Comments on **In Retrospect: Monetary Policy in New Zealand 2017-22**

Warwick J. McKibbin

Professor at the Australian National University

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The Review is a clear and well-written overview of the experience of the New Zealand economy and the role the RBNZ's monetary policy played from 2017 to 2022. It also draws out important lessons for monetary policy in New Zealand and central banks in general. The review period was a particularly challenging time for all central banks due to the nature of the global economic shocks but particularly for NZ due to the significant change in monetary policy goals and conduct over the period.

The specific purpose of the Review is relatively narrow as per the legislation. It does not explore the impact of the change to the policymaker from a sole decision maker to a Monetary Policy Committee in 2022, the change in Mandate in 2018 to include maximum sustainable employment (MSE), nor the appropriateness of the overall Mandate around inflation targeting in a world dominated by supply shocks. These issues are worthy of assessment in a different review and ongoing research.

The Review focuses on how the RBNZ performed relative to its Mandate but highlights how uncertain and complex the period under Review has been.

This assessment could be undertaken using several criteria.

One approach is to compare the performance of the RBNZ relative to the performance of other central banks over the period since the global shocks are similar. There is a clear discussion of the relative performance of the RBNZ. A good summary is contained in Figure 1, which shows the relative performance of the RBNZ in managing the trade-off between inflation and unemployment. However, the structure of the New Zealand economy is significantly different to other countries, and the public health and fiscal responses to the pandemic vary relative to other countries that it cannot be definitive that this relative performance was due to RBNZ policies, but it is indicative. The response of monetary policy to the pandemic was rapid and appropriate. There is genuine debate about using additional monetary policy tools once the OCR reaches an effective lower bound in early 2020. It is also clear that the RBNZ began increasing policy rates in 2021 before other countries had diagnosed that the inflationary impulse was more persistent than transitory. This policy move was well before other Central banks.

Alternatively, the performance of the RBNZ could be evaluated using a modelling framework that compared the outcomes from Central bank actions under different policy rules ex poste. Using an empirical model would give a potential counterfactual as a comparison and could address the question of whether the RBNZ achieved its Mandate with better outcomes than alternative policy settings- given the nature of the shocks and the fiscal and public health policies.

The problem with looking backwards to evaluate the policy response is that the RBNZ did not have the expost data at its disposal in real-time. Thus a model-based analysis would need to use the information sets that an alternative central bank policy would have used in designing a policy response. This additional information would require a large amount of analysis which would not be possible given the time available to undertake the current Review.

A more empirically based assessment is a significant project but probably would be a valuable future research plan to supplement the review process.

The strategy taken in the Review is to outline **what was done, why it was done and how major economic indicators evolved**. These economic outcomes resulted from monetary policy, other macroeconomic and public health policies, and the shocks. There is a potential identification problem with a non-empirical approach since, as the report notes, there were significant fiscal responses and some that were (surprisingly) not coordinated with the RBNZ. However, there is a great deal of valuable and interesting discussion to supplement some quantification in the report. The results are nine areas recommended for improvement.

The review process included sending the external reviewers several iterations of the review document for commentary and feedback. Many of my comments and suggestions were included in the final manuscript and are not repeated in these comments. The following remarks follow the outline of the report and cover some areas where additional comments supplement the final report.

Section 1.1 Change in the monetary framework

Three significant changes in the monetary policy framework during the review period occurred. The first was the establishment of the monetary policy committee (MPC) with four internal and three external members. Although this change (in my opinion) was an improvement over the previous approach of a single decisionmaker (the Governor), there is a question as to whether this new approach provides enough external advice to counter a majority view from within the RBNZ. Also, the consensus decision-making model can create a lack of transparency in revealing the diversity of opinions within the MPC. The votes are only published if there is a final disagreement on the policy setting but does not appear to provide information on the alternative views of the Board members. However, this strategy was prescribed in the MPC Charter and is not the subject of this Review.

The second change was the shift to a dual mandate rather than having inflation as the core focus of policy. A dual mandate is an approach followed by many central banks, although the meaning of the additional Mandate of maximum sustainable employment (MSE) is unclear. Without defining and quantifying MSE, it isn't easy to evaluate whether the RBNZ achieved it over the period under Review. The lack of clarity over MSE is highlighted in the Review.

The definition of MSE is essential in evaluating whether it satisfied the Remit and in terms of understanding and quantifying the trade-offs between inflation and MSE. Defining employment or unemployment objective should ideally be as hours worked relative to the desired hours rather than bodies. This distinction between hours worked, and employed persons is especially relevant during significant structural change. The focus of the policies and the evaluation of the policies in the paper is on bodies in employment. This focus ignores underemployment as part of the target, although that is taken into account later in the Review of the many employment indicators used in assessing MSE.

The third change to the monetary framework was the replacement of the Policy Targets Agreement (PTA) between the Minister of Finance and the Governor with a formal Remit for the MPC that specifies its Mandate and establishes a Code of Conduct for the MPC. The code of conduct is a long list of variables that must be considered when deciding on a policy. Sustainable housing prices were added to inflation and MSE in March 2021

Section 1.2 A Backdrop of low Inflation and a declining real rate

From the start of the review period (and since the GFC), inflation was within the 1-3% target band. Inflation was below the midpoint of 2% but closer to the centre than it had been since 2011. The Review asserts that several global factors and domestic structural issues caused this outcome and focussed, in particular, on the falling neutral real interest rate. The discussion clearly distinguishes between the real interest rate and the nominal policy interest rate.

The difficulty of a falling nominal neutral rate is that as it approaches zero, it can reduce the effectiveness of monetary policy unless inflationary expectations can be targeted. However, targeting a higher level of inflationary expectation to reduce real interest rates is problematic when an unchanged inflation target is credible. With nominal income targeting rules, allowing inflationary expectations to rise when output is weak is more straightforward, as higher inflation is explicitly allowed when real output growth is low. Allowing inflationary expectations to exceed the inflation target can be accommodated in the dual Mandate, but it is more complicated. Inflation expectations have been falling since 2019, meaning that the real policy rate was rising, effectively a tightened monetary policy.

This period also coincided with the tightening of fiscal policy and an appreciation of the currency, dampening inflation.

An alternative approach is to use alternative monetary policy (AMP) tools. The evidence on the effectiveness of AMP tools and the potential medium-term damage to capital allocation and financial risk assessment is still being assessed in many countries. A better policy would be to have an explicit trade-off in the Mandate that allows real interest rates to fall substantially below zero, even at the ELB for nominal rates, by allowing inflation expectations to rise. An example is a nominal income monetary rule which provides for this (see McKibbin and Panton (2018)). Once an ELB is reached and the inflation target constrains inflation expectations, other economic policies, such as fiscal policy, have failed. Monetary policy has done what it can without significant potential medium-term damage to the economy. Implementing AMP while providing short-run additional economic stimulus may do so at potentially large medium to long-term costs. The Review makes a good case that AMP was beneficial as a short-term way of adding additional stimulus to the New Zealand economy. The evidence about the long-term cost of AMP and the potential impacts from the distortion of capital allocation is still emerging. While AMP has been popular amongst many central banks over the review period, it doesn't necessarily make AMP tools a necessary part of the RBNZ policy toolkit. Further research and evidence are needed on the medium-term costs and benefits.

Section 2.1 Below Target inflation: 2017-2019

Some discussion of the sectoral distribution of inflation would be helpful here. The split in trade and non-tradeable price movements and the change in core inflation measures are useful. Still, given that structural change is highlighted in the discussion, it would be good to show changing sectoral share and, more importantly, changing sectoral relative prices over the review period. Stabilizing inflation is more difficult in a world with changing relative prices than in a world with uniform inflation[1]. If one sector (i.e. energy) is experiencing rising relative prices, bringing economy-wide

[1] McKibbin and Cagliarini (2009)

inflation back to target requires falling prices across other sectors. This realignment of relative prices can be costly and impact the other elements of the Mandate and the Remit when nominal rigidities exist, such as sticky wages, prices or other intermediate goods prices.

While tight fiscal policy and a strong exchange rate pushed inflation down over this period, it is unclear why the RBNZ could not offset this by lowering the OCR while it was above the ELB.

The 79% rise in house prices between 2010 and 2019 is extraordinary, yet the loan-to-value restriction (LVR) was eased in 2018 and 2019. This policy appears to have exacerbated the house price surge and partly explains why house prices were added to the Remit in 2021.

Section 2.2: Initial Pandemic Response: 2020

The pandemic response is a crucial area where it appears important additional lessons could be learned.

The initial response to the pandemic in early 2020 was similar to other countries and involved an all-out attempt to prevent an economic collapse. This policy of responding quickly and effectively was successful in New Zealand due to various public health, fiscal and monetary policies. The use of AMP became a reality

Figures 17 and 18 help us understand the New Zealand experience. What is striking is that the public health stringency was effective in the early days of the crisis. By June, there was considerable relaxation within the New Zealand economy, although a severe shock to external demand persisted. International borders were still closed, but domestic economic activity was less constrained. It perhaps surprises the extent of LSAP purchases after the initial response. Most LSAP purchases ($33.4billion of a total of $50.7 billion) occurred between June 2020 and June 2021, suggesting a major monetary expansion in a relatively stabilized economy. However, it is also the case that there was a substantial flow of government debt issuance into the market, potentially tightening liquidity. It was unclear at the time whether this was needed. In retrospect, it was not required, but it isn't easy to judge in real time. Again the approach of caution against extreme downside risks can explain the response.

Also surprising was the Funding for Lending Programme (FLP) introduction in November 2020. The FLP offered 3-year funding to banks priced at the OCR for high-quality collateral. The FLP was an additional monetary stimulus to the economy that, with hindsight, was probably excessive. However, this response was consistent with forecasts of growth and unemployment in November 2020, as in Table 4.

Section 2.3: 2021 to October 2022: Above-target inflation

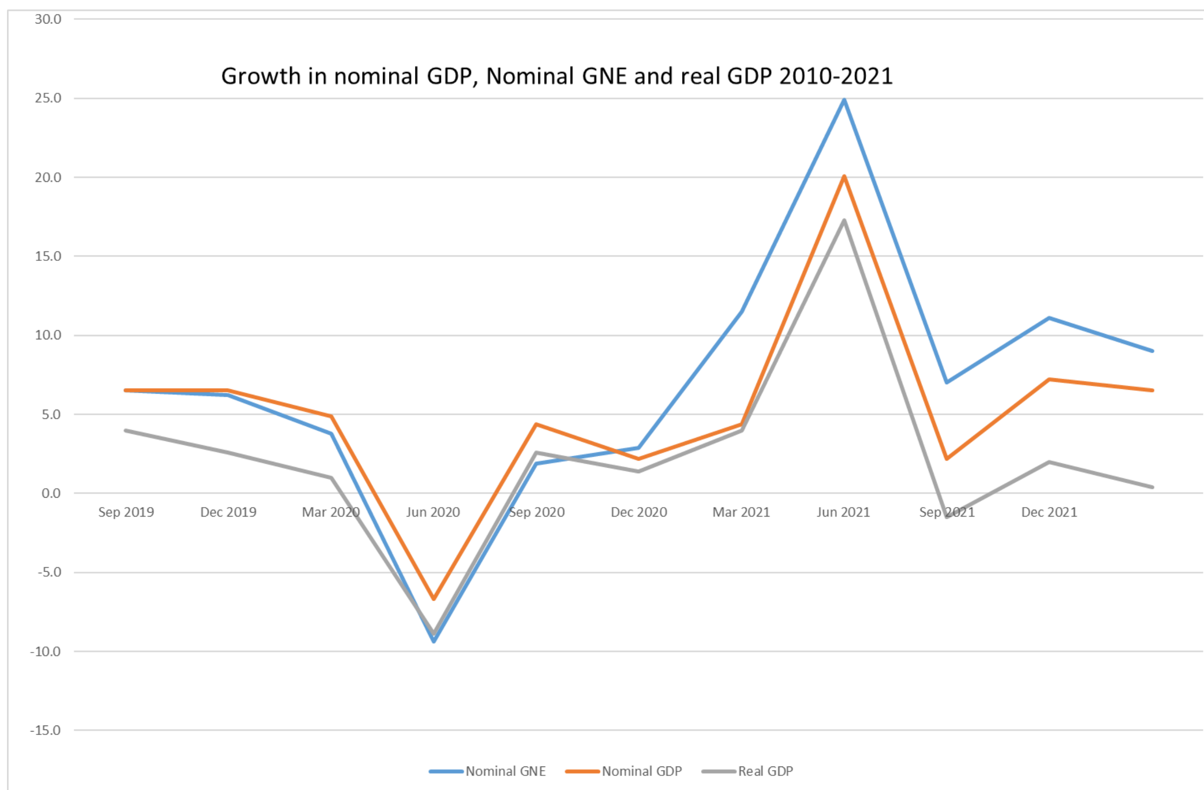
Could the RBNZ have anticipated the inflation surge from mid-2021 to the present? No central banks saw the inflation surge; when they did, it was initially assumed to be transitory. The RBNZ was the first advanced central bank to raise interest rates. However, an argument could be made that the move could have been earlier.

One helpful indicator of the stance of monetary policy is the growth rate of Gross Nominal Expenditure (GNE). Nominal GNE is a better measure of nominal growth than nominal GDP for monetary policy purposes because it abstracts from shifts in the terms of trade. Figure 1 plots the annual growth rates of quarterly nominal GDP, Nominal GNE and real GDP for New Zealand from 2019 to 2022. From 2010, nominal GNE growth in New Zealand was between 3-7% and averaged 5%

yearly. A central bank that targets nominal GNE would focus on the rebound from June 2020. By March 2021, the growth rate increase had entirely offset the decline in the level of nominal GNE due to the pandemic. By June 2021, nominal GNE was growing at 17%. This growth rate indicates excessive monetary relaxation relative to the other policy settings. Of course, this data was not observable in June, and I assume it only became available in September 2021. Still, leading indicators of nominal GNE growth (if they existed) may have pointed to this potential overshoot of monetary policy. One option for future policy might be to explore indicators such as nominal GNE to inform policy to achieve the current Mandate.

Another potential indicator of loose monetary policy was the surge in house prices in 2021. Box B has a helpful discussion of the difference between sustainable and affordable housing prices.

The reversal of LSAP was timely, and the report acknowledges the reversal could have enabled a tightening of policy sooner than it occurred.



The discussion of the costs of the AMP tools focuses on the impacts on the central bank and crown balance sheets. However, there may also have been a significant misallocation of capital in the economy due to AMP. This misallocation of capital should also be included in cost estimates.

Section 3.2: Assessing monetary policy over the review period

When assessing whether MPC met their objective, the report proposes three criteria

1. Was the outlook for inflation and the labour market consistent with targets?

It isn't easy to draw a definitive conclusion with the data available. Figure 46 suggests that the forecasts have had inflation returning to target since early 2021, but the inflation outcomes were continually inconsistent with the forecasts. It is hard to see how a robust positive conclusion can be drawn from Figure 46. The forecasts of inflation were consistent with the targets, but the outcomes were still not consistent with the goals at the time of writing the report.

Similarly, unemployment in Figure 49 is projected to return to the NAIRU in the future. However, the actual NAIRU today is still below the target and is not projected to return to the target until after 2024.

Monetary policy in all its forms has been adjusted in the appropriate direction but whether the different policy instruments have been changed enough is inconclusive at this stage. The argument that policy lags are long and variable and that too aggressive policy adjustment would be inconsistent with the Remit is reasonable. We still don't know if current policies will achieve the Mandate in outcomes, but they are consistent with the Mandate given current expectations of the impact of policy.

2. Were the forecasts credible and reasonable?

Figure 46 and 49 leaves this issue open to question, but given the nature of the shocks still impacting the New Zealand economy, I think the forecasts appear reasonable. So far, the forecasts also appear credible, while inflationary expectations are anchored (as shown in figure 55).

3. Were monetary policy decisions consistent with meeting their objectives?

The discussion about external shocks, but what if inflation is the partial result of the previous stance of monetary policy? Monetary policy-induced inflation is likely to be more persistent than other shocks. It would be helpful to empirically identify the relative contributions of policy and shocks to inflation in New Zealand.

The Review stresses that the concept of MSE is unclear. This ambiguity complicates the job of the RBNZ and makes the task of assessing the RBNZ in meeting the Mandate difficult.

Implementing LSAP before moving to negative policy rates was the better choice. However, it is questionable whether, in a broader sense, it would have been better to use fiscal policy and other policies to stabilize the economy. However, it was reasonable given the options facing the RBNZ in being required to meet the Mandate and the Remit. My main concern is that LSAP purchases after June 2020, in retrospect, were excessive. Reaching $56.6 billion or 15.3% of GDP is significant (but not compared to other central banks). Figure 18 shows that the stringency of covid had dropped sharply by June 2020 due to public health policies. However, as clearly set out in the report, real-time assessment of policy decisions, the enormous uncertainty during the ongoing pandemic and the resurgence of cases in New Zealand made the strategy of least regrets a sensible approach.

4. Were house price outcomes well above sustainable?

The increase in house prices during the period is dramatic. Could this house price inflation have been avoided? While there is evidence of a wide range of factors driving up house prices in New Zealand, the question is whether monetary policy added additional stimulus to house prices. One way to

assess the impact of monetary policy might be to compare the change in house prices to movements in the price of other fixed assets that might not have been subject to the fundamental shifts in the determinants of house prices.

The rise in the OCR was ahead of other central banks; the RBNZ was ahead of the global monetary policy reversal. However, there are indicators (at least after the fact) that policy tightening was needed in New Zealand before it was implemented.

My conclusion is that the RBNZ responded better to the Covid crisis and the ongoing shocks in the global economy than many other central banks. This performance of monetary policy coincided with the public health response in New Zealand, which was better than most countries with the early action to close the economy until a vaccine was (hopefully) available.

The new policy Mandate and Remit made the monetary policy process more difficult because of the large array of targets and fewer instruments. The main issue in deciding whether the RBNZ met the Mandate and the Remit is what is the appropriate counterfactual. The is some indication that AMP was not done as would have been optimal with hindsight and that the housing price surge and ongoing inflation surge are partly the result of monetary policy and delayed meeting the Mandate. However, if monetary policy had tightened earlier or not relaxed, the outcomes might have been much worse given the uncertainty.

The central insight from the Review is what has been learnt for monetary policy design and implementation from an extreme period in New Zealand's economic history and how the monetary policy framework might be improved.

I agree with the list of lessons learnt and the overall conclusion of the Review.

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