Origins and early development of the inflation target

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Over the course of the 1990s inflation targeting has become a well-established feature of the literature and practice of monetary policy in many countries. Explicit inflation targeting was pioneered in New Zealand in the late 1980s.[1] This article explains how the system gradually came about. It traces some of the early influences and thinking that had, by the end of 1990, given us pretty much the structures still in use today.

1 Introduction

Price stability and inflation targeting have been an established part of the New Zealand economic landscape for the best part of a decade. Most other developed countries now have similarly low inflation rates, and several have adopted somewhat similar inflation targeting systems. From today's perspective these outcomes and approaches may appear normal, perhaps even historically inevitable. But from the perspective of observers 10-15 years ago this was far from being the case. High and variable inflation had become the norm. Getting inflation down was a widely-accepted goal, but how far? The goal eventually chosen - re-establishing enduring price stability - was both ambitious and controversial. This article focuses on the way in which the detailed system of inflation targeting evolved to support the broad price stability goal.

2 The intermediate targets background

Since the early 1970s, monetary policymakers in much of the developed world had been searching, not always successfully, for ways of using announced targets as a reference point against which policy actions could be assessed. Following the demise of the Bretton Woods system of fixed exchange rates, monetary policy for most countries was no longer largely a matter of maintaining a fixed exchange rate. And as financial markets were gradually liberalised, greater reliance was being placed on the indirect channels of the monetary policy transmission process – influencing, rather than directly controlling, the activities of financial institutions and their customers.

Inflation was increasingly recognised as a problem, with its roots in the management of monetary policy. As interest and exchange rates became harder to interpret in a period of high and variable inflation, increasing analytical and policy emphasis was being placed on measures of money and/or credit. Influenced by the monetarist school of thought, by the early 1980s most OECD countries were, with varying degrees of conviction, announcing some form or other of intermediate money or credit targets. They did so for a variety of reasons – including, *inter alia*, as a medium-term benchmark to guide day-to-day policymaking, as a communications device (to give the public and markets a sense of what the authorities were up to), and/or as a standard against which the authorities' performance could be reviewed by external observers. Probably the dominant motivation was to add additional substance to efforts to convince the public and markets that the authorities were taking seriously the challenge of controlling inflation.

The focus was on so-called "intermediate targets" rather than on targets for the longer-term ultimate goals of policy, such as inflation itself. This was partly because the lags between policy actions and inflation were judged to be longer than those between policy actions and monetary aggregates, and partly because monetary aggregates were seen to be more directly manageable by monetary policy.

New Zealand was influenced by this shift in thinking, and faced the challenges of running monetary policy in a gradually-liberalising, but high inflation, environment. The Reserve Bank had been interested in adopting intermediate monetary targets. However, the tensions between getting inflation

1 Italy, Greece and Portugal all published single year targets for inflation at times during the early 1980s, and Sweden briefly operated a form of price level targeting in the 1930s. However, none of these provided a complete or sustained structure for inflation targeting, in liberalised markets, of the sort now understood by that term.

back under control, and the implications for interest rates and economic activity of doing so, meant that formal published money or credit targets and/or guidelines were used only briefly and intermittently in the late 1970s and early 1980s.

3 Focusing on inflation: the early days

New Zealand went through eight dramatic months of rapid financial market reform in the period immediately after the 1984 election. Within days, interest rate controls had largely gone, and by March 1985 the remaining exchange controls and all reserve ratios had been removed and the exchange rate had been floated.

The authorities recognised that in the medium term monetary policy could only sustainably influence the inflation rate (rather than, say, growth or employment). Following the large exchange rate devaluation (and the removal of the price freeze earlier in 1984) inflation was set to rise sharply, at least temporarily, and the clear monetary policy priority was getting inflation sustainably down. How far and how fast the anti-inflation drive was to be pursued was still, at best, ill-defined. In a sense, this was not too surprising. By mid-1985 inflation had reached 16.6 percent and it was universally accepted that it needed to fall very substantially. But the choice between something like, say, 5 percent annual inflation rates and something like price stability was rather abstract when actual inflation rates remained well into double figures.

In the meantime, there were no easy answers to the question of how either the authorities, or the public and the markets, would know that policy was on track to achieve the sustained reduction in inflation. This mattered because if policy initiatives (intermediate targets or otherwise) could increase public confidence that inflation would in fact be reduced permanently, the inevitable transitional economic costs could also be reduced. Trying to achieve such influence - particularly with wage-setters - was to become an increasing focus as the disinflation drive went on and the wage-bargaining process was freed up.

In the immediate aftermath of the mid-1984 reforms, the Bank had reviewed the possibility of announcing intermediate money or credit aggregate targets. It had quickly concluded that such an approach was simply not feasible. Marked structural change would make relationships between particular aggregates and medium-term macroeconomic goals both hard to identify and unstable.

In the absence of a feasible intermediate target, "full funding" was adopted as the key short-to-medium term policy benchmark. The government committed publicly to sell enough government bonds over the course of a year, in the open market at market-determined interest rates, to neutralise the full impact of the fiscal deficit on banking system liquidity. Floating the exchange rate eliminated the other main influence on banking system liquidity. That left "full funding" as, in effect, a public commitment to keep stable over time the narrow monetary aggregate known as Primary Liquidity (PL) - the balances banks held in their accounts at the Reserve Bank and holdings of those securities which could be sold back to the Reserve Bank on demand. It was hoped – though probably not with enormous confidence – that over time a stable medium-term relationship would develop between PL, the level of bank balance sheets, and broader economic aggregates such as nominal GDP. In any case, control of banking system liquidity should, at least broadly, anchor the inflation rate. By announcing a target level for PL, some guidance might also be given to markets and the public.[2]

Early hopes faded fairly quickly. That was partly because PL remained highly variable intra-year (undermining the guidance provided by the level of PL), and because the hoped for medium-term relationships showed few signs of developing. At least as importantly, the newly-liberalised interest and exchange rates remained very volatile throughout the period in which PL was the focus.

Continuing the search for an effective signalling device, in the *Economic Commentary* accompanying the 1985 Budget, the government took tentative steps towards announcing targets for nominal GDP, indicating that "the current policy

2 "With primary liquidity now being an important operating target for monetary policy, the Government's intentions for future movements in primary liquidity will provide an important signal as to the likely future state of monetary conditions….it is intended that…the target for primary liquidity growth…[will be] provided to the public at periodic intervals, probably at least half-yearly." Reserve Bank *Bulletin*, June 1985, page 299.

setting is likely to be consistent with nominal national income growth rates of the order of 10 to 13 percent in 1985/86, falling to around 7 to 9 percent in 1986/87." In a foretaste of things to come, the Minister of Finance, Roger Douglas, attempted to use these numbers to influence the 1985/86 wage round. In fact, there was little follow-through from the government or the Bank, conditions proved to be inconsistent with the targets (nominal GDP rose by around 16 percent in the year to March 1986), and there was no apparent influence on the wage round.

As late as the Bank's 1987 Post-Election Briefing (PEB) there was still little sense of how far disinflation should ultimately be pursued, or even of the appropriate pace of disinflation. In discussing the speed of disinflation, the PEB noted (p25):

> …no explicit targets have been specified for the rate of disinflation. This reflects the complex nature of the linkages between monetary policy and inflation and also the fact that, in the short term at least, the inflation rate may be subject to a number of influences that are unrelated to monetary policy. The approach followed to date has been to adopt a firm and consistent policy stance which is expected to place downward pressure on inflation over time; and to monitor the appropriateness of that stance in light of subsequent developments in real and financial sector indicators.

In the period immediately following the 1987 election, however, ministers and officials began to focus more consistently and specifically on the question of how far (and how fast) the anti-inflation drive was to be pursued and on the desirability of convincing the public of the seriousness and enduring nature of the anti-inflation drive. A Reserve Bank press release announcing a cut in the settlement cash target on 1 September 1987 appears to have been one of the earliest public references to the relatively specific end-aim of monetary policy as "reducing inflation to low single figures [from around 10 percent, ex-GST, at the time] over the next two to three years."

4 Reserve Bank autonomy

Around mid-1986, the Minister of Finance, Roger Douglas, invited Reserve Bank and Treasury officials to explore options for reforming the governance structures for monetary policy, with a view to reducing the scope for active political involvement in monetary policy decision making.[3]

The Reserve Bank and the Treasury approached this issue from rather different perspectives, that were brought together in the extensive debate that went on in government circles throughout 1987 and 1988 as the new legislation began to be shaped.

The Bank's approach was most strongly influenced by the central bank independence literature, which emphasised the likely benefits of giving a central bank *autonomy* from politicians, consistent with Roger Douglas's initial concerns. The Bank had initially envisaged[4] a structure in which the overall goal of price stability would be specified in statute (in much the same form as section 8 of the current Act). The other major innovation, designed to provide accountability, was the six-monthly *Monetary Policy Statements*[5] in which the Bank's Board (the proposed decision-making body) would review recent policy and outline, with some specificity, how they planned to run policy in the following six months. Directors, including the Governor, would have been able to be dismissed for non-performance.

By contrast, the Treasury approach emphasised individual *accountability* to politicians. Through the mid-1980s, the managerialist approach to the public sector and its activities -inspired by the principal-agent strand of the economics literature - had been coming to the fore in New Zealand. This took the form, later enshrined in the State Sector Act and the Public Finance Act, of giving individual public sector managers the authority to manage, but holding them di-

3 This emphasis was reiterated when the Minister announced publicly in the 1988 Budget (p11) his intention to introduce new Reserve Bank legislation. The Minister stated that the first objective is "to make certain that no future politician can interfere with the Bank's primary objective of ensuring price stability, or manipulate its operations for their own purposes, without facing the full force of public scrutiny". Accountability features only from the perspective of ensuring that monetary policy objectives were "pursued in an efficient and cost effective way."

4 See, for example, the discussion in the 1987 Post-Election Briefing, pp 62-66.

5 Much of the inspiration here was from the United States, where the scrutiny associated with the semi-annual policy statements to Congress was seen to be the basis for accountability for the independent Federal Reserve System.

rectly accountable for *outputs* – ie the measurable products or services that each agency was mandated or contracted to deliver.

From the Treasury's perspective, the Bank's proposals had three major (related) weaknesses:

- the proposed statutory goal was not itself specific and measurable;
- nor was it, in the jargon, an output – something the Reserve Bank produced directly[6]; and
- for a group (rather than an individual) to be responsible for achieving the goal was inconsistent with the prevailing approach to public sector reform (see above) and risked amounting to no credible accountability at all.

Agreement on individual accountability, with power and responsibility vested in the Governor personally, was achieved relatively easily.[7] In the course of lengthy debate, there were suggestions that some form of monetary base measure (perhaps notes and coin in circulation, or that plus settlement account balances) might be an appropriate output measure – something that the Bank could, in principle at least, directly control. Such an arrangement would also have been broadly consistent with the intermediate targets approach to monetary policy. However, it proved impossible to identify a stable connection between this particular *output* and the sort of ultimate *outcome* – price stability – our political masters were seeking from an independent central bank.

Eventually, it was accepted that the only practical solution was something of a hybrid, an exception to the normal structures - although it took time to strike the appropriate balance. It was agreed that the Reserve Bank would not be held accountable for any particular *outputs*. Rather the focus would be on the desired *outcome* itself. Recognising the variety of influences on inflation, the Governor would be assessed primarily on the *judgements* the Bank exercised in pursuit of the outcome, and the way it responded to new developments. It was envisaged that this scrutiny and accountability would be achieved mainly via the six-monthly *Monetary Policy Statements*, in which the Bank would be required to account for its recent policy actions, and state clearly its intentions for the next six month period.[8]

In addition, it was agreed that the Governor's employment contract would contain public targets for inflation performance over the Governor's five-year term of office.[9] However, at that stage it was not envisaged that the employment contract would have a high profile – any more than most public sector CEOs' employment contracts, or the outputs they are contracted to deliver, are ordinarily matters of high public profile.

5 The genesis of a specific inflation target

The Governor's "employment contract" evolved into what we now know as the Policy Targets Agreement (PTA) under pressure of another development that ran, at best, in parallel with deliberations on institutional reform of the Reserve Bank. Following the 1987 election, the government and the Reserve Bank had begun to put greater emphasis on clarifying the how far disinflation would be carried, and over what timeframe. By early 1988 inflation was falling noticeably (9 percent in the year to March 1988), and the macroeconomic fallout in the aftermath of the sharemarket

6 Prices are set by countless individuals and businesses throughout the country. Monetary policy influences that behaviour indirectly, but does not directly determine the inflation rate.

7 The Reserve Bank's Board now exists primarily as a monitoring body, assessing the Governor's performance on behalf of the Treasurer. In view of the personalised accountability, a proposal to directly link the Governor's salary with policy outcomes was briefly considered, but was rejected.

8 The emphasis on clarity was partly linked to proposals which would have allowed the government to publicly instruct the Bank to pursue a different course of action from that outlined in the *Monetary Policy Statement*. Over the following few years, discussion ensued on the possibility of announcing indicative targets for variables such as the exchange rate, the interest rate yield gap, and/or the monetary base or some broader monetary aggregate. Doing so was seen as a way of providing a clear benchmark against which the Bank's actions could be measured in the period between *Statements*. This approach recognised the length of the lags between monetary policy and inflation. In fact, nothing came of any of this because the linkages between any of the indicators and inflation itself were too loose and changeable to provide a meaningful or reliable basis for formalised accountability structures.

9 Although as enacted the Act has never required concrete targets for *inflation* itself. The Act speaks only of "policy targets for the carrying out by the Bank of its primary function", leaving open the possibility of specifying intermediate targets (eg for M3, or nominal GDP) consistent with medium-term price stability.

"crash" was becoming apparent. Roger Douglas became concerned that the public – including financial markets, employers and unions – would expect the government to be content with inflation settling at around 5 to 7 percent, and were making decisions accordingly.

In a meeting with officials on 31 March 1988 (not attended by the then-Governor or his chief economist), Mr Douglas mused aloud about the need to convey a sense that the authorities would not be content with inflation settling around 5 percent, but would be looking to emulate the likes of Japan, Switzerland, and West Germany – then the OECD countries with the lowest rates of inflation. Officials left the meeting unclear what weight to attach to these comments, and were more than a little surprised to see Mr Douglas indicate in a television news interview broadcast on 1 April, 1988 that policy was to be directed to reducing inflation to "around 0 or 0 to 1 percent" over the following couple of years. These comments were reinforced in other public comments in the next few days, at times suggesting that the goal should be reached by the time of the next election in 1990.

The clear aim of these statements was to influence inflation expectations and the decisions of key wage and price-setters, by convincing them of the seriousness of the Minister's commitment. This was pursued with some vigour over the following weeks by the Minister in speeches and letter-writing campaigns directed at key price-setters. There was no evident reaction in the financial markets.

The Reserve Bank endorsed the general notion of price stability as the ultimate, and single, objective of monetary policy. However, as will be illustrated below, its reaction to the Minister's specific initiative was somewhat ambivalent. The Bank's reluctance was attributable largely to two uncertainties. The first was about just how large the real economic costs of getting to price stability would prove to be, especially if the goal was pursued very quickly or in isolation. Secondly, the Bank was sceptical about the ability of anything other than demonstrated performance to influence inflation expectations materially.

In an April 1988 paper, intended to elicit clarification of the Minister's intentions,[10] the Bank argued that although the prevailing stance of policy might be consistent with medium-term price stability, price stability could not be achieved by 1990 without a marked tightening of policy. Moreover, the Bank noted that "the potential improvements in living standards to be derived from more rapid and complete removal of import protection, and the deregulation of such grossly inefficient sectors as the waterfront (already underway) and coastal shipping, far outweigh the real economic benefits of slightly faster [emphasis added] reductions in inflation". In an early echo of what later became a dominant theme in subsequent years, the Bank argued that if price stability was to be pursued over a relatively short time horizon, everything possible needed to be done at least to try to influence expectations and wage and price-setting behaviour. In particular, a vigorous promotional effort was needed to market the price stability strategy. Subsequently, the Minister backed away somewhat from specific dates or numbers for the time being, but asked the Bank and Treasury to develop some meaningful publishable inflation targets, to firm up his recent comments and reinforce his vision of an inflation-free New Zealand.[11] Interestingly, none of these discussions contained any references to the Reserve Bank autonomy discussions that were going on intensively in parallel.

By the time of the Reserve Bank's June 1988 *Bulletin*, the Bank felt confident enough to describe publicly the ultimate goal as being "price stability by the early 1990s,"[12] noting that "in terms of the CPI, this objective is likely to be consistent with a small positive measured inflation rate, in the order of 0-2 percent, as a result of several problems in the construction of the index". (At that stage, this was still more in the nature of an estimate, with uncertainty, than a target range). In the late-July Budget (p22), the ambiguity of the "early 90s" was apparent, as the Minister spoke, perhaps a little rhetorically, of how "over the next two years [emphasis added] we have the opportunity to move to a virtually inflation free economy like that of Germany, Japan and Switzerland."

Within government circles, a 0 to 2 percent increase in the CPI was gradually being settled on as an appropriate work-

10 "Inflation Objectives and Monetary Policy", RBNZ Memorandum to the Minister of Finance (No. 2416), 13 April 1988

11 RBNZ file note of 15 April 1988 meeting with the Minister of Finance.

12 "Inflation and the Monetary Policy Strategy" Reserve Bank Bulletin, June 1988, pp81-86

ing definition of the price stability goal. The Reserve Bank put considerable effort into reviewing the practical issues associated with announcing targets. This culminated in a lengthy Reserve Bank paper to the Minister in mid-July.[13] In documenting the way thinking evolved, it is worth quoting from this paper at some length.

Price stability was endorsed as the ultimate objective of monetary policy, but the Bank remained cautious about how, and how fast, it was achieved: "the additional benefits in moving **rapidly** [emphasis added] to price stability from the present inflation rate of around 5 percent may not be great relative to the potentially large costs which may be involved." However, the Bank acknowledged that sentiment about the medium-term outlook for inflation had changed in the period since the price stability goal was first stated in April. Against this background, "considerations relating to the credibility of monetary policy statements and of the government's macroeconomic strategy now appear to require that the Government stick to your stated ultimate objective of price stability by the early 1990s."

However, the Bank argued that "the gains likely to accrue from the use of inflation targets are limited and the costs, although unknown, of a continued tight monetary policy stance over the next year or two are potentially high. These factors suggest that the Government should consider taking advantage of the flexibility as to the final date and the adjustment path, and be very careful when committing itself to any specific timetable for the rapid achievement of price stability."

The paper went on to note that the Governor's contract would, in future, most probably contain inflation targets. But it drew a clear distinction between targets such as those – as part of the Bank's formal accountability to the Government – and any role targets might have in supporting the public disinflation strategy: "...decisions made in respect of autonomy need not require the introduction now, or when the new legislation is in place, of formal high profile inflation targets for the purpose of supporting the disinflation strategy."

Much of the paper's discussion of inflation targeting was set in the context of the international experience with intermediate (monetary) targeting. As noted already, a key reason why other countries had chosen monetary targets, rather than, say, inflation targets, was that the lags between monetary policy actions and developments in the monetary aggregates were judged to be shorter than those between monetary policy and inflation. If that was indeed so, the Bank suggested that inflation targets might provide little basis for observers to assess whether monetary policy was, in fact, on track at any point in time. Inflation targets were recognised as a superior way of conveying long-term objectives, and providing guidance to price-setters during a disinflation. They were also seen as leaving "less scope for either deliberate or inadvertent slippage...in the target date" for the completion of the disinflation. "However, inflation targets without any intermediate monetary or credit aggregate targets also require the public to simply adopt a 'trust us, we know what we are doing' attitude towards the monetary authorities – and represent a tacit admission that we have no precise knowledge of the linkages between the instrument, intermediate targets and the ultimate objectives of monetary policy."[14]

The Bank went on to note that a range of events could make it impossible to achieve a specific inflation target, especially in the midst of an ambitious disinflation process. Other events might make it not sensible to achieve a short-run target, even if technically it could be done. Among the latter were the direct price effects of a fall in the exchange rate. The Bank recognised the need to anchor inflation expectations but did not believe it would necessarily be sensible to attempt to counter the direct price effects, and hence delay a legitimate movement in relative prices and the real exchange rate. All this pointed in the direction of conditional targets, if anything.

Turning to more technical aspects of defining the target, the Bank argued that:

- on grounds of timeliness and public profile, the CPI should be the standard used, despite its "technical short-

13 "Price Stability and Inflation Targets", RBNZ Memorandum to the Minister of Finance (Nos. 2536 & 2537), 15 July 1988. Don Brash did not assume office until 1 September 1988.

14 This was the essence of the ongoing discussion referred to above as to whether the Bank should publish short-term targets for one or more of the key monetary indicators. See footnote 8.

comings;"

- true price stability was likely to be consistent with annual CPI increases of up to 1 percent;
- a range rather than a point should be used to specify the end objective. This recognised the imprecision of the whole business, but also provided some guidance to the extent of likely fluctuations in the inflation rate;
- a band of 0 to 2 percent would strike a middle ground between the information value of the target range and the likely ability to actually manage the inflation rate.

If targets were to be adopted, the Bank suggested that any targets be formally reviewed once a year - although once again the Bank advised against any tighter specification of the ultimate target date than "the early 1990s". In the end, the Bank came no closer to recommending targets than the following extract from the final list of recommendations:

> Conditional on no major changes in the external and policy environments, inflation "targets" **could** [emphasis added] be specified along the following lines:
>
> - "CPI inflation is expected to be in the range of 4-5 percent for the year to March 1989[a forecast];
> - "the Government's target is to achieve 2-4 percent CPI inflation by the year to June 1990;
> - "the Government and the Reserve Bank will continue the drive against inflation with the ultimate aim of achieving sustainable price stability (0-2 percent inflation) within the next term of Government.

For the time being, little more was heard of time-defined inflation targets. Zero to 2 percent CPI inflation, centred on an approximate 1 percent estimate of true price stability, was consolidated as the definition of the price stability goal - although more by osmosis than by ministerial sign-off. However, the lack of profile or active ownership of the target is evident in both internal and external Bank documents.

Things began to solidify into the now-familiar form around the middle of 1989. By this time, the Reserve Bank legislation was before Parliament. However, the focus in developing targets was still largely on the government's own drive to influence expectations and its desire to present an integrated medium-term economic strategy. Neither the Bank nor the Treasury were pushing for a specific target date for the achievement of price stability.

By this stage, the Bank's own forecasts, prepared on a March year basis, indicated that 0 to 2 percent inflation could be achieved by the year ending March 1993. David Caygill, by now Minister of Finance, enquired whether this could be worded as December 1992 in the Bank's Annual Report for the year ending March 1989 (although it was still simply a description of a forecast: the goal was still stated as being price stability - 0 to 2 percent CPI inflation - by the early 1990s). The reference to December 1992 was, however, clearly intended as a prelude to the Minister's 1989 Budget. That noted that "the previous Minister of Finance announced in April last year the objective of achieving 0-2 percent inflation by the early 1990s," and announced a series of government economic objectives to be achieved by December 1992, including 0 to 2 percent inflation.[15] Once again, no market reaction was apparent.

However, having evolved over 15 months into something specific, this inflation target range guided the Bank's policy deliberations thereafter.

6 Shaping the policy targets agreement

By this time, attention was turning increasingly to the design of the Policy Targets Agreement (PTA) and the format of the new six-monthly *Monetary Policy Statements*.

Two issues were to the fore: the nature of any interim inflation targets for 1990 and 1991, and the way in which "shocks" should be handled. It was relatively quickly accepted that any interim track for inflation would be included in *Monetary Policy Statements* rather than in the PTA. This was both because of a desire to focus the PTA on the end-objective (0 to 2 percent by 1992) and because it was not seen as desirable to have the same accountability regime in place for the inevitably-uncertain transitional period as for the price stability period - December 1992 and beyond.[16] The interim track actually announced in the first *Monetary Policy Statement* in April 1990 was clearly indicative and based firmly around the Bank's existing forecasts.

15 Hon D F Caygill, Budget, 27 July 1989, pp 5-6. Other goals were for reductions in public debt, mortgage rates, and the number of people unemployed.

The handling of shocks and non-market price pressures was to prove more challenging. The economics of the matter were considerably easier in principle than the formal specification. It was readily recognised that some events would affect measured inflation too late for monetary policy to keep inflation inside the 0 to 2 percent target range. More importantly, there were various types of price shocks in response to which it did not make sense for monetary policy to attempt to offset the direct price effects (because it would have led to unwarrantedly large real economic adjustment costs). The two most easily agreed examples were changes in the rate of GST and a large change in the terms of trade (such as those induced by the oil shocks of the 1970s).

The inflation target had begun primarily as a government device designed to influence public expectations and sentiment. In that context, it was not so necessary to attempt to pre-specify the way in which monetary policy should respond to shocks. The government was setting a goal for itself and the government could interpret outcomes in light of circumstances at the time. By contrast, the transition to using specific medium-term inflation targets as part of the formal accountability (and employment) structure for the Governor of the Reserve Bank brought to the fore all the issues raised by using a principal-agent model to manage something as complex as inflation and the interaction with short-term macroeconomic outcomes. Striking the right balance between pre-specification, clear signalling, and ex-post accountability was, perhaps unsurprisingly, to take a little time to achieve.

In the first *Policy Targets Agreement* signed on 2 March 1990, the Bank had to accept – somewhat reluctantly – a structure under which each material shock of these types would have to be dealt with by renegotiating the Agreement itself. Faced with a large shock – say, a rise in indirect taxes expected to boost the CPI by more than 0.5 percent – the Bank was to approach the Minister and seek a new PTA to allow the first-round price effects of the tax changes to be accommodated.

7 Some early refinements

Events quickly highlighted the need for a more flexible structure. In August 1990, the Iraqi invasion of Kuwait triggered sharp rises in the price of oil. This was clearly the sort of event where the first round price effects should be accommodated, and the CPI allowed to rise. In the September *Monetary Policy Statement*, the Bank flagged a change in the 1991 indicative inflation range to allow for the impact of the oil price rise. However, oil prices were proving very volatile, and by October, the Bank had decided that clarity of signalling about the policy goal argued for expressing the indicative ranges on an ex-oil basis. Because this "shock" was not expected to impinge on the inflation outcomes for 1992 (the target date in the PTA) these adjustments could be made directly by the Bank. Had it impinged on the PTA target date, the Bank could have been involved in a succession of renegotiations[17]. Frequent renegotiations would have undermined efforts to build a sense that the PTA was an enduring foundation for monetary policy, rather than one up for grabs any time a shock hit the economy.

In any case, in the nature of economic life not all contingencies could reasonably be anticipated in the PTA: the dominant shade would almost always be grey. Reflection and experience meant it was increasingly accepted that a less prescriptive approach to the PTA was needed, with more emphasis on accountability after the event for the judgements the Bank had exercised in handling shocks. A number of options were considered, including having a wider "accountability range" in addition to the ultimate 0 to 2 percent range. In its 1990 Post-Election Briefing, the Bank recommended a shift to an approach that would leave the 0 to 2 percent range and the PTA untouched in future, but hold the Bank accountable for the judgements made in handling the inevitable shocks and uncertainties.

One of the issues to the fore at the time was real exchange rate adjustment. The Bank's 1990 Post-Election Briefing

16 The Reserve Bank's file note of a meeting with the Minister of Finance on 31 August 1989 records the following: "Mr Caygill commented that he was not in favour of annual inflation targets given the inevitable shocks. He added that if it looked likely that we would be well away from the 0-2 percent range by the end of 1992 that target would simply be abandoned." There was also extensive discussion going on at this stage over whether ranges for the money base, the exchange rate, or some other monetary indicators should be published by the Bank as a basis for monitoring – in essence, an output-based accountability framework for the Bank, through the pages of the *Monetary Policy Statements*.

17 All of which would eventually have been unwound when, by the following March, the surge in oil prices proved to be short-lived.

devoted considerable space to the likely need for a substantial fall in the exchange rate, especially from a balance of payments perspective. The Bank argued that such an adjustment was likely to occur more efficiently (with less short-run real economic cost) through a fall in the nominal exchange rate, than by forcing goods and labour markets to do the bulk of the adjustment. However, a substantial fall in the nominal exchange rate would create potentially substantial direct price effects. The Bank expected that there would be only limited second-round effects - that inflation expectations and wage claims could be kept in check. As a result, it believed the adjustment opportunity should be taken, but noted the risk that the direct exchange rate effects could threaten the top of the 0 to 2 percent range in 1992. Accordingly, the Bank advocated that the target date be pushed back by a year to December 1993 to facilitate the real adjustment. This economic argument happily coincided with the incoming government's own campaign promises.[18]

In December 1990, a revised PTA was signed between the Governor and Ruth Richardson, the incoming Minister of Finance. Under that agreement, the target date was pushed back by a year, and the structure of the PTA was reformed along lines that have proved enduring. The new PTA moved away from the renegotiation model: instead it listed a set of shocks as examples of the sorts of events for which the Bank should accommodate the first round price effects. In the face of these sorts of shocks, the Bank was required to document its estimates of the effects and explain, in the *Monetary Policy Statements*, how it would ensure that inflation quickly returned to the target range.

There was no observable market reaction to any of these announcements – or to any of those mentioned throughout this article. This was most probably because each specific announcement did little to affect market assessments of the longer-term probability that something like price stability would eventually be achieved and sustained. Any informed observer recognised that the pursuit of price stability remained intensely controversial, within political parties and among the wider public, that there was no way of telling how large the transitional costs of getting there would be or, hence, whether stated intentions would be seen through to the end. By crystallising the broad goal in place since 1984, the targets provided a discipline for the Bank's own policy thinking and management, and a focus for its very considerable promotional efforts. But the Bank was neither author nor master of its own destiny. And so the targets – still only political promises rather than binding commitments - probably had relatively little direct impact on public or market behaviour or expectations until low inflation had been delivered.

8 Some concluding reflections

Inflation targeting as we know it today evolved gradually, under the pressure of a number of influences and streams of thought. The specific economic literature on inflation targeting was not one of those influences: it followed the New Zealand innovation rather than led it. Nor did reform of the Reserve Bank legislation make it inevitable that a formal inflation targeting regime would emerge. The specific form of the inflation target was influenced by, and broadly consistent with, the principal-agent approach to public sector reform then in vogue. But despite the clarity of the goal, in many respects the length of the lags between monetary policy actions and inflation outcomes, and the imprecise connections between the two, made inflation targeting less than **ideal** as an accountability framework.

In a sense, that highlights two things. First, that the target itself originated primarily as a communications device – Roger Douglas's desire to refocus expectations, and to convince people that the anti-inflation drive would be kept going. Secondly, that in complex areas of life, ideal accountability frameworks are rarely on offer. Ambiguity and uncertainty were - and are - facts of life, and have been taken on board in the design and operation of the Reserve Bank accountability arrangements. Balancing clear and comprehensible general goals, with the scope for judgement and need for flexibility that real macroeconomies demand in practice, is at the heart of the way the framework has settled.

18 Nor was it probably hugely different from the outgoing government's thinking and/or concerns about adjustment costs. In a report in the *Dominion* newspaper, 10 October 1990, both the then Prime Minister and the then Minister of Finance talked in terms of "around 2 percent" inflation, and noted that "0 to 2 percent had always been generally accepted to mean 2 percent."