

Discussion of “Inflation Targeting and Economic Reforms in New Zealand”*

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Successive New Zealand ministers of finance and central bank governors have chosen inflation targeting, but results in the paper suggest that New Zealand might have been better off with nominal income targeting, both pre-liberalization and after the transition to an economy with much lower trade protection and more flexible labor markets. So did David Caygill—the minister of finance responsible for the framework—and Don Brash (governor at the time) get it right?

I was invited to discuss the paper as someone who was closely involved in New Zealand’s monetary policy design and implementation for most of the time since the late 1980s. So these comments are more in the nature of thoughts prompted by the paper than a detailed commentary on the structure of the model. As the paper does, I will try to treat separately the pre-liberalization period, the liberalization transition (which included the adoption of inflation targeting), and finally the post-liberalization period.

1. Pre-liberalization

The authors have tried to calibrate the model to capture features of the New Zealand data for the pre-liberalization period. That is heroic, especially given the quality of much of the earlier New Zealand data. I wonder if it was worth the effort, but also whether they have the model correctly calibrated.

The model looks to have been evaluated using rules that only make sense in a floating exchange rate world. But we had a largely

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fixed exchange rate. The practical target of policymakers was avoiding too frequent or too severe current account crises, and keeping unemployment (extremely) low. What does it mean, I wonder, to say that nominal GDP (NGDP) targeting would have been the preferable rule in that era?

And I wonder if the model is really capturing key features of the hugely distorted pre-liberalization New Zealand economy. For example, the authors several times note that various results arise because unemployment would become less variable post-liberalization than it was pre-liberalization. But that was not New Zealand's experience. The unemployment rate was incredibly low and stable in the pre-liberalization period (even though we had at least two serious recessions—in 1967 and 1977—as deep as anything in the U.S. data). By contrast, unemployment (and hours) looks more conventionally variable in the post-liberalization era (even as GDP itself has become less variable). Pre-liberalization New Zealand probably had inefficiently low—if socially welcomed—volatility in both job creation and unemployment.

2. The Liberalization Transition

Between 1984 and 1993, New Zealand governments adopted a huge range of liberalization measures.

But that period was as much about macroeconomic stabilization as about microeconomic liberalization. I don't think the paper adequately recognizes or allows for that. By "macroeconomic stabilization" we were not then talking about limiting cycles in unemployment or the output gap, but about getting under control huge fiscal deficits, a large public and foreign debt, and an inflation record that had become one of the worst (highest and most volatile) among the member countries of the OECD.

The paper, and those on which it builds (e.g., Cacciatore, Fiori, and Ghironi 2013), seems to start from an implicit assumption that such macroeconomic stability has already been secured. It looks at the implications of a transition from highly regulated to less regulated external trade and labor markets, but not at the implications of the transition from high to low inflation (or indeed, high to lower nominal income growth). Of course, those transitions are not the focus of the paper, but it struggles to shed light on the

actual New Zealand experience, its advertised aim, without doing so. In New Zealand—probably more so than in most of the countries that adopted inflation targeting in the 1990s—the two processes (liberalization and stabilization) went hand in hand.

In our specific context, the inflation target was about two things: getting and keeping inflation down, and providing a basis for formalized accountability. It was *not* primarily about the best ongoing cyclical stabilization properties. Of course, we wanted to avoid a formal accountability process that would “require” us to do stupid things in response to the inevitable shocks, but that was not the focus in choosing to introduce an inflation target.¹

By the late 1980s New Zealand seemed to have (just recently) put behind it the 15 percent annual inflation rates of the earlier period, but the worry—shared across the Reserve Bank, the Treasury, and the minister of finance—was that firms, households, and markets would expect us to settle for perhaps 5 percent annual inflation. Reform programs burn up political capital. So in shaping and communicating monetary policy, the constant search had been for ways to get inflation down (and keep it down) that reduced the transitional real economic costs² and, not incidentally, minimized the risk that the whole reform program would be abandoned or reversed.

So a key goal was to influence expectations and behavior, by persuading wage and price setters to take seriously a regime that was (i) novel, (ii) supported by only bare majorities in both major

¹Rereading old files, or examining the early Policy Targets Agreements (discussed in more depth in Reddell 2014), is to be reminded how much analysis and debate went into trying to get these details right. Issues included are as follows:

- The treatment of housing. At the time, the headline CPI included mortgage interest rates and had a large asset price component (including the costs of residential sections and the cost of existing houses).
- Government taxes and charges. Material adjustments here were not seen as matters that the Reserve Bank should attempt to offset (whether in levels or changes).
- Natural disasters (including earthquakes and foot-and-mouth disease outbreaks) were a basis for the inflation targets to be renegotiated.
- Terms-of-trade shocks.

²The Bank was conscious of the micro-reform program and regularly championed the case for faster progress in reducing trade protection, liberalizing the labor market, and cutting the fiscal deficit, to ease pressure on monetary policy (minimizing job losses and/or excess pressure on the tradables sector).

political party caucuses, and (iii) one which even the then minister of finance could observe privately (cited in Reddell 1999) on the eve of the Reserve Bank legislation passing that, if it looked likely the target would be missed, it would “simply be abandoned.”

By contrast, in the paper, expectations appear to have a very small role. Implicit rational expectations are embedded in the model, which may make sense in stable times with regimes that enjoy widespread technical and political backing. But what was a rational (i.e., reasonable mean) expectation in late 1989, when it was unknowable which wing of the party (“wet” or “dry” in British parlance) would dominate the next National government³ and whether David Caygill or the leading dissenter on the left, Jim Anderton, would be more important in determining the stance the political left would take after the seemingly inevitable 1990 defeat of the reforming Labour government?

The other thing that shaped the New Zealand outcome was the need for something measurable as part of a formalized accountability structure. I’ve argued consistently (e.g., Reddell 1999) that the Reserve Bank Act was an outcome of two separate forces: on the one hand, it was the result of the dismal inflation track record and concerns about the past politicization of monetary policy. But on the other, the Reserve Bank was just another government agency, at a time when far-reaching state sector reform was under way. The focus was on principals holding agents accountable for measurable *outputs*.

In the contemporary discussions, officials were not oblivious to options other than inflation for nominal targets. Immediately post-liberalization, the Reserve Bank and the Treasury quickly realized that in the midst of financial deregulation monetary and credit aggregates were going to be impossible to interpret for some years. And some benchmark nominal GDP indicative targets had been announced (to try to shape expectations) by the minister of finance in his 1985 budget (and then never heard of again).⁴

³Indeed, in mid-1991, with the economy deep in recession, fairly senior Treasury officials urged Reserve Bank officials to be more relaxed about inflation and not to be too bothered about 0–2 percent inflation, to help safeguard the political position of the embattled minister of finance (a key advocate of the Reserve Bank Act framework).

⁴And in a recent working paper, Silverstone (2014) documents a survey he ran of Reserve Bank economists while a visiting academic at the Bank in 1987. His

For some in the Treasury, money base or note issue limits seemed ideal for the purpose—something measurable that the central bank could directly control if it chose. And there was some concern that the lags from monetary policy to inflation were simply too long to provide, in isolation, a reliable basis for accountability, or to signal to price and wage setters whether or not policy was “on track.” With the focus on output targets, wherever possible, agreement to use an inflation target as a centerpiece for accountability was a fairly major concession. One thing going for the CPI, in this conception, was that it was hardly ever revised—at least in principle it would always be clear whether or not the target had been met.

Probably the only feasible alternative at the time was a fixed exchange rate—recall that this was about the time the United Kingdom joined the Exchange Rate Mechanism. It was measurable, easily understood, and unrevised. But if we had gone that way, the target would not have lasted long, as New Zealand proved to have a much higher neutral real interest rate than other advanced economies.

Nominal GDP was not a serious contender. We barely had the data at all, revised or unrevised. In researching this talk, I unearthed a particularly trenchant piece of Reserve Bank advice to the minister of finance in mid-1989:⁵ in response to “some commentators,” the Bank noted that New Zealand at the time had no quarterly nominal GDP numbers,⁶ and the annual numbers were released with an eight-month lag, concluding that “since nominal GDP is of little use either as an indicator or as an ultimate target, the Bank does not include nominal GDP in its list of indicators and does not intend to formulate any nominal GDP targets.”

There is simply no way that the early Policy Targets Agreements could ever have been formulated in terms of nominal GDP targets, even if officials on either side of The Terrace had been more

questions asked them whether the Bank should have an explicitly stated desired time path for (i) inflation and/or (ii) nominal income. More respondents favored an inflation time path than favored a nominal income one, but the difference in numbers wasn't great.

⁵Reserve Bank of New Zealand, Memorandum for the Minister of Finance, “Review of the Monetary Policy Framework,” June 15, 1989.

⁶And thus, e.g., quarterly PCE deflator numbers were also not available.

sympathetic to the conceptual arguments.⁷ Incomplete data and the prospect of substantial ongoing revisions would have made it useless for the sort of accountability envisaged at the time. And nominal GDP simply had no resonance in the domestic debate, whether academic or political.

Perhaps it is telling that the model in the paper does not, in fact, offer much guidance on what might have been the best monetary policy during the transition period. In panel A of table 4, whether one uses the historical or the smoothing versions, each of the rules emerges as best in one of the reform scenarios. And that is just with three variants of reform. Perhaps the model is going to be most helpful for thinking about reform in a single major sector, but rather less so in thinking about what might be best in the midst of a very wide-ranging reform program of the sort New Zealand undertook. It was very difficult for anyone to keep track of all the reforms and their (transitional or longer-term) implications, let alone model them.

When a great deal of reform is going on all at the same time, when reading the data is even harder than usual, when breaking a pattern of high and variable inflation is also in the mix, perhaps there simply has to be a lot of “playing things by ear.” Perhaps “political” dimensions—what helps keep policy moving in broadly the right direction, without doing too much damage in the interim—inevitably play a bigger role than in more settled times. And serendipity can also influence outcomes. If thoroughgoing reform of the governance of core government agencies had not happened to be under way at the same time, it is highly unlikely that the Reserve Bank would have become known as the first adopter of modern inflation targeting (or, hence, that the Bank would be co-hosting this conference).

3. Towards the Present

Beyond the transition, the authors conclude that, on this model and these specifications, in the post-liberalization era nominal GDP

⁷If they had been feasible, they would have faced some similar measurement issues. For example, with lots of taxes and subsidies changing, should a target be expressed in terms of NGDP at market prices or at factor cost? The former would probably have attracted more media attention, prompting the need for discussions around core/trend/underlying growth in NGDP.

targeting still beats inflation targeting and price-level targeting, albeit by a smaller margin.

In one sense, that should not be surprising. In putting together our inflation-targeting framework, we knew of the literature suggesting that nominal GDP targets could be attractive in the presence of supply shocks. And in the paper, the various monetary policy rules are evaluated using a specific type of supply shock—an economy-wide domestic productivity shock.

It was not clear why they chose to evaluate only this shock. Some colleagues suggested that it was a common approach in the literature, and for some purposes that sounds fine. But to evaluate possible alternative monetary policy rules for New Zealand—where economy-wide productivity shocks don't appear to have been particularly important—one would surely need a more extensive assessment of how the model performs in the face of a much wider range of shocks. To reach a robust view on whether, even in concept and within the model, a nominal GDP approach would likely be superior for New Zealand, I would want to understand how the model performs under fiscal shocks, credit availability shocks, exogenous migration shocks, climatic shocks, and export and import price shocks.

Even if the model still suggested that nominal GDP targeting was superior, one would need to look carefully, and critically, at how much difference such a rule—as it would likely have been applied by real-world policymakers—might have made, relative to the real-world benchmark of how inflation targeting has actually been run.

I want to use terms-of-trade fluctuations to illustrate the point. New Zealand's entire post-1840 economic history had been shaped by periodic surges and slumps in the real prices of its agricultural and pastoral exports. As Steenkamp (2014) documents, in recent decades New Zealand's terms of trade have been among the most variable of those of OECD member countries. I welcome the effort to incorporate exogenous terms-of-trade shocks in the revised version of the paper. Such shocks certainly got considerable attention in the design (and ongoing operation) of the New Zealand inflation-targeting regime.

When oil prices rise (fall) sharply, the approach the Reserve Bank is mandated to take is to allow the first-round direct price effects into the CPI and not attempt to offset them. The focus is on

having monetary conditions set to ensure that inflation stays consistent with the target over the medium term, avoiding any material displacement of inflation expectations. Headline inflation initially deviates from (headline) target and then gradually returns to it. What would a nominal GDP targeter do? It is plausible that monetary policy might be set a little more loosely in the face of a sharp oil price increase than would be the case under inflation targeting, but (i) surely the difference will typically be small, and (ii) the scope and magnitude of any difference will depend on how wage and price expectations behave. In neither case does one typically tighten monetary policy in the face of a sharp rise in oil prices—as a caricature of strict inflation targeting might suggest—unless expectations appear likely to be displaced.

Import price shocks—which have mostly involved oil prices—have pervasive effects on purchasing power and input costs across the economy. Oil prices also look more like a random walk. And New Zealand's import prices are not unusually volatile by OECD standards.

But our export prices have been among the most volatile in the OECD and, if anything, have been becoming more volatile over the last decade. Unfortunately the Huang, Margaritas, and Mayes (2001) version of the Taylor rule used in the paper was estimated over one of the periods in New Zealand history with the most stable terms of trade. The differences between nominal GDP targeting and inflation targeting in New Zealand might be starker with respect to export prices.

In an NGDP rule of the sort used in the paper, under which policy responds to deviations of nominal GDP growth from target, a lift in the terms of trade, from the export side, would prompt an immediate tightening in policy. NGDP would rise immediately. By contrast, applying something like a Taylor rule under inflation targeting would result in no immediate change in policy—there would be no observed change in the output gap and, if anything, headline CPI inflation might move a little lower (since the exchange rate tends to rise when commodity prices do).

That is a stark difference, and it is somewhat akin to the difference tested in the paper (which doesn't evaluate forward-looking policy). But, of course, no one sets out to run policy using Taylor-type rules. Instead, we try to run forecast-based policies. The Reserve

Bank has often forecast export prices on the basis of mean reversion, reflecting the series of quite marked cycles seen in dairy prices in particular.

Here there looks to be quite a difference between nominal GDP growth and levels targeting. Faced with a positive export price shock, a forecast-based NGDP growth targeter will observe a near-instantaneous lift in NGDP growth, but it is too late to do anything about dampening it. But unless they assume that the terms of trade is a random walk (not the Reserve Bank practice), they will also typically have a forecast in which future NGDP growth might well *undershoot* the medium-term target band. Since NGDP targeting tends to induce a stronger policy reaction to terms-of-trade shocks, there is then a risk of engendering more volatility into policy—easing policy into an export price boom. The paper itself evaluates an NGDP levels target, which appears less prone to that risk, but it would be interesting to see how different the results are between the model's results for NGDP levels and growth rate rules. I suspect the model would struggle to deal with the question of what policy rule would be optimal if the central bank were often to get its export price forecasts wrong.

In thinking about an export price shock, it might also be important to understand the transmission of the shock across the rest of the economy. A highly open economy, in which a generalized export price shock affected firms across an employment-rich wide-ranging export sector, might look considerably different than a sector-specific shock in a moderately open economy where the commodity production sectors employ relatively little labor (the story in New Zealand dairy, and much more so in Australian minerals and gas extraction). If New Zealand experiences a surge in dairy prices, and much of the proceeds are saved by farmers—perhaps because they are very conscious of the volatility of prices—why would one want to tighten monetary policy against that lift, if there was little or no apparent spillover to domestic (wage or price) inflation? Perhaps if the shock destabilized wage expectations there could be a basis, but there has been little sign of that sort of wage-setting behavior in response to recent export price shocks. The issues are even more stark in Australia, where most of the profit variability in the face of export price shocks accrues to non-Australian owners of capital (whose consumption choices are likely to put few pressures on domestic resources in Australia).

I can imagine—but would like to see tested—that if an initial export price shock prefigured a multi-year trend in export prices in the same direction, an NGDP rule would produce superior welfare properties, by easing adjustment in the presence of nominal rigidities. But if the volatility dominates the trend, as I suggest that it has over the time horizons of interest, inflation targeting—especially as practiced, focused on core medium-term trends in inflation—seems likely to be a (much) better option.

But that should not be the end of the story. Much of the academic discussion of inflation targeting focuses on the idea of stabilizing the stickier prices in order to minimize the real costs of adjustment to shocks. Since, as this paper agrees, wages are typically among the stickier prices, perhaps we should be more seriously considering the merits of nominal wage targeting, as Earl Thompson argued decades ago. I have noted elsewhere (Reddell 2014) that such a rule could even have financial stability advantages. Nominal wages are the prime basis for servicing the nominal household debt that dominates the balance sheets of our banks. Faced with adverse shocks, and especially deflationary ones, nominal debt is arguably the biggest rigidity of them all. It would be interesting to see such a rule evaluated in a suitable model.

If productivity shocks were the dominant source of dislocations in New Zealand, such a wage rule could also have considerable appeal—shifting the variability into the price level rather than into (sticky) nominal wage inflation. As it is, over the last twenty years, wage inflation has followed a rather similar path to core CPI inflation—and does not look much like fluctuations in the path of nominal GDP (or in NGDP per capita, or NGDP per hour worked). So perhaps, at least over that period, policy should have looked very little different under a wage rule than under the CPI inflation targets that successive ministers and governors have agreed upon.

A single paper cannot cover all the issues, and a single model cannot capture all important distortions, but in one respect this paper did strike me as having a slightly dated feel to it. A decade ago most of us told ourselves stories in which the zero lower bound was a textbook curiosity, and if the Japanese had got there, that was surely a reflection of some really bad policy choices. But across much of the advanced world, central bankers have spent the last six

years or so at, or acting as if they believe they are at, the near-zero lower bound. How well do each of the possible rules do in easing that constraint or mitigating the consequences of hitting it? I suspect that to deal with that challenge one would need to introduce a richer treatment of expectations. The issue is timely: few advanced countries are now far from zero and even New Zealand is much less than a typical easing cycle away.

Some argue that even if an analytical case for change to an NGDP target were to become more persuasive, there has been such a large investment in communicating with the public, markets, etc., about inflation targets, which would all be lost with a shift to an NGDP target, that it is not worth changing. But, in practice, a large amount of central bank communications consists of telling people not to pay much attention to headline inflation but to look at this, that, or the other measure of underlying medium-term or persistent inflation pressure. The lack of revisions to the CPI is often presented as an advantage, but (i) no one has followed New Zealand in making the governor dismissable over monetary policy errors, and even in New Zealand no one can specify what would or should result in such a (recommendation for) dismissal,⁸ and (ii) revisions partly reflect genuinely uncertainty about our ability to measure and report accurately on macroeconomically meaningful aggregates (including, of course, the output gap).

A final consideration is that no other country has chosen to adopt NGDP targeting, whether in levels or growth rate form. I have often argued that there must be some wisdom in the revealed choices others have made, especially when the issues have been around for decades. But, in fairness, we also know that countries can settle on choices that quickly look quite bad in hindsight. As just one example, leading up to 1929 more and more countries were getting back onto the gold standard.

⁸By contrast, when the then governor was asked by an interviewer in 1993 what would happen if inflation went above 2 percent (then top of the target range) and whether this would mean he would lose his job, Dr. Brash (1993) responded without qualification, "Exactly right." Actual accountability with respect to monetary policy is much more about process than about outcomes (a point elaborated in Reddell 2006).

4. Conclusion

Formal models such as these can help one think through the issues carefully. If it was disappointing, it was probably not surprising that the paper could not offer much guidance on appropriate policy rules in transitions, perhaps especially not multi-dimensional ones like New Zealand's.

To see whether the case for nominal GDP targeting looks plausible for New Zealand, it would be interesting to see an assessment of how the model performs using a forecast-based approach. This paper probably is not enough to make any central bank converts to NGDP targeting at present, but it is a useful reminder that we need to remain open and that inflation targeting is most unlikely to represent the end of monetary policy history.

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