTVs and the Bank's messaging on other arms of Government was subtle but I believe significant. Housing affordability was becoming a major political issue and there was considerable pressure on Government to act on taxation (to reduce the tax-favoured status of housing) and on the supply side (planning, resource management, consenting, infrastructure development). In announcing the LTV measures, the Bank called for other (non-credit) policies to address the overall housing issue. While there remains considerable scope for improvement in overall housing policy, the Government took some actions in support of the LTV initiative, such as the move in the 2015 budget to increase the tax impost on short term capital gains.

Another impact worth noting is on monetary policy. With the Bank's Governors making final decisions on both macro-prudential and monetary policies, they were well aware of the need to allow for the effects of each policy on the other policy's objectives. This was the practice followed: monetary policy took the existing LTVs as given in preparing forecasts and making interest rate decisions; and vice versa. Monetary policy remained cognisant of its secondary financial stability objective: Governors did **not** say "Macro-prudential is looking after housing risk so monetary policy can now just focus on price stability." Monetary policy continued to be aware of the need to support the financial stability objective.

## 6. Lessons from the New Zealand Experience

There are several lessons from the New Zealand experience with macro-prudential policy that are relevant for the future of macro-prudential in New Zealand and also for other countries pursuing similar policies. These can be grouped into three areas.

The first and main lesson is to **emphasise the policy's prudential role over its stabilisation role.** LTVs, and I suspect macro-prudential policy more generally, can reliably improve banking system resilience but have limited and variable capacity to influence asset price cycles. Unfortunately, the news media and many stakeholders tend to judge the success of macro-prudential policy by its impact on the cycle. Therefore, the Central Bank and other authorities need to continually emphasise the prudential objectives and achievements of the policy and be modest in their attempts to manage the cycle. They need to emphasise that macro-prudential policy cannot control the housing cycle. It can at best moderate the cycle. As a corollary, macro-prudential measures must be calibrated with their prudential purpose in mind. The requirement for a prudential rationale imposes a discipline and consistency on policy settings.

Second, it is important to **establish a coherent and sustainable policy framework based on sound data and analysis**. In New Zealand and in other countries, macro-prudential is a new and little-tested policy approach. To remain as a viable and accepted policy it needs to become an established and systematic framework, more like monetary policy. This means being established in legislation, with a strong governance structure, an operational infrastructure that is workable for the banks, and a supporting database and analytic capability to guide policy decisions. Also necessary for ongoing policy coherence, the macro-prudential team within the Central Bank must cooperate closely with the mainstream prudential regulatory team, whether it is located in the Central bank or elsewhere. The right and left hands of prudential policy must coordinate policy and be fully aware of what the other is doing.

Very much related to the second lesson, a sustainable macro-prudential policy requires a continuous effort to **build public and stakeholder support for the policy**. To underpin public acceptance of a policy that can involve politically difficult measures, there is a need to be very transparent and accountable. This implies a considerable communications effort involving speeches, financial stability reports and plain language messages to the public conveying the shape and purpose of the policy. Also, the Central Bank must be seen to be accountable for its macro-prudential actions, for example through regular parliamentary hearings, with acknowledgement of unintended consequences and how these will be managed going forward.

## 7. Conclusion

Macro-prudential policy has been a useful addition to New Zealand's policy toolkit since its introduction in 2013 and has succeeded in improving the resilience of the financial system. While the policy has had variable success in moderating the housing cycle, it has sustainably improved the resilience of banks' balance sheets to potential housing market shocks. While not always plain sailing, the policy has ultimately won support from the public, parliament and the banks.

The lessons from the New Zealand experience relate to both policy approach and policy infrastructure. The policy approach should be modest in ambition and emphasise prudential goals over stabilisation goals. For macro-prudential to become an established mainstream policy, the policy infrastructure needs to be fully embedded in legislation with a sound governance regime. The choice of instruments and their application needs to be made systematic and predictable. And for ongoing public acceptance, the policy process needs to be transparent and supported by accountability structures.

Macro-prudential is a very new policy that has helped to fill an important policy gap. Careful management and governance will be required to ensure its ongoing success.