AN ANNOUNCED DOWNWARD PATH FOR INFLATION

The following article reproduces a paper by Peter Nicholl and David Archer which has recently won a Special Merit Award in the International Amex Bank Review Essay Awards in Memory of Robert Marjolin. It is based on a speech given by Peter Nicholl in October 1991 to a Conference in Sydney, organised by Macquarie University. Because of the time that had elapsed since the original presentation, a postscript was added at the end of the article to update the discussion on experience under the Reserve Bank’s monetary policy framework.

Introduction

This article has the objective of informing an international audience of New Zealand’s experience with a rather unique variant of monetary policy. Monetary policy in New Zealand is aimed at the achievement of price stability. That in itself is not so unusual, as price stability is the stated objective of the monetary policy of many countries around the world. The uniqueness lies in the specification of the target, which is unusually well defined.

The specification of the target involves a number of elements.

- Price stability as a concept is defined in quantitative terms.
- A time period is specified for the achievement of price stability, which is important because the initial starting position was away from the target.
- The extent of variation allowed in outcomes around the target is prescribed.

Closely intertwined with these unique elements is a publicly announced downward path for inflation. The construct of an announced downward path encapsulates and reflects much of the Reserve Bank of New Zealand’s views on the appropriate role for monetary policy, and on the use of monetary policy techniques.

Accordingly, this paper elaborates on the reasons for announcing a disinflation path in New Zealand, and on our experience with this approach. There are a number of important early lessons to be derived from experience to date. In order to draw these out, it is important first to understand something of the historical and institutional background, which is a crucial part of the framework within which monetary policy is set in New Zealand.

The next section briefly summarises the recent New Zealand history with regard to monetary policy and inflation performance. Following this, two sections describe the new institutional arrangements for monetary policy that were embedded in new legislation in 1989, and some of the theoretical underpinnings for the new approach.

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Practical implementation of the new policy framework, and experience with this implementation, are discussed next. Finally, a short section draws out some of the more important policy conclusions.

A Short History
New Zealand experienced double digit inflation for most of the period since the first oil shock. Cumulative inflation (on a Consumer Price Index (CPI) basis) between 1974 and 1988 (inclusive) was 480 per cent. A brief, but temporary, fall in inflation to below 5 per cent occurred in the early 1980s, but only as a result of a distortionary wage, price, dividend and interest rate freeze. Throughout the period, monetary policy faced multiple and varying objectives which were seldom clearly specified, and only rarely consistent with achievement of inflation reduction.

As a result of this experience, inflation expectations were deeply entrenched in New Zealand society.

Alongside this poor inflation performance, and ultimately providing the catalyst for change, was an equally dismal growth performance. Over the decade and a half from 1974 to 1988, growth in New Zealand averaged only 1.4 per cent per annum, while public sector and overall external indebtedness rose dramatically.

The New Policy Framework
Since early 1990 the Reserve Bank of New Zealand has been operating under the auspices of a new Act. That Act is fundamentally different from the legislation that preceded it. The key elements of the new legislation are:

- The price stability goal is now entrenched in law. The statute says “the primary function of the Bank is to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices”. The clause in the preceding legislation had multiple objectives - price stability, economic growth, full employment, and balance of payments equilibrium.

- Secondly, the Bank now has effective independence to implement monetary policy in pursuit of its statutory objective, without limitations on the technique except that the choices made must “have regard to the efficiency and soundness of the financial system”. This means that while the objective of monetary policy is specified in a manner akin to a rule (as will be indicated shortly), the monetary authorities have been given (and use) discretion in monetary policy implementation. No intermediate targets - in the form of monetary aggregates or any other financial variable - are used.

- Ultimately, however, the legislation recognises that any choices on the tradeoffs between monetary policy and other economic policy objectives are the prerogative of the Government, and mechanisms are provided in the legislation for these choices to be exercised. In this way, the legislative framework is consistent with a Westminster approach to democracy. The Government sets the target, and can
change it through legislatively specified procedures. The Reserve Bank cannot change the target that it has been given.

- But, in stark contrast with earlier legislation, the way in which the tradeoff choices must be effected means that all choices on the objectives for monetary policy must be made public and are therefore transparently obvious to the community.

- Along with the operational independence goes accountability for monetary policy implementation decisions. The main mechanism is a requirement to publish a detailed Monetary Policy Statement at least every six months. A Select Committee of Parliament examines the Bank following the publication of each statement. The main sanction for poor performance in relation to the objective is the explicit ability of the Minister of Finance to sack the Governor.

For clarity and accountability, 'stability' and the 'general level of prices' need definition. They are not defined in the legislation, but the Act requires the Governor of the Bank and the Minister of Finance to agree on the definition, and to set this out publicly in a Policy Targets Agreement. The Governor is accountable for the outcome of monetary policy in relation to the quantified inflation targets in the Policy Targets Agreement.

The Policy Targets Agreement defines price stability as 0-2 per cent annual increases in the Consumers Price Index. The CPI is used, not because it is any more perfect a measure of changes in the 'general price level' than other indices, but because it is the most widely known and best understood index. However, the Agreement also requires the Bank to monitor a range of other price indices. The above-zero rate of inflation specified reflects index number problems, the survey methodology, and the difficulty of adjusting for new goods or for improvements in quality. Effectively, a judgement has been made that 1 per cent CPI inflation is consistent with stability in the general level of prices.

Provision is made for inflation outcomes outside this 0-2 per cent band. Large exogenous supply shocks, such as oil shocks, or direct shocks to the price level arising from indirect tax changes by the Government, would force a shift in monetary policy to offset them if there were no caveats that provided for departures from the target. Forcing monetary policy to offset the effects on the price level of such shocks would, it is believed, cause real costs that would be out of all proportion to the benefits of short-run price stability. But it is clearly important that caveats to the price stability target are not so all-encompassing, or so loosely defined, as to let domestically sourced inflationary pressures be accommodated.

Because inflation was over 5 per cent at the time that the legislation was enacted, the Policy Targets Agreement had to specify a time frame for the achievement of price stability. The choice of that time frame represents one of the points at which the Government can exercise its ultimate right to determine the tradeoffs between monetary policy and other policy objectives. The initial Policy Targets Agreement signed in March 1990 called for achievement of 0-2 per cent inflation by December 1992 and maintenance of price stability thereafter. Partly as a result of a view that the output and employment costs of the speed of adjustment implicit in this time frame were too high, the new Government elected in October 1990 deferred the target date by one year.
It should be noted that perpetual deferral of the target date would not provide an easy way out for the Government. The Policy Targets Agreement is a contract between the Government and the Governor of the Bank. The Governor must be satisfied that the Agreement is consistent with the Bank's statutory price stability objective. If s/he is not satisfied, the Government must explicitly and publicly over-ride the price stability objective. A mechanism is provided in the legislation for doing this - again, reflecting the ultimate right of the Government to choose to make a tradeoff. But, in order to do as much as possible to entrench the price stability objective, the Act stipulates that any over-ride of that objective can only last a year. The Government must explicitly and publicly renew the over-ride each year.

A Monetary Policy Theoretic Interpretation

In some respects, the policy approach outlined above is thoroughly in tune with the theory, especially in relation to the single-minded focus on price stability. But in other respects, the consistency is not so obvious. There is, as noted, no role for intermediate targets in the New Zealand monetary policy operating method. Nor are there clear 'rules' for the short-term conduct of policy. A considerable amount of discretion is provided to the monetary authorities to juggle the levers of policy as they see fit. Nonetheless, it is fair to claim that New Zealand has a framework that provides a good basis for the development of policy credibility, and as a result, the minimisation of the real interest rate costs of potentially time-inconsistent policy.

An explanation of the theoretical underpinnings of the New Zealand policy approach, and the foregoing claims for it, is available in an article by Robert Flood and Peter Isard in the September 1989 edition of the IMF's Staff Papers. Considering the rules versus discretion debate, Flood and Isard examine the properties of the alternative policies within a world in which the structure of the macro-economy, and the nature of the shocks to the economy, are not well known. They argue that in such a world, the usually-preferred fully state-contingent rules are unworkable for practical reasons. Such rule systems are just too complicated. In these circumstances, simple, or partially state-contingent, rules do not necessarily work better than the alternative of complete discretion. It depends on where the shocks are coming from and the state of knowledge of the policy-makers.

In principle, a mix of discretion and a partially state-contingent rule could perform better than either of the alternatives. The trick is to find institutional structures that give strong enough incentives for the policy-makers to follow the rule in normal times, but not incentives so strong that major disturbances are not accommodated by way of a temporary departure from the rule.

While Flood and Isard are not addressing exactly the kind of approach adopted in New Zealand, there are some very close parallels. The New Zealand framework has a clear and, as previously noted, uniquely well defined rule for the inflation target. Discretion is allowed for in two areas: in the choice of policy technique, and in respect of the target itself.

As to technique, the incentive structures are such that the choices made must be consistent with the policy objective. The Bank, and particularly the Governor, is fully accountable for the outcome. The Governor may be sacked for missing the target.
As to the target itself, the transparency of any departure from the objective of price stability, or from the particular quantitative definition of price stability, provides a strong check on attempts to achieve short-term output goals at the expense of the longer term inflation objective. It is not possible for the Governor to take 'under the table' instructions to generate a surprise inflation without exposing himself to the risk of dismissal if the formal inflation targets are not subsequently achieved. Any substantive modification of the price stability objective must be done in writing, and in public.

So the New Zealand approach fits very well with Flood and Isard's general characterisation of optimal monetary policy arrangements in an uncertain world.

Note also that the usual criticisms of an inflation target involve the performance of the policy in the face of supply shocks. Amongst the most common supply shocks in New Zealand are changes in the terms of trade. The framework makes explicit allowance for such shocks.

Applying the Framework

It was quite clear from the outset that the mere enactment of the legislation would not be enough to establish monetary policy credibility, especially when the poor history of monetary policy in New Zealand is taken into account. There did not seem to be a large 'announcement effect' on the passing of the legislation. Ultimately, credibility is derived from results - and particularly from results in relation to publicly advertised intentions. A thousand reiterations of the Reserve Bank's adherence to the objective would mean little compared with the doubts that would arise if inflation did not track in a manner consistent with getting to the target.

For this reason, early on, the Bank set out publicly a series of indicative inflation ranges that it believed would be consistent with arrival at the target by due date, and maintenance of the target thereafter. These ranges were 2.5-4.5 per cent for the year to December 1991 and 1.5-3.5 per cent for the year to December 1992. These inflation ranges have indeed proved to be very important to the policy process, although their role has altered over the time since they were put in place.

Over the years, much has been made in the monetary policy literature of the potential role for intermediate policy targets. Such targets include monetary aggregates, including base money; the nominal exchange rate; and less often, money incomes.

The key requirement of intermediate targets is that they provide more useful information on the likely achievement of the inflation target than the inflation target by itself. In principle, each of the candidates has the advantage of providing more timely information than the inflation result. In practice, that is not so clear. Empirically, in New Zealand most monetary aggregates are not leading indicators of inflation. Nor indeed is it empirically obvious that information on the path of money incomes comes any earlier than information on inflation outcomes, even though the dynamic response of an economy to a money surprise usually involves an adjustment of output before the bulk of the corresponding price effects emerge. The technical problems of measuring the relevant variables are part of the answer to this apparent inconsistency.

*Reserve Bank Bulletin, Vol 55, No. 4 1992*
More fundamentally, though, the short-term instability of the behavioural relationships involved is fatal to the idea that intermediate monetary aggregate targets would perform the intended role well. And as to the exchange rate as an intermediate target, the context of a small open economy with relatively concentrated trade patterns gives rise to a range of other problems associated with impeding desirable real exchange rate adjustments in response to certain shocks.

Given these difficulties, it seemed that the better option was to indicate the inflation track that was expected to be consistent with achievement of the objective, and allow relatively free reign to the Bank’s technical judgements on the nature and evolution of the relevant behavioural relationships. However, economic agents apparently did not rapidly adopt the indicative ranges as a central piece of information in their analyses of the likely future path of monetary policy. Frequent demands arose for a detailed specification of the Bank’s policy reaction function, with much focus on the question of what interest rate and exchange rate outcomes the Bank believed consistent with the desired policy stance.

In part, this may have simply been due to lack of experience with the indicative inflation ranges. While there were occasions when policy was tightened in response to the Bank’s publicly stated concerns that inflation was threatening to break out of the top of the indicative ranges, until some time later there were no occasions where policy reacted to a threatened undershoot of the range. That situation did arise in September 1991 when policy was explicitly eased. This event reinforced the message that the Bank was moving to harden the ranges into more explicit ‘en route’ or ‘way point’ targets than had originally been envisaged.

With these changes, the attention of financial markets and media commentators has come to focus more and more on forecasts of inflation vis-a-vis the inflation targets as the basis for predicting likely monetary policy reactions.

In adopting ‘way point’ targets for inflation, a number of rather difficult policy choices have to be made. While these choices are also in part relevant for an ‘indicative’ announced downward path, they become more crucial when hard-ended target ranges are involved. Specifically:

1. First, the shape of the target path needs to be considered. The key questions here relate
   - to the economic background that is likely to be encountered over the relevant period - an economy moving out of recession will obviously involve a different inflation path than an economy moving in the other direction;
   - to any non-linearities in the ease of reducing inflation - if the costs of inflation-reduction rise as inflation approaches zero, making rapid progress early in the piece will be important; and
   - to the desire to obtain credibility - it is important not to be over ambitious in the first phase, as missing the early targets would make the rest of the process much more difficult.
2. Secondly, the width of the 'way point' target ranges have to be established. Too narrow a target range will cause more 'misses', and throw into doubt the technical abilities of the policy-makers. Too narrow a range could also set up the prospect of the stance of monetary policy swinging violently in one direction and then the other as various new pieces of information are reacted to. On the other hand, too wide a range would provide little guide to markets as to the actual policy reaction function, if for no other reason than there would be fewer occasions when the edges of the ranges prompted policy actions.

In the New Zealand case, consideration of the design features of hard inflation target ranges took place in the context of indicative inflation ranges having already been announced, somewhat pre-empting alternative choices. In the event, the announced ranges were not inconsistent with the balance of the Bank's judgement on the above considerations.

How has it Worked Out in Practise?

It is all very well to claim that we have in New Zealand a well-designed monetary policy approach, but how has it worked out in practice? In particular, what have been the responses to the announced downward path?

As already noted, the early indicative character of the announced inflation ranges might have provided too loose a guide to the community of the likely evolution of policy in the early stages. But behaviour has gradually adapted.

Some evidence in support of this is available in the reaction of the trade union movement to policy over the last couple of years. After watching policy tighten when the Bank became concerned that inflation was not tracking down as desired, the head of the union movement wrote an article that said (and we paraphrase here): "I don't like what they are doing but we have to plan on the basis that they will be doing it." There is considerable evidence that the union movement entered the last round of wage negotiations with a completely different inflation outlook than previously. That was illustrated in 1990 in a short-lived 'growth agreement' between the unions and the then Government, in which the unions stated a willingness to accept 2 per cent wage increases (plus any productivity adjustments) when recorded inflation was still over 5 per cent. The agreement itself was short-lived, but the low wage rises were nevertheless secured.

Financial markets have for some time been reflecting expectations of falling rates of inflation, consistent with the target path. Interest rates fell by as much as 7 percentage points over the two years to May 1992, more often than not with financial markets leading and the Reserve Bank accommodating. Following the explicit easing of policy on 25 September 1991 in response to a threatened undershoot of the indicative inflation ranges, there is now a greater understanding of the way-point target nature of the inflation ranges. Quite frequently now, the commentaries of brokers and analysts compare their inflation forecasts vis-a-vis the way-point targets with the Reserve Bank's forecasts vis-a-vis the ranges. From such comparisons, analysts can make informed judgements as to the likely nature of monetary policy settings over the quarters ahead.

But by far the most significant and important behavioural change has taken place inside the policy-making machine. The announced downward path for inflation has provided

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a structure for internal discussions and debates with the Reserve Bank about the appropriate stance of policy. It has also provided the impetus for a number of politically sensitive decisions, notably the tightenings of policy in May and August 1990 (in the run-up to the 1990 New Zealand election), a reluctance to accelerate the market-led loosening in monetary conditions through 1991, and the willingness explicitly to ease policy in September 1991. In each case the critical deciding factor behind the tightenings, and the more recent eventual acceleration of the loosening trend, was the outlook for inflation relative to the way-point target ranges over the 1-2 years ahead.

Policy Conclusions

· Overall, the use of an announced downward path for inflation has been a very important aspect of the monetary policy strategy in New Zealand.

In particular, setting out a series of way-point targets has given the central bank a clear framework for policy decisions, and has provided the motivation to take policy actions that might be politically difficult.

As a corollary, setting out a path in this way provides tight, and publicly obvious, limits to the central bank’s room to take other economic objectives into account, thus reinforcing the single focus of monetary policy on price stability. That is not to say that the Reserve Bank ignores what is happening to output and employment. Rather, such economic developments are incorporated into the analysis precisely because they have a bearing on likely inflation outcomes.

Finally, announced target paths are particularly important given the absence of usable intermediate targets. By providing an alternative to the use of intermediate targets, an announced downward path provides scope for central bank discretion in reacting to perceived shifts in the unstable short-term relationships without opening the policy to severe time-inconsistency problems.

Postscript

Since this article was written (October 1991), increasing evidence has become available to attest to the credibility-enhancing effects of the monetary policy framework in New Zealand. Short-term interest rates (90 day bank bill rates), which were around 8.1 per cent through most of October 1991, had fallen to 6.1 per cent by mid-September 1992. Five year government bonds have also fallen, from around 8.7 per cent to 7.1 per cent. These interest rate reductions have exceeded those in New Zealand’s international trading partners, both in nominal and in real terms (the latter calculated with either forward or backward looking inflation). The implicit risk premium on New Zealand dollar assets (calculated from real long-term interest rate differentials) has now reduced from an average of 3.5 per cent in 1989 to an average of 1.5 per cent in the first three quarters of 1992, despite New Zealand’s ongoing exposure to difficult world trading conditions and continued (though slowed) accumulation of external debt.

More direct evidence on the relatively rapid acquisition of monetary policy credibility is also available in a variety of inflation expectation surveys. One, a reasonably wide-ranging survey of business and financial market professionals, shows year-ahead
inflation expectations of under 2 per cent. A second, covering leading economists only but looking seven years ahead, has inflation staying at 2 per cent throughout. In contrast, New Zealand’s inflation rate averaged 12 per cent in the 1970s, and 11.4 per cent in the 1980s. Finally, to indicate that these results are not the product of prolonged recession, New Zealand’s real growth rate in the years to March 1993 and March 1994 are projected to average 3 per cent.