REVAMPING INFLATION TARGETING IN NEW ZEALAND 30 YEARS AFTER ITS INCEPTION\(^1\)

A. Introduction

1. Almost 30 years after establishing the first inflation targeting regime, New Zealand has embarked on a review of the Reserve Bank Act. The government initiated the review in late 2017. The review process consists of two phases. Phase One deals with the monetary policy framework and the related decision-making, while Phase Two will review the financial and other policies of the Reserve Bank of New Zealand (RBNZ). In the first phase, an Independent Expert Advisory Panel was formed to recommend changes to the Act to (i) ensure that monetary policy decision-makers give due consideration to maximizing employment alongside price stability; (ii) provide for a committee approach for monetary policy decisions; and (iii) consider whether changes are required to the role of the RBNZ Board of Directors. Terms of reference for Phase Two, which is expected to start in the second half of 2018, will be issued soon, after the Independent Expert Advisory Panel has made its recommendations for the scope of the review.

2. Cabinet decisions on changes to the Reserve Bank Act following Phase One recommendations are now awaiting legislation. After considering the Panel’s recommendations\(^2\) the Cabinet decided on the way forward, agreeing to add an employment objective to the price stability objective and to delegate monetary policy decision-making to a monetary policy committee (MPC).\(^3\) The RBNZ Board of Directors will be responsible for monitoring performance of the MPC and its individual members in their duties. The review also highlighted that the desired outcome is for decision making to be less governor-centric and a Monetary Policy Committee will be formed. These modifications will be captured formally in an amending bill to the Reserve Bank Act in the coming months.\(^4\)

3. Overall, Phase One of the review has not led to fundamental changes to the monetary policy regime and is unlikely to result in changes in monetary policy conduct. The RBNZ will continue to operate its successful flexible inflation targeting regime. As argued below, the latter has already involved \textit{de facto} output and employment stabilization. While the decision-making model will change, the operational independence of the RBNZ has only been affected at the margin. Monetary policy making remains a delegated policy mandate. The new \textit{Policy Targets Agreement} (PTA) signed on 26 March ahead of a new Governor taking office already incorporates an employment objective along the traditional price stability objective (RBNZ, 2018a). The RBNZ is thus

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\(^1\) Prepared by Zoltan Jakab (RES). The chapter benefited from valuable comments after a presentation at the RBNZ.


\(^4\) See RBNZ (2018a).
operating under a dual mandate, similar to the Reserve Bank of Australia (RBA) and the U.S. Federal Reserve System (Fed).

4. This paper reviews the backdrop to the revamping of the inflation targeting framework in New Zealand. Section B reviews the recent experience with the flexible inflation targeting regime, highlighting that the regime has been successful both in stabilizing inflation and keeping it low and in avoiding large output fluctuations. Still, the relatively long recent episode of inflation being below target highlights the risk of a rigid employment objective, as uncertainty about the extent of slack in overall economy or in the labor market can be sizeable. Section C reviews the main aspects that the dual mandate framework will require for the operationalization of monetary policy. Section D concludes.

B. Evolution and Performance of Inflation Targeting in New Zealand

From Strict to Flexible Inflation Targeting

5. The practice of inflation targeting in New Zealand has evolved over the time. New Zealand was the first country to adopt Inflation Targeting (IT) in 1989. The specifics of the objectives and the operationalization of inflation targeting have changed considerably over time even though the overarching objective of price stability and other features of inflation targeting put in place in the 1989 Revision of the Reserve Bank Act have not changed. Most noticeably, the regime evolved from a strict inflation targeting regime to a more flexible inflation targeting regime (McDermott, 2018).

6. Following McDermott (2018), there have been three periods in the evolution from strict to more flexible inflation targeting. In the first period, the period of strict inflation targeting, the focus was on achieving inflation such that annual inflation was to remain inside the target band, and the RBNZ had to explain deviations resulting from shocks outside of the RBNZ’s control. There were no secondary considerations specified in the PTAs. In the second period, from the late 1990s to the end of the 2000s, inflation targeting became increasingly flexible. Flexibility refers to the fact that the time to achieve the target was implicitly lengthened, while the shocks listed in the PTAs that could result in permissible deviations of actual inflation from target became more illustrative rather than exhaustive. As of 2002, the inflation objective was to be achieved over the medium term, rather than on an annual basis. Also, since 1999, so-called secondary considerations were established in PTAs. The RBNZ was set to seek to avoid unnecessary instability in output, interest rate and exchange rates. Finally, in the third period, this decade, PTAs clarified that the focus was on the 2 percent midpoint of the target range, while other secondary considerations were added to the framework (asset prices, financial stability).

7. In the transition from strict to flexible inflation targeting, the RBNZ has remained a leader in the implementation of inflation targeting. In particular, the RBNZ increasingly used the inflation forecast as the intermediate monetary policy objective. In the current inflation targeting literature, the term “inflation forecast targeting” (IFT) is often used synonymously with flexible
inflation targeting. In this framework, the central bank communicates on how it will achieve the inflation objective through its forecasts and the monetary policy setting embedded in the forecast. Such a regime requires a high degree of policy transparency, which the RBNZ has maintained over time, as measured, for example, by the Dincer-Eichengreen index (Figure 1). In particular, since 1997, the RBNZ has been fully disclosing its macroeconomic forecast, including the expected path of the policy rate (Table 1).

8. The evolution of inflation targeting in New Zealand took place in the context of a broader evolution of global IT practice. In the early stages, the RBNZ, like other IT central banks, focused primarily if not exclusively on achieving price stability objectives. The lack of concern about output and employment stability was based on the argument that, in most situations, “divine coincidence” was present (monetary policy aimed at stabilizing inflation happens to also stabilize output). But, over time, experience suggested that paying little or no attention to output or employment was not optimal in all situations. Depending on the nature of the shocks affecting the economy, monetary policy paying attention to output stabilization might actually help in achieving price stability objectives in the longer term. Important examples are the case of large shocks generating a trade-off between stabilizing inflation and resource utilization, or when policy tries to ensure a low probability of hitting the zero lower bound on interest rates. Clinton and others (2015) argue that central banks following flexible inflation targeting frameworks also operate with a dual mandate, albeit the second (output or employment) objectives are sometimes not explicitly formulated.

5 IFT is defined in Adrian and others (2018), among others. This paper uses the terms “flexible inflation targeting” and IFT interchangeably. In this regime, the forecast is the intermediate target; the inflation objective is the ultimate anchor. Moreover, the central bank’s inflation forecast is the intermediate target: it is used to communicate how the central bank is managing the short-term output-inflation tradeoff (explicit or implicit dual-mandate) and it is based on all available information and views about how the economy works. In a flexible inflation targeting regime the emphasis is on uncertainty and “avoiding dark corners” (a prudent risk-management approach to policy formulation and communications).

6 Among others, Rogoff (1985) and Walsh (1995) argue for a strong focus on price stability. Woodford (2003) argued that a welfare-maximizing central bank should assign some, albeit a relatively small, weight to output stabilization when forming policy. Blanchard and Gali (2007) showed that stabilizing inflation allows the central bank to simultaneously stabilize welfare-relevant measures of economic activity, which is also known as the “divine coincidence.”

7 For example, see Debortoli and others (2017).

8 For similar arguments, see Clinton and others (2015).
Table 1. Established IFT Central Banks Endogenous Interest Rate Forecasts

<table>
<thead>
<tr>
<th>Country</th>
<th>Endogenous Interest Rate Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>No, but communicate it with words</td>
</tr>
<tr>
<td>Chile</td>
<td>No, but communicate it with words</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Yes (since 2008)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Yes (since 1997)</td>
</tr>
<tr>
<td>Norway</td>
<td>Yes (since 2005)</td>
</tr>
<tr>
<td>Sweden</td>
<td>Yes (since 2007)</td>
</tr>
<tr>
<td>United States</td>
<td>Yes (since 2012)</td>
</tr>
</tbody>
</table>

Source: Clinton and others (2017).

Inflation Targeting and Economic Outcomes in New Zealand

9. Comparing outcomes between the strict and flexible inflation targeting regimes, both inflation and output are now more stable. Figure 2 shows that inflation expectations, both in the short and long term, were well-anchored quickly in the first period of inflation targeting in New Zealand (under “strict inflation targeting”). Both the level and the variability of inflation were also lower than before. But key real variables, output and employment, experienced increased volatility (Table 2). With the transition to flexible inflation targeting, low inflation, both level and variability, could be maintained, while the variability of GDP growth and employment also became more stable (and the variance of the output gap remained the same). The nominal exchange rate also served as a shock-absorber since 2002. In the case of well-functioning flexible inflation targeting, the nominal exchange rate plays a significant stabilization role, especially for small open economies facing significant commodity price shocks.

Figure 2. Inflation and Expected Inflation

Sources: Haver Analytics, and International Monetary Fund.
Table 2. Macroeconomic Performance Under Different Monetary Regimes (1981-2017)

<table>
<thead>
<tr>
<th></th>
<th>GDP growth (annual % change)</th>
<th>Output gap* (% of potential GDP)</th>
<th>CPI inflation (annual % change)</th>
<th>Unemployment rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Inflation Targeting (1981-1989)</td>
<td>2.4</td>
<td>-0.8</td>
<td>11.3</td>
<td>5.4</td>
</tr>
<tr>
<td>Strict Inflation Targeting (1990-1997)</td>
<td>2.8</td>
<td>-1.8</td>
<td>2.5</td>
<td>8.4</td>
</tr>
<tr>
<td>Flexible Inflation Targeting (1998-2017)</td>
<td>2.9</td>
<td>-0.2</td>
<td>2.0</td>
<td>5.3</td>
</tr>
<tr>
<td><strong>Standard error</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before Inflation Targeting (1981-1989)</td>
<td>1.5</td>
<td>1.3</td>
<td>4.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Strict Inflation Targeting (1990-1997)</td>
<td>2.8</td>
<td>2.0</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Flexible Inflation Targeting (1998-2017)</td>
<td>1.5</td>
<td>2.0</td>
<td>1.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Source: Haver Analytics, International Monetary Fund Spring 2018 World Economic Outlook.

10. **New Zealand experienced mild output losses during the Global Financial Crisis (GFC).** Although the recovery after the GFC took longer than after other recessions, New Zealand’s output loss was less severe than that in many other advanced economies (Figure 3). Part of the reason was that well-anchored inflation expectations helped keep the ex-ante real interest rates low during the height of the crisis and monetary easing thus helped to stabilize output. The Official Cash Rate (OCR) did not reach its effective lower bound (Figure 4). The trough of the output gap after the GFC was among the closest to zero in New Zealand, such that the mean output gap was less negative compared to the euro area, Japan, and United States, for example (Table 3). While monetary policy contributed to this favorable outcome, other factors also contributed, including strong aggregate demand support from Asia, positive supply shocks (an acceleration of net migration filling in higher skilled jobs), the fact that New Zealand did not experience direct shocks to its financial system or trade financing, and favorable commodity price developments.

![Figure 3. Output Gap in Selected Economies (Percentage of potential GDP)](image)

Source: International Monetary Fund, Spring 2018 World Economic Outlook.

![Figure 4. Official Cash Rate and Inflation* and Output Gap (Percentage point)](image)

* Inflation Gap as measured by deviation from the 2 percent target.
11. Recently, the main monetary policy challenge has been to deal with inflation being below its target in an economy close to or at full employment. As many other countries, New Zealand has, since the GFC, experienced a relatively long period of inflation remaining below its target, the mid-point of the 1-3 percent target range. In part, the undershooting has been the result of imported deflation, with tradable price deflation reflecting a long and weak global recovery after the global financial crisis. Domestically, positive labor supply shocks from net migration inflows contributed to high employment growth and larger than expected increases in potential output.9 As a result, economic slack decreased more slowly than expected by the RBNZ. Inflation, therefore, remained weaker than expected. Moreover, in the absence of a domestic policy rate response, the decline in equilibrium real interest rates worldwide (see Laubach and Williams, 2015 and Obstfeld and others, 2016) would have also contributed to the tighter monetary conditions. Over time, however, estimates of output gaps were revised, taking into account the persistent labor supply and tradable deflation dynamics. Policy rates were lowered and the RBNZ has signaled the need for monetary policy to remain accommodative for a considerable period of time.

C. Operationalization of the Dual Mandate

12. Despite the growing recognition that using monetary policy for stabilization is beneficial, only two central banks have explicit dual mandates.10 The two central banks with a

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9 In addition, considering the very dynamic increase in house prices, monetary policy might have been reluctant to ease further to safeguard financial stability. In other words, monetary policy, despite not being at the effective lower bound, was in a situation where the risk of potential negative outcomes from further easing was deemed to be significant.

10 Following U.S. practice, a joint price stability and employment mandate is often referred to as dual mandate. For an overview of central bank mandates, see Reis (2013).
In practice, monetary policy outcomes in countries with flexible inflation targeting are similar, irrespective of whether the dual mandate is implicit or explicit. Flexible inflation targeting countries (including New Zealand) have enjoyed policy and welfare outcomes that were similar to those in countries where the central bank has an explicit dual mandate. The behavior of two key indicators, inflation and output gap, suggests that there appears to be slight difference in outcomes among flexible inflation targeting countries, regardless of whether the secondary objective is implicit or explicit. Figures 6 and 7 illustrate this point. Figure 6 shows that if current inflation was below the target, expected inflation was higher than or at the target (a slight overshooting 3 year ahead) in the countries with an explicit dual mandate and in the countries with a flexible inflation targeting regime. On the other hand, in countries that do not follow a flexible inflation targeting regime or that do not have an explicit dual mandate (e.g., the euro area or Japan), expectations were drifting. In this case, when economic slack was present and when current inflation was systematically below target, output gaps were revised down.

was low, lower expected future inflation drove up real interest rates and induced an immediate real appreciation in the currency. This further depressed output and lowered inflation in the future. In flexible-inflation-targeting countries and explicit dual mandate countries this was not the case. Markets expected that monetary policy would try to recover some of the output loss associated with lower-than-target inflation, and inflation expectations remained stable. Figure 7 presents the loss arising from a hypothetical welfare measure (with equal weight on the output gap and inflation’s deviation from its target). By this metric, New Zealand fared quite well in international comparison as both inflation and output were stabilized to a considerable extent since 2012. Japan and the euro area, both of which do not belong to the group of flexible-inflation-targeting countries had a worse overall outcome than most flexible-inflation-targeting countries.

**Figure 6. Anchoring of Inflation Expectations (2015-2018)**

<table>
<thead>
<tr>
<th>New Zealand vs. other IFT or explicit dual mandate countries</th>
<th>New Zealand vs. countries without IFT or explicit dual mandate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadrant I: Current Inflation &lt; Target 3-Yr-Ahead Inflation &gt; Target</td>
<td>Quadrant I: Current Inflation &gt; Target 3-Yr-Ahead Inflation &gt; Target</td>
</tr>
<tr>
<td>Quadrant II: Current Inflation &lt; Target 3-Yr-Ahead Inflation &gt; Target</td>
<td>Quadrant II: Current Inflation &lt; Target 3-Yr-Ahead Inflation &gt; Target</td>
</tr>
<tr>
<td>Quadrant III: Current Inflation &lt; Target 3-Yr-Ahead Inflation &lt; Target</td>
<td>Quadrant III: Current Inflation &lt; Target 3-Yr-Ahead Inflation &lt; Target</td>
</tr>
<tr>
<td>Quadrant IV: Current Inflation &gt; Target 3-Yr-Ahead Inflation &lt; Target</td>
<td>Quadrant IV: Current Inflation &gt; Target 3-Yr-Ahead Inflation &lt; Target</td>
</tr>
</tbody>
</table>

Source: Consensus Economics, IMF staff estimates.

14. **A numerical employment objective could unduly constrain the conduct of monetary policy, constraining and straining the RBNZ’s credibility.** The behavior of inflation expectations and the welfare losses in New Zealand (Figures 6 and 7) are consistent with the claims of McDermott (2018) that, after the late 1990s, the RBNZ became flexible and secondary considerations were added (avoiding unnecessary instability in output, interest rate and exchange rates). Hence, a more explicit dual mandate would recognize the reality of the current IFT regime, as the RBNZ already considers output gaps in its policy decisions. Assuming that monetary policy is neutral in the long term, any numerical objective that is inconsistent with the economy’s actual natural rate of unemployment or level of potential output would create an unachievable goal for the central bank. This latter could give rise to time-inconsistent policies (“inflation bias”) and in turn, decrease the effectiveness and the credibility of the monetary regime. In addition, as demonstrated earlier, there is uncertainty about the extent of economic slack (as unexpected shocks arose for example during 2012-2016) and, with sizeable supply shocks, it is also time varying.

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11 A simple quadratic loss function was used to approximate welfare. The loss function as defined as Loss = Output Gap^2 + Inflation Gap^2 + 0.5 * change in the official interest rate^2, following Al-Mashat and others (2018).
15. **The March 2018 PTA should set the model for the formulation of the employment objective.** The forthcoming amendment to the Reserve Bank Act and the setting of monetary policy objectives should follow the current PTA, consistent with the Cabinet Paper (2018) and the Independent Expert Advisory Panel (2018). The Fed and the RBA, the two other dual mandate central banks, also followed the route of a qualitative employment objective (see Box 1).

![Figure 7. Illustrative Loss Functions* (2012-2018)](image)

* Loss function as defined as Loss = Output Gap² + Inflation Gap² + 0.5*Change in official interest rate²

Source: Staff estimates

16. **The RBNZ’s policy communication will now require greater emphasis on the assessment of maximum sustainable employment.** The Fed publishes governors’ estimates of the non-accelerating inflation rate of unemployment (NAIRU). The RBNZ has traditionally been reluctant to publish its assessment of the NAIRU, given the wide swings in the unemployment rate, and has instead focused on potential output and the output gap to assess the state of the real economy. But
the Monetary Policy Statement of May 2018 (RBNZ, 2018b) contains a thorough assessment on how the RBNZ sees the evolution of “maximum sustainable employment” going forward.

Plain Text:

Box 1. The Specification of the Output/Employment Goal for the Fed and the RBA

The legal text for the RBA says that “... the Reserve Bank Board, will best contribute to: (a) the stability of the currency of Australia; (b) the maintenance of full employment in Australia; and (c) the economic prosperity and welfare of the people of Australia.”1 The RBA, however, is not very explicit about the output/employment goal. In explaining policy, it makes only an implicit judgment on how the maintenance of full employment will be achieved. “The inflation target is defined as a medium-term average rather than as a rate (or band of rates) that must be held at all times. This formulation allows for the inevitable uncertainties that are involved in forecasting, and lags in the effects of monetary policy on the economy. [...] This approach allows a role for monetary policy in dampening the fluctuations in output over the course of the cycle.”

The Fed publishes its assessment on the numerical (though possibly time-variant) normal rate of unemployment and pursues a “balanced approach” in forming policy. The Fed’s statute: “The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long-run growth of the monetary and credit aggregates commensurate with the economy’s long-run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.”2 When it comes to actual policy “[t]he Committee judges that inflation at the rate of 2 percent ... [and that]... [t]he maximum level of employment is largely determined by nonmonetary factors ... [which] may change over time and may not be directly measurable. As a result, the FOMC does not specify a fixed goal for maximum employment. [...] Committee participants’ estimates of the longer-run normal rate of unemployment ranged from 4.3 to 5.0 percent and had a median value of 4.6 percent.”3

1 See Reserve Bank of Australia (2018a).
3 See Federal Reserve System (2018b).

D. Conclusion

17. The Phase One of the Review of the Reserve Bank Act can be regarded as a next step in the gradual evolution of inflation targeting in New Zealand. The new PTA, with its qualitative description of the employment objective, can be regarded as a refinement in the current practice of inflation targeting. The flexible inflation targeting regime was successful in terms of stabilizing output and inflation while maintaining price stability. Recent episodes of inflation undershooting the target serve as an example of uncertainty on the real-time assessment of slack in the economy. The explicit dual mandate will require some changes in the communication of the central bank, including on maximum sustainable employment.
References


