Stephen Grenville: Inflation targeting in the world of volatile capital flows

Speech by Mr Stephen Grenville, Deputy Governor of the Reserve Bank of Australia, at the Bank of Thailand's International Economic Conference "Practical Experiences on Inflation Targeting", held in Bangkok on 20 October 2000.

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While a number of developed countries adopted inflation targeting in the early part of the 1990s, there was a commonly held view that it would not be easy to apply this approach to monetary policy in emerging countries. For instance, Paul Masson *et al.* (1997) set out the prerequisites and building blocks of this monetary framework, identifying the main ones as being:

- the ability to carry out a substantially independent monetary policy, especially one not constrained by fiscal considerations; and
- freedom from commitment to another nominal anchor such as the exchange rate or wages.

They concluded that "these fairly stringent technical and institutional requirements cannot be met by many developing countries because seigniorage remains an important source of finance and/or because there is no consensus that attainment of low inflation should be the overriding objective of monetary policy. We thus conclude that the way to improve the monetary and inflation performance of developing countries may not be through the adoption of a framework akin to inflation targeting, at least not in the near term".

In the short period since then, there has been a lot more attention and interest in inflation targeting in emerging-market countries. What has caused this change of view? One answer is that the literature had been overly influenced by the poor inflationary record in Latin America in the 1980s, and as the better record in Latin America in the 1990s became clearer, commentators and analysis came to recognise the benefits of an inflation targeting framework.

Perhaps more importantly still (and relevant to this paper because of its emphasis on the external sector and capital flows), decisions about exchange rate regimes have put inflation targeting more in the forefront. To the extent that a number of Latin American countries had chosen a fixed exchange rate as the nominal anchor for their monetary policy, in the hope of driving down the rate of inflation and keeping it low by a commitment to a fixed exchange rate, there was no place for inflation targeting in this strategy: this was clearly an *alternative* strategy to inflation targeting. But over time, the fashionable paradigm on exchange rate regimes has shifted, for several reasons. First, a number of countries found the use of the exchange rate as a nominal target presented serious problems during the phase of inflation reduction. Even though this strategy might have been quite effective in getting inflation down, inflation came down slowly and greatly eroded their international competitiveness. There was, also, the "exit" problem. Secondly, there was much more attention on finding an exchange rate regime which would help with the difficult task of adapting to a world of large and sometimes volatile capital flows. While some countries responded to this by "hardening" their fixed exchange rate policies (even to the extent of adopting currency boards or dollarisation), a number of other countries have moved to the opposite end of the exchange regime spectrum, to some variation on floating rates. Thirdly, of course, there were crises in several fixed rate countries (Mexico and Brazil), and they adopted flexible exchange rates as a result.

It is this more widespread adoption of exchange rate regimes at the floating end of the spectrum - which I would like to call "flexible" rather than "floating" (more on this later) - that brought inflation targeting to centre-stage. Once a fixed exchange rate is abandoned as the nominal anchor of monetary policy, the question is what should be put in its place.

Going back several decades, the answer might have been to adopt some form of monetary target. But we have come to recognise (some of us painfully) that there is a very uncertain relationship between

the monetary aggregates and the final objectives of macro policy (inflation and output). If there is a relationship, it does not have enough stability and predictability to make it an effective basis for monetary policy.

So if this option is not feasible or desirable, and if fixed exchange rates are not the answer (for some other reason), then the third main alternative to unconstrained discretion for monetary policy is some form of inflation targeting. While it might still be possible to have an informal regime with a lot of discretion (it could be argued that the United States is in this category), the "total discretion" regime is one that requires a long history of good performance and quite a bit of confidence on the part of the markets in the monetary authorities. For most of us, what we need is a regime which provides what has been called "constrained discretion" - a consistent framework which will help the authorities to resist the various political pressures which are on them (often captured under the rubric of "time inconsistency"); which the markets will judge to be in some sense "best practice"; but which allows the authorities sufficient discretion to handle successfully the exigencies and shocks which inevitably arise and which have been the downfall of simple mechanical rules. Hence the attraction of inflation targeting, not only to those developed countries which adopted it in the early 1990s, but to emerging countries which, having come through the Asian crisis, now accept that a high degree of flexibility of the exchange rate is desirable. In this world, we need some kind of framework to help in the increasingly complex (both economically and politically) task of running good monetary policy which, in the end, will be judged very largely in terms of the inflation performance.

What is inflation targeting?

Rick Mishkin (2000, p 1) puts the heart of inflation targeting this way: "Inflation targeting is a monetary policy strategy that encompasses five main elements: (1) the public announcement of medium-term numerical targets for inflation; (2) an institutional commitment to price stability as the primary goal of monetary policy, to which other goals are subordinated; (3) an information inclusive strategy in which many variables, and not just monetary aggregates or the exchange rate, are used for deciding the setting of policy instruments; (4) increased transparency of the monetary policy strategy through communication with the public and the markets about the plans, objectives, and decisions of the monetary authorities; and (5) increased accountability of the central bank for attaining its inflation objectives. The list should clarify one crucial point about inflation targeting: it entails *much more* than a public announcement of numerical targets for inflation for the year ahead". Note, in particular, point 3.

It is important to keep in mind that the inflation target is an *alternative* (not a complement) to an exchange rate target. Mishkin and Savastano (2000), in examining the Chilean experience, noted that Chile had embraced both an inflation target and an exchange rate target (a moving band), but was *always* prepared to make the exchange rate target subservient to the inflation target to the extent that there was any conflict. So the first strong point we want to make is that countries need to settle on their exchange rate regime *before* they decide to adopt inflation targeting, and if they have a strong commitment to a particular exchange rate target, then it will be very difficult to simultaneously pursue an inflation target. This does not mean that the exchange rate is irrelevant to the inflation targeting regime - far from it. In fact, I will spend a fair bit of my talk today trying to figure out just where the exchange rate does feature within an inflation target. But the basic starting point is that it has to be part of and subservient to the inflation targeting regime.[1] So inflation targeting should be seen as part of an overall approach to macro policy, encompassing fiscal policy and the exchange rate regime.

[1] Mishkin and Savastano (2000, p 7) observe: "What is important to stress, however, is that from the perspective of monetary policy a strategy of monetary targeting or inflation targeting does not imply or require "benign neglect" of the exchange rate and no intervention in the foreign exchange market (ie a 'clean' float). What matters is that the central bank makes it clear to the public, through both its actions and pronouncements, that the nominal exchange rate will always move in the direction set by the market and, crucially, that the exchange rate is not a nominal anchor for monetary policy and inflation expectations".

Evolution of the inflation targeting framework, and the role of economic activity

At the same time that changes in views about exchange rate regimes have made inflation targeting a relevant option for a wider range of countries, so too the inflation targeting framework has, itself, become more complex over time, with an increasing recognition that a simple interpretation of an inflation target is misleading, or at least incomplete, as a guide for policy. Whereas early versions of inflation targeting simply specified a target (usually reasonably rigorously, ie narrowly), and even went out of their way to avoid any mention of economic activity (or its related variables, such as unemployment) in the target itself or in inflation reports, over time there has been an increasing recognition that the target is operationally much more complicated than this, and that for it to be successful it must embody a considerable degree of *flexibility*. Hence, the notion of "constrained discretion". It is a reminder, if you like, that whatever you do in economic policy must be able to pass through the filter of common sense. You must always keep your eyes open and wits alert, taking in all the signals which the economy is giving.[2]

In broad-brush terms, the change which has come about in the specification of inflation targeting regimes comes from the recognition that if the inflation target is specified narrowly and the time horizon over which it must be achieved is tight, then the effort to keep the actual inflation rate *constantly* within a *narrow* band will involve quite a bit of short-term variation of the interest rate lever (and, consequentially, the exchange rate), and policy will be jerking output around disruptively, probably unnecessarily. Central banks may regard their sole objective as inflation, but it seems pretty clear that the community's wishes (their objective function) have output in there as well. Any central bank which achieves its inflation objective but damages output in a way unacceptable to the community will not keep its mandate for long. It is the recognition of this point which has produced a voluminous discussion and academic literature, which basically asks the question: what is the right trade-off between rigid adherence, moment by moment, to the inflation target (on the one hand) and a steady path of output (on the other).

So the issue here is the specification of the target: if it is too "tight", output will be unnecessarily volatile. If too loose, policy will lack credibility and the inflation objective will not be achieved. There are obviously difficult issues here, which differ from country to country and, even within a particular country, probably change as the inflation targeting framework gets more acceptance. When an inflation target is first put in place, it probably needs to be more rigid in order to gain acceptability and credibility, but as credibility is established, there is more opportunity to let go a bit of slack on inflation variability over time, in order to smooth other variables such as interest rates, exchange rates and output. All these issues will be covered by other speakers, so I should focus on the one which stems directly from issues of capital flow - ie the exchange rate - and ask if, and how, the inflation targeting regime should be modified to adapt it to the fact that the economy is open, and this openness (providing shocks both on the trade and capital account) is transmitted via exchange rate changes. How should this be incorporated into the inflation framework?

Capital flows

First of all, just a reminder of how big, volatile and potentially damaging capital flows can be for the countries of this region. The most graphic measure of how big they are is to remind you that in 1996 Thailand received capital inflows equal to 13 per cent of its GDP - an inflow which no country could have absorbed easily. To see how volatile these flows are, we again need to look no further than the recent experience, where inflows of US$90 billion per year turned into outflows of US$50 billion per year.

To add to these historical observations of size and volatility, let me assert that flows of this kind will return, and will be the norm rather than the exception. What makes me confident in asserting this is the

[2] As policymakers we should be pleased by this view, because the alternative - that it is a mechanical process which can be captured by a relatively simple one-line rule - would mean that there is no serious job for us to do.

existence of huge portfolios in the developed countries, in the form of actively-managed funds seeking the highest return in a globalised world. The managers will inevitably shift part of their portfolios to the countries of this region, if only because their actual degree of diversification is well below the theoretical norm: these portfolios do not yet have enough weight of emerging market assets. On top of this (again a subjective assertion), the countries of this region will have above-average profit opportunities over the next decades as they move towards the technological frontier. Diversification and profit prospects will drive developed countries' portfolio managers to shift funds into this region. The question of scale is not simply that the supply of these funds comes from portfolios which are huge: the point that Paul Volcker has emphasised again and again is one of *relative* size, in that the recipient financial institutions and even the entire countries are quite small compared with the size of the portfolios which have already been built up in America and Europe - and these portfolios seem likely to continue to grow strongly, as private individuals increasingly respond to concerns about their retirement incomes. One more subjective assessment: these flows are likely to be volatile; this view comes from the persistent evidence that financial markets overshoot and behind this overshooting is herding and contagion - "fear, greed and ignorance" are still important motivations of capital flow, and are likely to remain so. So the starting point, the environment in which we will have to work, is one of large and volatile capital flows.

Exchange rate regimes

This takes us directly to questions of exchange rate regime. While there will be legitimate and indeed powerful cases where individual countries might want to adopt a fixed rate (Hong Kong is the classic example), these are special cases driven by the specifics of their environment. The much more common case will encourage countries to move towards the flexible end of the exchange rate regime spectrum, and this immediately raises the issue: with the exchange rate floating or flexible, what will be the nominal anchor for monetary policy?

The extra element which we should discuss here is that it cannot realistically be expected that flexible exchange rates will be stable. Even between the Big Three, where there are deep financial institutions, and well-developed ideas on the behaviour of the exchange rate which should guide markets and anchor their exchange rate expectations, it is now abundantly clear that the exchange rate can move substantially, not driven by the fundamentals. One only has to quote the yen at 80 per US dollar in April 1995, followed by 147 in mid 1998 to see the problem. We are, in all probability, observing some similar phenomenon in relation to the US dollar and the euro. If such large fluctuations can occur in deep, well-developed markets with long history of flexible rates and clear ideas on how the price discovery process works (ie a well-defined "model"), then how much more difficult for emerging countries with no long histories of exchange rate behaviour, relatively undeveloped financial institutions, and very few players (either at home or abroad) who are prepared to "take a position" on the exchange rate, which - in the textbook story - is the anchor holding the exchange rate reasonably stable.

So this takes us to what I believe is the central issue in this topic - given that large and volatile capital flows will produce quite large swings in exchange rates, how should this be incorporated into an inflation targeting framework?

Exchange rates and the inflation target

This has been the subject of considerable academic research in recent years (see Ball (2000), Bharucha and Kent (1998), Ryan and Thompson (2000) and Svensson (1998)). I will not attempt to add to this, but merely to give an intuitive, heuristic interpretation of the issues.

Perhaps the easiest way to think about this is in terms of a sharp depreciation of the exchange rate. To the extent that this pushes up inflation (via "cost push" channels, and also via the stimulus to activity which a depreciation provides), how should an inflation targeting regime respond? Of course the depreciation cannot be an excuse for allowing inflation to rise to a permanently higher rate. So, to the extent that the central bank's objective is stated simply in terms of an inflation target, this clearly still has to be met. The issue is: "over what time horizon"? Knowing that any change in interest rates will

have an effect on activity (after all, this is one of the principal channels of monetary policy transmission), how much "damage" should be done to activity to offset not only the extra stimulus to activity from the depreciation, but the cost push effects as the effects of the depreciation feed through to prices?

If the authorities had perfect foresight and were sure that the depreciation was temporary and short-lived, then they might well want to do nothing - whatever upward pressures there are on prices will be unwound in due course, and provided *price expectations* are not dislodged during this process, then no great harm is done by any temporary increase in inflation.[3] But on the other hand, if the depreciation is permanent, even if the pressure on inflation via the cost push channel is a *one-shot* boost, the depreciation gives an ongoing stimulus to activity which needs to be offset.

We are already getting, from this example, a hint of the central issue - that is, that policymakers need more information than is available from a mechanical interpretation of (or rigid adherence to) a simple inflation target, if they are to distinguish between these cases and get the right answer, which will differ depending on the circumstances. Most specifications for an inflation target do not include something which begins: "it depends …". But in an uncertain world, this is the right starting point.

It is intuitively tempting to suggest that the inflation target should be rejigged so as to focus on *domestic* prices (either non-traded goods or, the more deeply-embedded version, wages). The intuition here is that, if the exchange rate depreciation is indeed temporary and not very long-lived, then it is good policy to ignore it, allowing the temporary rise in inflation. While this gets the right answer in the case of a temporary and reversed change in the exchange rate, it does not seem to get the right answer if the exchange rate change is long-lived or structural. It is true that the direct cost push effect of the depreciation on inflation may well be once-off and therefore will pass out of the system (hopefully without disturbing price expectations). But the depreciation leaves a permanent boost to activity which remains there unless or until inflation wipes out the effect of the nominal depreciation.[4]

When we are in the world of "it depends …", then we need to relate the policy advice much more specifically to the particular economy in question. At the Reserve Bank of Australia, we have done some work asking the question whether focusing on non-traded prices in the face of a variety of shocks would tend to give better answers, and the short answer is "no". "Non-traded inflation (and unit labour cost growth) rules appear to generate at least as much variability in output and aggregate inflation - it is aggregate inflation that we care about - without any significant reduction in interest rate variability" (Ryan and Thompson 2000).

These same issues were examined by Larry Ball (2000). He is attracted to the idea that "optimal rules in open economies differ considerably from optimal rules in closed economies. In open economies, stability is best achieved by targeting "long-run inflation" - a measure of inflation adjusted to remove transitory effects of exchange rate movements". But this is just another way of stating the intuition with which this section opened - that in the face of temporary exchange rate shocks, the authorities should not react but in the face of a permanent or structural change in the exchange rate, they should. The trick is knowing, as the exchange rate moves, whether it is temporary or structural. In practice, it would seem sensible to assume that at least some of the movement is structural, or at least will last long enough to either damage price expectations, or affect economic activity (too much expansion, in the case of a depreciation). So I am not sure that the Ball rule has advanced us much past the intuition.

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[3] The damage done by short-term exchange rate movements may change over time, and be regime-dependent: "It is also important for central banks to recognise that, as is the case for most economic relationships, the passthrough from exchange rate changes to prices is likely to be regime-dependent. After a sustained period of low inflation with effective, as opposed to fictional, exchange rate flexibility, the informational content of the exchange rate in the expectations-formation process and price-setting practices of households and firms is likely to fall. Thus, the widespread view that a currently high passthrough from exchange rate changes to prices is a barrier to successful inflation targeting is probably exaggerated" (Mishkin and Savastano 2000, pp 56-57).

[4] After all, in this world, there is no point in wiping out the real effect of the exchange rate change, because we are assuming that this is reflecting some long-term fundamentals, to which the economy should be adapting.

But perhaps this is the important point to make - we still need to use intuition, and common sense, in implementing inflation targets.[5]

Ball also raises another controversial but important issue in trying to incorporate the exchange rate into an inflation targeting rule. He makes the case that the authorities should use as their *operating rule* (ie their policy reaction function) a monetary conditions index, rather than an interest rate. It is interesting that an academic should come to examine this issue at this stage, because it has been an issue tried in practice by at least two countries - Canada and New Zealand - and both have abandoned or de-emphasised the use of an MCI. In Australia, it was urged on us (by the OECD). Ball examines this issue with great finesse and subtlety, but let me try to set out the issues intuitively. It is true that when an exchange rate goes down, this will be expansionary on an economy and *if nothing else has happened*, then interest rates will need to be higher. So if the right weightings can be found between interest rates and the exchange rate, it might be possible to produce an index which reflects, in some sense, the stance of monetary policy. In practice, however, things do not remain the same. In particular, there is often a good reason why the exchange rate is moving down, and in the case of Australia in particular, it is often because commodity prices have moved unfavourably. In this world of lower commodity prices, we *need* a more expansionary stance of monetary policy, and the fall in the exchange rate provides this more or less automatically. It would not be appropriate or good policy to offset this by raising interest rates. Once again, I am afraid, good policymaking starts off with the proviso: "it depends …".

So far I have talked about the sorts of problems we have faced in countries like Australia and New Zealand. My intuition is that the countries of this region will face a different problem if they use the combination of a floating exchange rate and inflation targeting as a guide to the "constrained discretion" of policymaking. The problem is a familiar one, faced during the first half of the 1990s. That is, that there are very large and increasing capital inflows, which put continuing upward pressure on the exchange rate. Following the reasoning I have outlined so far, the proper response to this is to allow the exchange rate to appreciate. To the extent that this is a long-term or structural change, the inflation targeting framework would allow the appreciation to be reflected in inflation, to the extent that it meant that non-traded (domestic) prices would rise faster than the target. On most counts, this is o.k. - it is proper that the relative price between tradeables and non-tradeables changes (in order to encourage the current account deficit that is the counterpart of the financial capital inflows). But it is a legitimate question to ask whether, having set an inflation target on the basis that this rate of inflation is not disruptive, to accept that some of the most central and basic prices (principally wages) will rise faster than this - see footnote 4. There is, of course, also the very substantial danger that a rise in non-tradeable prices faster than the target inflation rate will trigger an asset boom, particularly in the classic non-traded asset of real estate property. There is also the issue that, compared with the situation before the capital inflow and appreciation of the exchange rate, interest rates will have to *fall*: we know that the extra capital inflows are putting pressure on domestic asset prices, and it might well be asked whether this is an appropriate time to be easing domestic interest rates - which seems to be the implication of a simple reading of an inflation targeting regime.

I hope I have said enough about this case (which I believe will be relevant to many of you before long), to alert you to the policy difficulties which are faced in this environment. I hope I have not left you with the impression that I know what the right answer is in this case. I would return to what I

[5] There may be another, subtly different, reason for focusing on domestic prices, separate from the point that movement in exchange-rate-driven tradeable prices may be temporary. From the point of view of the smooth running of the domestic economy, some notion of domestic prices (either non-traded goods or wages) may be in itself the proper target for inflation. This depends to some extent on economics, but to some extent on the community's "objective function". It may be possible to argue that an economy will work best if wages (or domestic prices) are growing at a particular constant rate, and this is properly the main focus of stability. But if this argument were made, it would be important to keep in mind that the change in relative prices between tradeable and non-tradeable goods is an important signal for investment and resource allocation, and it would not be sensible to have this relative price moving about too much: it is not only domestic prices that matter for price signals to the domestic economy. And, in any case, consumers care about the cost of living (ie aggregate prices).

regard as the bedrock or base of good economic policymaking - the application of common sense. In circumstances where countries are receiving large capital inflows which are difficult to absorb, the first question might be whether something could be done to slow down these capital inflows without distorting the economy too badly, in order to help the transition process. The sorts of things which might be done here are very intrusive prudential supervision and various rules (or at least monitoring) on all those who borrow overseas, if only to try to put some "sand in the wheels". Chilean-style capital inflow controls might also be a possibility. Direct foreign investment may be easier to absorb (the goods inflow comes as part-and-parcel of the capital inflow, so the transfer takes place with less upward pressure on the exchange rate). Having done whatever is feasible and sensible to try to rein in the capital flows (and hopefully make them less volatile by slowing down the herd), what should be done then? There is little doubt in my mind that the exchange rate should appreciate. This is part of the necessary process of bringing about the real transfer of resources (a current account deficit) which is the counterpart of the financial flows. But, to the extent that the exchange rate may well overshoot in this process, intervention is a legitimate policy option. We all know the constraints and difficulties with this. In particular, it is fiscally very expensive. But it can be a useful instrument in the toolbox, for moderate, occasional and discrete use. The extra element which can, it seems to me, be legitimately applied in these circumstances is to be vigilant in the face of asset price rises, and to use whatever instrument (within reason) can be used to prevent such bubbles from occurring - prudential rules, taxation, and even the classic fall-back, bureaucratic red tape.

Of course, there is some hope that the rising exchange rate might discourage the capital inflows (the textbooks say that it should), although I have little faith that this mechanism will work at all smoothly, and there is too much evidence of herd and euphoria behaviour to give me any confidence that flexibility in the exchange rate will be an effective break on the sorts of capital inflows which you may well see within a few years.

Conclusion

In conclusion, I would argue just one simple line - the inflation targeting regime has been enormously useful to us in Australia, and used as a form of "constrained discretion" it may well be an important part of a good regime in other Asian countries which do not have a strong commitment to a fixed exchange rate. The inflation target provides an organisational framework for the debate on the impact of capital flows and the exchange rate. But good policy does not come from simple one-dimensional rules - it comes from strong institutions, a rigorous policy debate, and a dominant priority given to that rarest element in policymaking - common sense.

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