

Forward guidance in New Zealand

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Introduction

I would like to thank Goldman Sachs for the invitation to speak here in Sydney today. It is a pleasure to take the trip across the Tasman to be part of your annual Macro Economic Conference.

The focus of my comments today will be the Reserve Bank of New Zealand's approach to forward guidance, and in particular, the publication of an endogenous outlook for the 90-day interest rate. I'll touch on the benefits of this approach and how we aim to minimise the potential costs. I'll highlight the importance of understanding the conditional nature of our forecasts. And I'll finish by providing an illustration of the Bank's conditional forward guidance in practice.

Over the past few decades, transparency has become much more valued in the conduct of monetary policy. Transparency can improve the effectiveness of monetary policy, and increases the accountability of the central bank. Transparency is a value held in high regard at the Reserve Bank of New Zealand, which is seen as one of the most transparent central banks in the world.¹

This value is applied to the way we conduct forward guidance, where the Bank is very open about its monetary policy outlook.² In New Zealand, this includes the publication of a forward projection for the 90-day interest rate, comments on the outlook for policy, discussion of risks in our *Monetary Policy Statement* and the presentation of alternative scenarios. The Bank is one of only a handful of central banks that publish forecasts for the short-term interest rate.³ This is a practice we have maintained since 1997.

The publication of the 90-day interest rate projection can improve the effectiveness of monetary policy in a number of ways.

First of all, informing the public on our thinking about the transmission of monetary policy and a possible path of for interest rates can help individuals and businesses make more informed decisions.⁴ There are times when the Bank will know more about the economic situation and outlook than does the public or financial market participants. Every so often this will relate to some research or insight we hold, but more typically this extra knowledge relates to knowing what the Bank itself plans to do.

Second, the entire yield curve, rather than just the current level of the 90-day interest rate, has an influence on economic behaviour. Publishing the Bank's projection for the 90-day interest rate can help shift the entire yield curve towards levels consistent with medium-term price stability, improving the effectiveness of monetary policy.⁵

¹ Dincer and Eichengreen (2014), 'Central bank transparency and independence: updates and new measures', *International Journal of Central Banking*, Vol. 10, No. 1, pp 189-253, March 2014. For a discussion of the New Zealand experience see Bascand (2013), 'Communication, understanding and credibility', comments from Reserve Bank of New Zealand Deputy Governor Bascand, December 2013.

² The practice and definition of forward guidance can vary between both central banks and academics. Forward guidance can range from brief qualitative statements on the policy outlook in central bank communication, time or state dependent policy outlooks like those adopted by the United States Federal Reserve and the Bank of England post crisis, or the full publication of an endogenous interest rate forecast like at the Reserve Bank of New Zealand.

³ These central banks include New Zealand, Czech Republic, Israel, Norway and Sweden.

⁴ See Rudebusch and Williams (2008), 'Revealing the Secrets of the Temple: The value of publishing central bank interest rate projections', *Asset Prices and Monetary Policy*, University of Chicago Press.

⁵ For further discussion, see Woodford (1999), 'Optimal Monetary Policy Inertia', *The Manchester School Supplement*, Vol.67, Issue S1, pp 1-35.

Third, the publication of the 90-day interest rate projection helps accountability. Under the *Policy Targets Agreement (PTA)*, the Bank is required to keep future average inflation close to the mid-point of the 1 to 3 percent target range, whilst avoiding unnecessary instability in output, interest rates and the exchange rate, and having regard for financial stability. This multitude of considerations influences the Bank's judgement about how monetary policy should be adjusted to help move inflation towards its medium-term target.⁶ The publication of a 90-day interest rate projection, together with an inflation projection, conveys the Bank's view of what it considers appropriate when making these considerations, and how this changes when new information becomes available.

The Bank uses a range of modelling techniques and expert judgement to prepare a forecast for the 90-day interest rate. Our structural model, NZSIM⁷, is used to summarise all the new information provided by recent data, financial market developments, indicator models and our discussions with New Zealand businesses. Judgement is then added to this framework after the deliberation of our Monetary Policy Committee and Governing Committee.

The 90-day interest rate projection, based on a range of assumptions, provides a guide of what monetary policy settings may be needed to return or keep inflation at target. We feel that this is a more informative approach than assuming a constant or market path for interest rates – which may present an interest rate path that is inconsistent with the Bank's price stability mandate.

Forward guidance - avoiding potential pitfalls

This transparent approach comes with potential costs. First, research highlights that increased transparency, in some cases, can be detrimental to the economy. This is particularly the case if the public takes the Bank's information as definitive, despite it being noisy or imperfect.⁸ We aim to minimise such instances by offering a full discussion of the assumptions and risks that underpin our projections, to clearly highlight the limitations in our knowledge.

Second, some research claims that when a central bank provides an endogenous interest rate projection, fears of credibility loss may lead it to stick to a previously published policy path, even when faced with new economic developments.⁹ I can say, from my experience, that this has never been a problem at the Bank.

Third, some have argued that it may be difficult for a central bank to reach consensus on an entire path for interest rates.¹⁰ Practically, this has not been a problem at the Bank. Committee practices are efficient enough for the Governing Committee to reach an agreement on a qualified projection for the 90-day interest rate.¹¹

⁶ See Ford, Kendall and Richardson (2015), 'Evaluating Monetary Policy', Reserve Bank of New Zealand Bulletin, November 2015.

⁷ See Kamber, McDonald, Sander and Theodoridis (2015), 'A structural model for policy analysis and forecasting: NZSIM', Reserve Bank of New Zealand Discussion Paper, DP2015/05.

⁸ These points are expanded on in: Morris and Shin (2002), 'Social value of public information', *The American Economic Review*, Vol. 92, No. 5, pp1521-1534; Dale, Orphanides and Osterholm (2011), 'Imperfect central bank communication: information versus distraction', *International Journal of Central Banking*, Vol.7, No. 2, pp 3-39, June 2011.

⁹ This issue is discussed in: Mishkin (2004), 'Can central bank transparency go too far?', NBER Working Paper 10829; Goodhart (2009), 'The interest rate conditioning assumption', *International Journal of Central banking*, Vol. 5, No.2, pp 85-108, June 2009.

¹⁰ For example, see Goodhart (2009).

¹¹ Approaches to aggregating committee views are discussed further in: Svensson (2003), 'The inflation forecast and the loss function', *Central Banking, Monetary Theory and Practice: Essays in Honour of Charles Goodhart*, Vol. 1, pp 135-152.

More broadly, it is important that financial market participants and the public understand the 90-day interest rate is a conditional projection. It is not a commitment from the Bank to a specific set of actions. The effectiveness of monetary policy can be hampered if the public and financial market participants take the forecast as a commitment.¹²

The 90-day interest rate projection shows how interest rates may need to evolve to achieve price stability if the economy evolves in line with the Bank's forecasts. Of course, the uncertainties faced in forecasting mean that the economy will almost always evolve differently to what the Bank expects. Cyclical factors like the strength of the international economy, movements in oil and other commodity prices, and the exchange rate can develop in unexpected ways. For example, at the current juncture, the economy is faced with a number of unique supply-side developments which add additional uncertainty to the outlook. These include reconstruction activity in Canterbury, the recent sharp fall in oil prices, a rapid rise in inward migration and the potential impacts of El-Nino.

In addition to these business cycle developments, structural aspects that may be linked to factors such as globalisation, technology and demography can also have major impacts on economic growth and inflation. In normal times these structural aspects move relatively slowly. However they are important in determining how interest rates might affect inflation and the cycle in output and can move sharply in a crisis. All of these factors can affect the neutral interest rate, potential output and inflation expectations.¹³

If financial market participants understand the conditional nature of our forecasts, the 90-day interest rate projection can help participants understand how we are likely to respond to changes in the economic outlook.

Every three months we provide a new projection for the 90-day interest rate. The changes in this projection, and the analysis in the *Monetary Policy Statement (MPS)* on the state of the economy, illustrate how unforeseen events have shaped the Bank's outlook for policy.

Over time, this should help financial market participants understand the Bank's 'reaction function' – that is, how economic events affect the outlook for inflation and the implications we draw for monetary policy. If financial market participants have a good understanding of our reaction function, and share similar views on the economy, interest rates should adjust to levels consistent with medium-term price stability without the need for constant comment and intervention from the Bank.

We try to facilitate this understanding by presenting a description of key judgements and alternative scenarios in our *Monetary Policy Statements*. These help illustrate how monetary policy would likely need to respond if judgements were to prove incorrect or if risks to the outlook were to crystallise.

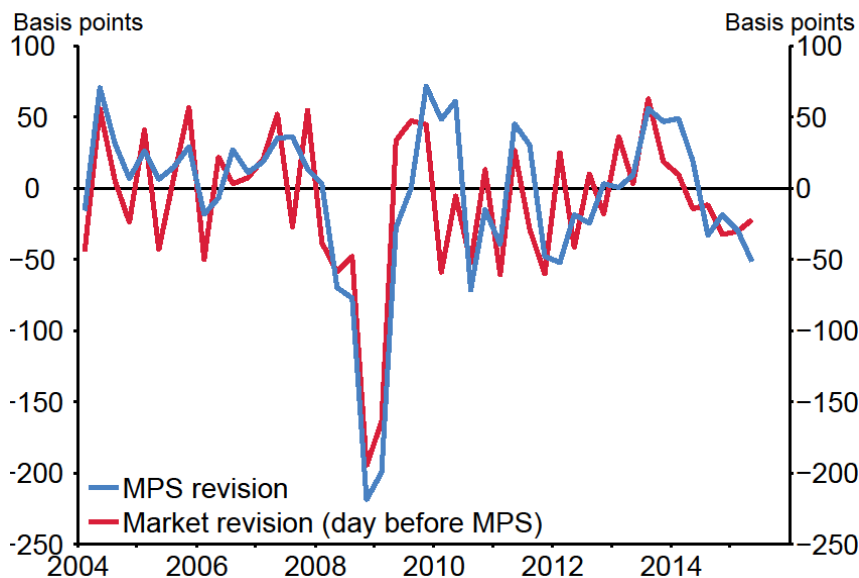
¹² Bergstrom and Karagedikli (2013), 'The Interest Rate Conditioning Assumption: Investigating the Effects of Central Bank Communication in New Zealand', Reserve Bank of New Zealand, mimeo, find that if the public interpret interest rate forecasts as conditional, the forecasting performance of private agents for short-term interest rates is improved at short horizons. If the communication is interpreted as the central bank deviating from its interest rate rule, the forecasting performance of the public for short-term interest rates is again improved, but the forecasting performance for macroeconomic variables is worsened.

¹³ The Bank has recently published a range of research on these factors. For more information see: Lienert and Gillmore (2015), 'The Reserve Bank's method of estimating "potential output"', Reserve Bank of New Zealand Analytical Note, AN2015/01; Richardson and Williams (2015), 'Estimating New Zealand's neutral interest rate', Reserve Bank of New Zealand Analytical Note, AN2015/05; Armstrong (2015), 'The Reserve Bank of New Zealand's output gap indicator suite and its real time properties', Reserve Bank of New Zealand Analytical Note, AN2015/08; Lewis (2016, forthcoming) 'Inflation expectations curve: a tool for monitoring inflation expectations', Reserve Bank of New Zealand.

Financial market participants seem to have had a good understanding of the conditional nature of our projections. Figure 1 illustrates the point for the period since 2004. The red line in the chart shows how the market implied 1-year-ahead 90-day interest rate moves from the day after a *Statement* to the day before the next *Statement*. This change represents how market participants have interpreted the incoming economic data and events and how they think the Bank will respond.

The blue line shows how the Bank revised its 1-year ahead 90-day interest rate projection from one *Statement* to another. The blue line gives an indication of how the Bank interpreted new economic events and the subsequent monetary policy response.

Figure 1: Change in 90-day interest rate 1-year ahead



Source: RBNZ estimates.

Generally, market participants change their outlook for interest rates in a similar way to the Bank as new economic and financial information becomes available. The majority of the move in interest rates occurs before we have provided financial market participants with our interpretation of new events. This suggests market participants have a good understanding about how new information changes the Bank's own outlook, the conditionality of the Bank's projections and the Bank's reaction function.

Conditional commitment in action – changes in the policy outlook since 2014

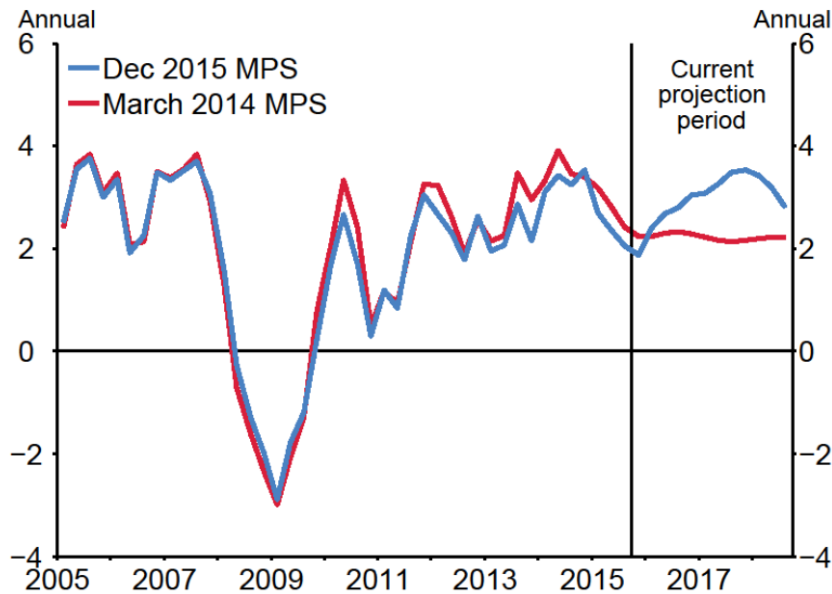
The changes in the Bank's policy stance since the beginning of 2014 provide a good illustration of the conditional nature of forward guidance in practice. At the March 2014 *Statement*, the 90-day interest rate had averaged 2.85 percent in Q1 2014, and the Bank was projecting it to rise to 5.5 percent by Q3 2017.

However, a number of factors led to a moderation in the outlook for inflationary pressure over the quarters that followed. Both cyclical and structural aspects of the New Zealand economy evolved in unforeseen ways. These events included significant falls in the prices of oil and New Zealand's commodity exports, a stronger-than-expected exchange rate, weaker-than-expected capacity pressures (and stronger potential growth), and weaker non-tradables inflation.

Despite these developments, by the December 2015 *Statement* the Bank was projecting even stronger economic growth than had been expected in March 2014 (figure 2). This is not

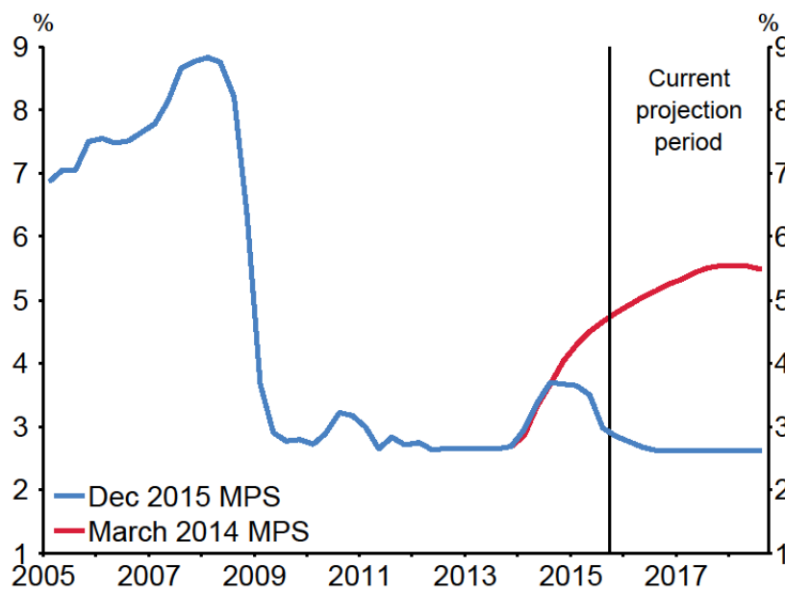
because the fundamental outlook had improved, but because this new information led the Bank to change its outlook for monetary policy and provide more stimulus to the economy. Indeed, the December 2015 *Statement* projected that the 90-day interest rate would be 2.6 percent in Q3 2017, almost 300 basis points lower than was forecast in March 2014 (figure 3). Given the weaker starting point for inflation, stronger growth was needed to bring inflation back to target. However, as discussed, this projection for stronger growth is conditional on a set of certain assumptions, and the Bank may need to change its activity and policy outlook if new events were to unfold.

Figure 2: New Zealand GDP growth



Source: Statistics New Zealand, RBNZ estimates.

Figure 3: The 90-day interest rate

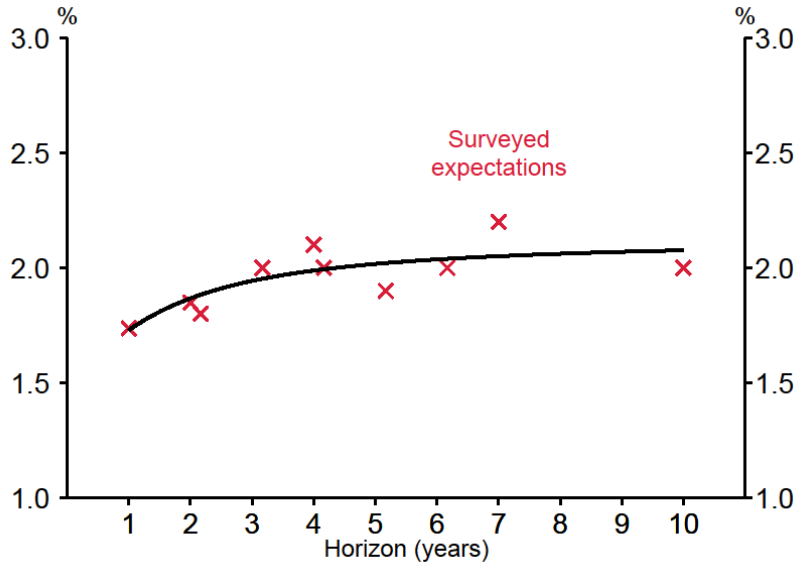


Source: RBNZ, RBNZ estimates.

The changes in the 90-day interest rate projection over this time illustrate how flexible inflation targeting operates in practice. The forecasts evolved to ensure that medium-term price stability would be maintained. Therefore, despite inflation being weaker than expected

and the revision to the 90-day interest rate outlook, the credibility of the monetary policy framework has been maintained. Medium-term inflation expectations have fallen over the past six months, but are currently near the 2 percent target midpoint (figure 4). External forecasters also expect inflation to return to target over the medium term.

Figure 4: Inflation expectations (annual, years ahead, fitted curve in black)



Source: ANZ Bank, Aon Consulting, RBNZ estimates.

Crucially, the Bank is – and perceived to be – committed to its inflation target, which helps anchor inflation expectations. When formulating monetary policy, the *PTA* directs the Bank to have a forward-looking focus, irrespective of past inflation outcomes. The projection, at any time, seeks to ensure that price stability can be achieved while avoiding unnecessary instability in output, interest rates and the exchange rate. The Bank will continue to adjust monetary policy as conditions evolve to ensure that price stability is achieved over the medium term.

Conclusion

When it comes to communication, central banks use a diverse range of practices, and best practices differ from country to country. For New Zealand, we find it beneficial to publish a projection for the 90-day interest rate. It supports transparency, and its evolution over time contributes to market participants' understanding of how the Bank responds to unexpected economic events.

The projections are conditional in nature, reflecting the many challenges faced in forecasting the New Zealand economy. It is important financial market participants understand that these forecasts are not a commitment to a certain path of policy. Indeed, financial market participants generally have a very good understanding of the conditional nature of our forecasts.

The experience since the beginning of 2014 highlights the conditional nature of our interest rate forecasts. Unforeseen economic events led to weaker-than-expected inflationary pressure in the economy. As a result, we significantly revised down the outlook for short-term interest rates. The Bank will continue to adjust monetary policy as conditions evolve to ensure that price stability is achieved over the medium term.