

Australasian Monetary Policy: A Comparative Perspective

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1. Introduction

Revolutionary changes have occurred in the conduct of monetary policy in New Zealand and the United Kingdom over the last decade; Australian arrangements, too, have changed, albeit in an evolutionary fashion. In all three, operational responsibility for interest rates now resides with the central bank, and all three follow some sort of inflation target. In this article I adopt a comparative perspective on these developments, exploring some of the similarities and differences between the current monetary arrangements in the three countries. As it may be unfamiliar to some readers, I begin by describing the background to the new UK arrangements.

2. Historical Background to the New UK Monetary Arrangements

Whilst the Bank of England (BE) has always had responsibility for the execution of monetary policy in the UK, until recently interest rate decisions were firmly under political control. The Bank offered advice on monetary policy to the Chancellor of the Exchequer and to the Treasury in private, but its formal responsibilities lay in banking supervision and in maintaining the stability of the financial system more generally, together with managing the public debt and the foreign exchange reserves.

The cathartic exit from the European Exchange Rate Mechanism in September 1992 led to two changes in the way monetary policy was conducted. First, the search for an alternative nominal anchor led to the adoption by the government of an explicit inflation target - initially of 1-4% and subsequently "2½% or less by the end of this Parliament". Second, interest rates were set at regular, minuted, monthly meetings between the Chancellor and the Governor of the BE, attended by senior Treasury advisers and BE officials. While interest rate decisions were still ultimately in the hands of the Chancellor, the BE's input into the process was now more prominent.

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Furthermore it began to play the role of public policeman of the government's monetary policy through the publication of a regular quarterly *Inflation Report*.

Revolutionary change arrived with the election on May 1st, 1997 of the first Labour government for 18 years, and the decision to hand over the operational conduct of monetary policy to the BE. The decision to do this was influenced by at least three factors. First, the new government was acutely aware that the Tory success in the 1979 election was largely down to the previous Labour government's (mis)handling of the economy, with inflation rising to nearly 25% and a ballooning public deficit, ending in emergency IMF support; constraining macroeconomic policy by delegating monetary policy to the BE, coupled with the introduction of tight rules to constrain fiscal policy, was seen as the way of prevent a recurrence. Second, the government was influenced by international evidence that those countries with independent central banks appeared to have achieved low inflation without suffering either lower growth or greater output volatility¹. Third, entry into the single currency - to which the present government is more sympathetic than its predecessor - would in any case require relinquishing monetary policy to an independent European Central Bank (ECB); delegating it first to the BE could be seen as an initial step down that road.

Whilst foreign, and especially US, experience was influential in convincing the Chancellor of the virtues of an independent central bank, and despite wishing to keep open the option of early entry into the euro, neither the US Federal Reserve nor the European Central Bank (ECB) were taken as the model for implementation. Both are characterised by *goal* as well as instrument independence, in that they have considerable discretion in defining the objectives of monetary policy, within a rather loose overall framework, as well as how to achieve those objectives. Such a model would not have been suitable for the UK in 1997. The level of interest rates is politically sensitive there because most home loans vary with the short interest rate, and the delegation of a powerful weapon of economic management to an unelected bureaucracy needed to be seen to be accompanied by a high degree of transparency and accountability. Instead the model chosen was closer to New Zealand, where the government sets a fairly precise objective and then leaves the central bank to get on with the task of delivering it. However, as we shall see the model has been "softened" in ways that bring it closer to the current Australian approach.

3. The Objectives of Policy

In all three countries the description of the central bank's objectives is effectively in two parts: an Act of Parliament that sets out the constitutional and legal basis for the central bank and spells out general objectives; and an agreement or remit that gives more precise content to those objectives. Such a two-stage process allows the Act to be framed in relatively general and timeless terms, with the agreement or remit able to evolve in the light of developments in the economic environment or economic thought without requiring continual legislation.

¹See e.g. Alesina and Summers (1993) and the various studies cited in Eijffinger and Den Haan (1996). Labour were not the first to be convinced that this was the way forward. The former Conservative Chancellor, Nigel Lawson also sought to hand over interest rate decisions to an independent BE, but was overruled by Mrs Thatcher (see Lawson, 1991).

A relevant question is why this second stage is needed at all. Why can't one just set the general objectives and then let the central bank get on with it? This is the "just do it" approach² and is in practice pretty much what the US Federal Reserve Bank and the Bundesbank have been doing relatively successfully over the last couple of decades. However, Australia, New Zealand and the UK all had a bad inflationary record during the seventies and eighties, and a formal inflation target is helpful for anchoring public's inflationary expectations. Moreover for New Zealand and the UK the conscious decision to relinquish political control over interest rates needed to be seen to be accompanied by strong lines of accountability for those charged with setting interest rates. A clear formal specification of objectives potentially can enhance accountability by providing a benchmark against which performance can be judged.

As far as the general objectives go, the Bank of England Act (1998) charges the BE "to maintain price stability, and subject to that to support the economic policy of (the) government, including the objectives for growth and employment". The objectives of the Reserve Bank of Australia (RBA) as laid out in the Reserve Bank Act (1959) are "to ensure that...monetary and banking policy...is directed ..(so as to) contribute to: the stability of the currency...; the maintenance of full employment...; and the economic prosperity and welfare of the people". Finally the New Zealand Reserve Bank Act (1989) states that "the primary function of the Bank is...maintaining stability in the general level of prices". Importantly, and in contrast to both Australia and the UK, there is *no* mention of economic activity or employment in the New Zealand Act.

The UK wording may appear somewhat more inflation focussed than the Australian Act because economic activity is only specified as a subsidiary concern³. However, to a large degree the difference simply embodies the conventional wisdom that there is no long run output-inflation trade off (although there may nevertheless be one in the short run, of which more below). Specifying the objectives of the central bank in this lexicographic way can be seen as one way of insulating it from unreasonable public expectations that it can permanently raise the level of activity and employment through expansionary monetary policy. Of course, the absence of a long-run trade-off between output and inflation does *not* imply that the conduct of monetary policy is irrelevant to long-run economic performance. Apart from the fact that economic fluctuations are undesirable in their own right, if the output-inflation trade-off is convex then a lower average level of activity would be associated with greater volatility in output⁴; in addition excessive volatility in output engendered by erratic policy may also have adverse effects on investment and growth⁵.

Of greater significance are the documents that give precise content to the notion of price stability, etc. In the UK the Chancellor now provides an annual *Remit* to the BE, presently a point target for the annual growth rate of the Retail Prices Index excluding mortgage interest (RPIX) of 2½%,

²See Mishkin (1997).

³The lexicographic wording follows the Maastricht Treaty (1992) in its specification of the objectives for the European Central Bank.

⁴This is because booms during which inflation is accelerating need to be matched by proportionately bigger recessions to squeeze the extra inflation out of the economy.

⁵See Andres et al. (1996) for some relevant empirical evidence.

though over an unspecified time horizon. It is explicitly recognised in the *Remit* that the target will not be hit exactly, because of shocks and similar unavoidable control errors, but the *Remit* does say that inflation is expected to average 2½% over a reasonable period of unspecified length. The Chancellor has also indicated that he does not expect to change this target in the foreseeable future⁶.

A novel feature of the UK model is the requirement for the Governor to write an Open Letter to the Chancellor if inflation deviates more than 1% point either side of target. In it he is expected to explain the reasons for the divergence, what actions the Bank's Monetary Policy Committee (MPC) is taking to bring inflation back to target, and how long the divergence is expected to last; subsequent letters will be sent quarterly until inflation is within 1% point of the target. This 1½%-3½% band is quite explicitly *not* a target range, but simply defines the points at which an Open Letter is triggered. Its purpose is to improve the transparency and accountability of the new arrangements.

In New Zealand, the *Policy Targets Agreement (PTA)* between the Minister of Finance and the Governor of the RBNZ sets a target range for CPI inflation of 0-3% (formerly 0-2%). This band is, however, "hard" in the sense that a failure to stay inside triggers a formal review of the internal processes prior to the inflation target being missed, and in principle an unfavourable review can lead to the dismissal of the Governor. However, the *PTA* does specify a number of contingencies (specifically: terms of trade shocks; movements in indirect taxes and government levies; natural disasters; and the direct effect of interest rates on prices) which are to be regarded as justifiable reasons for straying outside the band, although these contingencies have not been invoked in the two cases to date in which the Governor's performance has been reviewed as a result of missing the target.

The counterpart to the *Remit* and the *PTA* in Australia is the joint *Statement on the Conduct of Monetary Policy*⁷ between the Governor and the Treasurer. The target is for an inflation rate for the underlying⁸ CPI of 2-3% "over the cycle". The target band - or "thick point" as DeBelle and Stevens (1995) prefer to call it - plays a rather different role from the New Zealand 0-3% target range in that it describes an average outcome over a number of years, rather than a hard band within which the annual inflation rate is allowed to fluctuate. The Australian inflation target, like the UK, is thus explicitly seen as medium-term in nature. It is also worth remarking that both the *PTA* and the *Statement* are intended to apply for a number of years, whereas the UK *Remit* is re-

⁶Although it is possible that the target may in due course be switched to the recently-introduced Harmonised Consumer Price Index. Since the annual rate of growth of the HCPI is for technical reasons nearly a percentage point lower than that of the RPIX, it would be likely that the target would also be revised down at the same time.

⁷Reserve Bank of Australia (1996).

⁸The underlying rate, like the UK's RPIX, excludes the cost of housing finance which varies directly with the interest rate. With the recent redefinition of the Consumer Price Index to include the purchase price of housing (excluding land), rather than the cost of finance, the distinction between the underlying and actual rate becomes unimportant and the target has been switched to the latter.

iterated annually. This leaves more opportunity for the UK government to influence monetary policy in order to meet political objectives, although it would have to do so in an open fashion.

The historical background to the Australian model is rather different to that of the UK and New Zealand. Whilst the RBA has had *de jure* responsibility for interest rates since its foundation in 1959, for a long time its *de facto* role in determining monetary policy was limited by: the operation of some sort of exchange rate peg; the operation of government-determined interest rate ceilings on the commercial banks; and the sale of government securities by tap rather than auction, which left the RBA with an obligation to cover any unfunded part of the budget deficit. As these fell by the wayside during the 1980s, so the short-term interest rate emerged as the prime instrument of monetary policy⁹. By the same token the Australian inflation target started life in the early 1990s as a vehicle for communicating the RBA's monetary policy objectives to the public after the demise of monetary targeting, was subsequently endorsed as an objective by Treasurer Willis in 1995, and then finally assumed a formal role in the joint *Statement* between the current Treasurer and Governor in 1996. This evolutionary genesis also means that the *Statement* has more of a co-operative feel to it than do the *Remit* and the *PTA*, both of which formally represent "instructions" from politicians to the central bank, although in the UK and New Zealand there is prior discussion between the central bank and the politicians over the content so one should perhaps not push this distinction too far.

Finally in all three countries there is the possibility for politicians to override the central bank's decisions, but in all cases it has to be done in such an open fashion that it precludes the use of an override clause for short-term political objectives. Indeed it is likely that a government would lose so much credibility by invoking the clause - unless the central bank were behaving in a truly bizarre fashion - that it is very unlikely ever to be invoked. It is the nuclear button of monetary policy, destined never to be pushed because its implications are just too awful to contemplate.

4. Inflation Targets and All That

Increasingly monetary policy regimes around the world fall into one of two camps: an (explicit or implicit) inflation target; or some sort of exchange rate peg. Recent history has shown how hard it can be to operate an exchange rate peg when there is a reasonable degree of international capital mobility as it is vulnerable to speculative attack. Only a regime in which the rate is pretty much irrevocably fixed, e.g. through a currency board or the adoption of a common currency, seems likely to have any durability, and for neither Australia nor New Zealand is there a natural currency to seek to peg to. For the UK, the case is somewhat different with the introduction of the euro in its primary trading partners, but even there entry is unlikely before 2002, and in the meantime some alternative guidelines for monetary policy are required. An inflation target is then a natural choice for all three countries.

There is now a sizeable academic literature on inflation targets¹⁰, although it is fair to say that it

⁹See Macfarlane (1998).

¹⁰See e.g. Ball (1997,1998), Rudebusch and Svensson (1998), Svensson (1997, 1998) and the papers in Haldane (1995) and Lowe (1997).

has been a response to their adoption by central banks like New Zealand, rather than driving it. The most frequently voiced objection to an inflation target is that it leads the central bank to ignore the consequence of its interest rate decisions for output and employment. Whether this is likely to happen, however, depends on the institutional context. Now there are two main channels through which interest rates affect inflation in open economies. The first is direct and operates through the exchange rate: an increase in interest rates tends to appreciate the (nominal and real) exchange rate and reduce the imported component of consumer price inflation; by raising real consumption wages such an appreciation may also have an attenuating effect on wage demands further reducing inflation. The second is indirect and operates through demand: an increase in interest rates, as well as any consequent appreciation of the exchange rate, lowers aggregate demand and this in turn dampens domestically-generated inflation through the short-run Phillips curve. Both of these effects operate with (long and variable) lags, although the first channel is usually thought to operate more quickly. The presence of these lags also means that it is not the current inflation rate that is being targeted - that is a bygone - but future inflation rates. This is something of relevance when it comes to the accountability question.

Given the presence of shocks to both supply and demand, in conjunction with the control lags, it is impossible for the authorities to simultaneously keep output at its natural rate and inflation stable. Instead the best they can do is decide how quickly to correct the resulting divergence of inflation from target. They can get try to get it back on track quickly, and thus keep the variance of inflation about its target low, but only if they are prepared to let interest rates, the exchange rate and output fluctuate a lot. Conversely if they wish to keep output relatively stable, they have to accept that the divergence of inflation from target will be longer lasting. The consequence is that the authorities are faced not with a long run trade off between the levels of output and inflation, but rather between their respective *volatilities*. Such a *policy frontier* is portrayed in Figure 1¹¹. If the authorities care just about the variance of output (about its natural rate) and the variance of inflation (about its target rate) then each and every point on this frontier is optimal for some relative weighting of these two objectives. A pure, or strict, inflation target in which the policymaker seeks to minimise the variance of inflation about the target without concern for the consequences for output corresponds to a point at the top left-hand end of this frontier. Conversely a policymaker who is mainly concerned about minimising the variability of output will prefer a point at the bottom right-hand end of the frontier. It goes without saying that policy should be efficient in the sense of being on this frontier, and we have seen that the single-minded pursuit of an inflation target is tantamount to picking a point at one end of the frontier. But is an inflation target consistent with the selection of other points on the frontier? The answer is Yes, provided the inflation target is *flexible* in the sense that when inflation is away from target the monetary authorities do not seek to get it back as soon as they can, but rather do so only gradually, for in that way they can avoid inducing sharp fluctuations in activity.

The question then arises whether the institutional arrangements in the three countries are conducive to choosing the *right* point on this frontier, or in other words choosing the right speed at which to return inflation to target. This is especially important if highly volatile output also has

¹¹For details of its construction, see Bean (1998). Following Taylor (1994), similar policy frontiers have been analysed and estimated by numerous authors, see e.g Ball (1997, 1998) and especially Debelle and Stevens (1995) and de Brouwer and O'Regan (1997) for Australia.

first-order effects on either the average level of output, or its rate of growth, as was earlier suggested might be the case. This might seem to be problematic, as nowhere in the arrangements for any country is this explicitly specified. In fact it seems that this policy frontier is quite sharply curved (as in the Figure) and that most “reasonable” weightings lead to a selection of a point on that sharply curved part. Or to put it another way, the rate at which the authorities should aim to get inflation back to target is relatively insensitive to the weights placed on output and inflation in the objective function, provided only that they are “reasonable”; that optimal speed of return corresponds to aiming to eliminate about half of any current divergence of inflation from target within two years¹².

Both the UK and Australian arrangements seem to me to permit the central bank to pick a sensible point on the policy frontier. In both cases a concern for output and employment is written into their objectives, specified in the respective parliamentary acts. Furthermore in each case the target inflation rate applies not to a specific date, but over a somewhat indeterminate period, with each central bank having “constrained discretion” in choosing how strongly to offset shocks and how quickly to get inflation back to target. By contrast the New Zealand Act with its sole concentration on price stability, together with the “hard” target band seem to me prone to push the RBNZ towards the upper left-hand end of the frontier, although against this it could be argued that: a) the *PTA* provides a more exhaustive list of the supply shocks that might warrant a deviation of inflation from target than is the case in the other two countries; and b) the presence of the 0-3% band allows for ample fluctuations in inflation during a conventional demand-driven business cycle.

Table 1: Inflation and Output Variability, 1993-8 (% points)

	Headline Inflation ¹		Underlying Inflation ¹		Output Gap ²
	Mean	Std.Dev.	Mean	Std.Dev.	Std.Dev.
Australia	2.01	1.55	2.12	0.56	0.67
New Zealand	1.92	1.04	1.72	0.40	1.49
United Kingdom	2.74	0.73	2.76	0.28	0.88

¹1993Q1-98Q4; ²1993Q1-98Q3

Performance under inflation targets is summarised in Table 1 which reports for each country the mean and standard deviations since the beginning of 1993 of the four-quarter inflation rates for both the headline and underlying measures of the CPI/RPI, as well as the standard deviation of the output gap (where trend output is constructed from GDP using a Hodrick-Prescott filter); the early part of the inflation targeting regime in New Zealand is deliberately excluded as this coincided with the disinflationary process, whereas the adoption of inflation targets in both Australia and the UK occurred once inflation had been stabilised at a relatively low level.

¹²For further discussion of this, see Bean (1998) and, for similar evidence on the rectangularity of the frontier, Ball (1998). Further research is, however, required to check for its robustness across models, for objective functions incorporating an interest-rate smoothing objective, etc.

Inflation rates in all countries have stayed reasonably close to their target levels during this period, with somewhat lower variability in New Zealand than in Australia. The rather low variability in the UK inflation rate is notable, though this may simply reflect differences in the way the price indices are constructed. But also striking is the fact that output has been significantly more variable in New Zealand than in the other two countries. This is consistent with the thesis that the New Zealand arrangements tend to encourage the selection of a point further up the policy frontier, generating lower inflation variability at the cost of greater output variability.

Of course, these results could also reflect different national economic structures or different shock patterns over the sample period, rather than the selection of different monetary policy rules. In addition the high variability of activity in New Zealand may simply reflect policy errors leading it to be *inside* the policy frontier - specifically maintaining high interest rates during 1997-98 so as to achieve a particular objective for its Monetary Conditions Index (MCI), when cuts in interest rates were probably in order. However, discriminating between all these competing explanations requires both a more detailed analysis than is possible here, as well as a much longer run of data than is presently available.

A final remark on the choice of the absolute level of the inflation target is appropriate, with New Zealand aiming for a slightly lower number than the other two countries. However, some other central banks are even more ambitious, with the ECB, for instance, aiming for “2% or less”. Whilst there is evidence to suggest that high inflation has significant adverse effects on growth and welfare, there is little to suggest that going to zero inflation from 2-3% offers much in the way of extra benefits to compensate for the output losses necessary to achieve it. Moreover, there are at least three good reasons for preferring a small positive inflation rate. The first is the possibility of downward rigidities in nominal wages or prices, so that a little positive inflation may facilitate relative price movements. The second is that the natural floor of zero to nominal interest rates implies a corresponding floor to the real interest rate equal to minus the rate of inflation. Now evidence from a number of countries, e.g. the US over the last decade, suggest that nominal interest rates over a typical cycle might need to vary by as much as 4-5% points, with real interest rates becoming zero or negative at the trough. Such flexibility in monetary policy is hampered if inflation is too low (or, worse, the situation is one of deflation as in Japan). Third, the difficulty of measuring quality change, particularly in the information technology and health care spheres, means that conventional price indices are in any case likely to overstate the true inflation rate. For all these reasons the chosen target levels in Australia and the UK seem to me sensible, whilst the implied increase associated with the broadening of the band from 0-2% to 0-3% in New Zealand also moves in the right direction.

5. The Decision-Making Process

In both Australia and the UK operational decisions on interest rates are taken by an (up to) nine-member committee, whereas in New Zealand the burden of decision-making rests entirely on the Governor (although he can consult whom he wishes, of course). However, the BE’s Monetary Policy Committee (MPC) and the RBA’s Board differ in that the former is predominantly a committee of “experts”, whilst the latter is more one of “the Great and the Good”. The BE’s MPC comprises the Governor, the two Deputy Governors, the Bank’s head of market operations and its chief economist; in addition there are four outside appointments made by the Chancellor,

all of whom are presently professional economists¹³. A Treasury observer is also in attendance, but does not vote. Since one of the Deputy Governors is a professional economist, six out of the nine are professional economists, and indeed five have held university chairs for a significant fraction of their careers. The RBA Board, by contrast, contains only two, rather than five, central bank members, with six outsiders, just one of whom is a professional economist, the rest being prominent people from the world of business or the unions. There is also a Treasury representative, who is a full member of the Board unlike his MPC counterpart.

In terms of disclosure and transparency, in the UK full minutes of MPC meetings are published two weeks later, including the way members voted. On a number of occasions the MPC have been split, BE staff have sometimes voted against the Governor¹⁴, and on at least one occasion the Governor has been forced to use his extra casting vote. By contrast no minutes of RBA Board meetings are published, and individual votes are not recorded, although the thinking behind decisions is often revealed in speeches by senior RBA officials. In addition both the BE and the RBA, along with the RBNZ, publish relatively detailed quarterly analyses of the economic situation¹⁵. Both the BE and RBNZ include explicit inflation projections in their reports, with the BE's in the form of probability density forecasts¹⁶; the RBA's views on the inflation outlook are instead rather more qualitative in nature.

Is there anything to choose between the decision-making models? It might seem obvious that interest-rate decisions are best taken by those conversant in the intricacies of monetary policy, and the minutes indeed reveal that MPC meetings become extremely technical at times. Similarly one might think that maximum transparency would be desirable both in terms of sending clear signals to the financial markets and in fostering democratic legitimacy of the decision-making process.

¹³They are respectively: a former BE chief economist; a former Treasury chief economic adviser; a prominent academic macroeconomist; and a leading economist from industry.

¹⁴The disagreements have tended to be less between the Bank insiders and outsiders, but rather between the “economists”, who tend to favour the more active use of interest rates, and the “money men”, including the Governor, who are inclined to a more cautious approach, and avoiding policy reversals.

¹⁵The RBA and RBNZ are only required to produce reports semi-annually, but publish additional documents in the intervening quarters that contain much the same information as in the semestrial reports.

¹⁶In fact the UK forecasts are not as helpful to outsiders as one might think, partly because there is a paucity of information about the judgements going into the projections, and partly because of the convention that they are conditional on unchanged interest rates which makes direct comparison with outside forecasts, which are usually unconditional in nature, hazardous. As an example, the November 1998 *Inflation Report* was widely described in the media as being somewhat more pessimistic than the Treasury's latest forecast. However, the latter assumed large interest rate cuts in the face of slowing growth, whereas the Bank's inflation projection implied such interest rate cuts would not be required so that it was in fact rather more optimistic. The impact of such differences in conditioning assumptions are not presently properly understood by outside commentators.

However, it should be recognised that there are also problems with the British approach. Whilst the greater economic literacy of the individuals on the MPC allows them to take a more critical and independent stance than is probably the case for their Australian counterparts who must rely heavily on the analysis supplied by the RBA's staff, the openness of these disagreements, coupled with the background of the members, has allowed the media, and more generally those dissenting from the MPC's decisions, to caricature the MPC as overly academic and out of touch with reality. Since public confidence in the decision-making process is most desirable, it would not surprise me if future appointments to the MPC are drawn from a wider circle than at present. But conversely "beefing up" the technical expertise on the RBA Board might be no bad thing either.

6. Accountability

Let me conclude this comparative tour by making a few remarks on the issue of accountability, where again there are some interesting national differences. In New Zealand it is an individual, the Governor, who is clearly accountable. In Australia, it is the RBA Board that is collectively accountable, but through the Governor. In the UK, as a by-product of publication of the votes, the members of the MPC can also be held individually accountable. Thus in all three countries the Governor appears regularly before the relevant parliamentary select committee, together with supporting bank staff as appropriate. However, in the British case outside members of the MPC are invariably called as well. Since the voting records are published, this allows members of parliament on the UK Treasury Select Committee to delve into, and expose further, the reasons for any disagreement. Of course how effective the parliamentary committees are depends on them being well briefed and all of them rely on specialist outside advisers to help them in the task. In the UK case it also helps that a number of committee members have relevant backgrounds, including one who is herself a former BE economist!

It is worth noting in passing that holding the central bank to account is not as straightforward as it looks. Given the fact that all three have numerical inflation targets, it would seem that all that is required is to look at inflation outturns and evaluate whether the targets have been achieved. However, as noted earlier, the juxtaposition of unforeseen shocks with control lags mean that one could never expect a point target for inflation to be met, except by chance. The New Zealand model meets this objection to a degree by specifying a relatively hard band, with the presumption being that departure from this band represents failure unless it can be adequately rationalised. Australia and the UK instead rely on softer formulations in which the inflation target only needs to be met over a number of years. Although we have seen that such a softer formulation may be conducive to picking a better point on the policy frontier, it does make *ex post* accountability a somewhat more difficult exercise as the goalposts are now less clearly defined. Furthermore simply looking at average inflation outturns is not really enough, for an average inflation rate of 2½% over a run of years is consistent with wide gyrations in output and inflation from year to year. Instead *ex post* accountability really needs to focus on, first, whether policy has been efficient in the sense of putting the economy on the policy frontier and, second, whether an appropriate balance between output and inflation variability has been struck.

Ex post accountability also needs to be complemented by *ex ante* accountability in which the central bank's view of the economic situation is compared with that of independent outsiders. The reason this is important is simply that it is easy to be wise after the event. Because the economy is imperfectly predictable, there will always be decisions that turn out to be wrong with hindsight.

But the real issue is: Could the central bank have done any better? If outsiders agreed with its actions at the time, then it seems to me that it should not be held culpable if things turn out badly. On the other hand if outsiders disagreed with the bank's decisions, and the outsiders subsequently turned out to be right, then that does seem to be a case in which the central bank should be excoriated. Outside forecasts and analysis thus provide a natural benchmark against which to judge the central bank's actions; fortunately there is never a shortage of outside pundits queueing up to air their views!

In conclusion let me reiterate that the similarities between the present monetary frameworks of Australia, New Zealand and the United Kingdom are really more striking than the differences. These differences are mostly in the details, although the specification of the inflation objective for the RBNZ may result in excessive volatility in activity. But ultimately the success or otherwise of these arrangements is likely to be governed more by the quality of the analysis that underlies monetary policy decisions and the wisdom of those who make them, for even the best designed framework cannot be proof against bad economics or bad judgement.

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Figure 1: Policy Frontier

