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Monetary Policy in East Asia (and Elsewhere): Does Targeting Inflation Require 'Inflation Targeting'?

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Abstract

This paper argues that inflation targeting should not be defined too narrowly. The principal objective of a sound monetary policy, namely to provide a credible nominal anchor for the economy, can be achieved with a variety of institutional structures and operational frameworks. It is essential, however, that the objectives of monetary policy be clearly stated and broadly accepted, and that other macroeconomic policies are consistent with the pursuit of price stability. Within these constraints there is room for a number of alternative monetary policy strategies. Countries are well advised to search for policy strategies that are most appropriate for their own economies rather than copying what has worked well in other contexts.

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1. Introduction

In the aftermath of the currency crisis that shook Europe in 1992-93 and East Asia in 1997-98, the wisdom of basing monetary policy on a fixed or quasi-fixed exchange rate has been called into question. It is now felt that such an arrangement is prone to speculative attacks and that it can lull international lenders and borrowers into a false sense of security that their foreign credits and debts do not carry any foreign exchange risk. Consequently many countries are now searching for alternative monetary policy strategies.

Coincidentally a wave of enthusiasm has emerged for inflation targeting as a framework for monetary policy. A number of industrialised countries and a handful of emerging/transition economies have adopted this new framework.[1] This naturally leads to the question of whether countries in East Asia (and elsewhere) should embrace inflation targeting as well.

In this paper I will argue that targeting inflation in the sense of providing a stable nominal anchor for the economy should certainly be a major objective of monetary policy. However, reaching this objective does not necessarily have to be achieved by pursuing a standardised inflation targeting strategy as practised by the pioneers of this policy and as described in much of the recent academic literature. Indeed I am going to argue that inflation targeting needs to be a flexible framework that must to be adapted to the specific circumstances of each country in order to be successful. My conceptual arguments are general but they are elaborated against the backdrop of conditions prevailing in a group of East Asian countries.

The next section of the paper provides some factual background by recalling the inflation record of eight countries in the region chosen to represent quite different approaches to monetary policy. I argue that in spite of these differences, most of the countries have broadly speaking had satisfactory inflation records during the past decade. I therefore conclude that when changes in monetary policy strategies are contemplated, they should take into account, and build on, the successes of the past and not uncritically copy what has been done elsewhere.

Section 3 develops this argument further in a general context. I show that inflation targeting is not a one-size fits all framework that a central bank can import from abroad and put in place mechanically. It needs to be adapted to local conditions in order to have any chance of success. Like any type of monetary policy, inflation targeting also has to be supported by other economic policies, notably in the fiscal area. For example, in the face of large borrowing requirements, it would be hard even for an independent central bank to maintain price stability.

[1] The literature on the subject is growing rapidly. Bernanke, Laubach, Mishkin, and Posen (1999) has become a standard reference. D'Amato, Gerlach and Hawkins (2001) review issues particular to emerging/transition countries.

The name notwithstanding, inflation targeting does not and cannot focus on inflation alone. Other goals, such as output and exchange rate stability, must also be brought into the picture lest the central bank lose all credibility vis-à-vis the population at large. How much weight these other goals should be given will necessarily depend on the particular situation of each country. The same is true for implementation. Inflation targeting can be consistent with a variety of operating procedures including the flexible use of intermediate targets for monetary aggregates or the exchange rate. What is best in a particular context cannot be determined in the abstract. Again, inflation targeting must be adapted to the country implementing it.

The final section of the paper offers some thoughts on research that is needed in order to define what is the most appropriate policy strategy in a particular country. I argue that improved knowledge of the transmission mechanism of monetary policy is needed when emphasis is shifted from fixed rules towards a more discretionary approach to policy. A better understanding of the vulnerability of the economy to interest rate and exchange rate changes is also useful in the design of the operating procedures of a more discretionary regime. I finally raise the question of international co-ordination of policies in order to prevent inefficient use of exchange rate changes for domestic policy purposes in a region where many countries are competitors on international markets in key sectors of their economies.

2. Inflation and Monetary Policy in the 90s

In the following I will review very briefly the inflation record and the monetary policy strategies of eight countries in the region: Australia and New Zealand representing inflation targeting economies, Malaysia, Korea, the Philippines and Thailand representing countries that were most directly affected by the crisis in 1997-98, Hong Kong that has pursued a hard peg, and finally Singapore that has conducted its monetary policy using the exchange rate as a flexible intermediate target.

2.1 The Inflation Record

The inflation record of the selected group of countries during the past ten years is illustrated in Table 1 and Charts 1 - 3. It is quite clear that none of them, with the possible exception of Hong Kong and the Philippines, has or has had an ‘inflation problem’.

Table 1. Inflation Rates in Selected Countries, 1991-2000

	Average	Standard deviation
Australia	2.22	1.50
New Zealand	1.75	1.06
Singapore	1.73	1.18
Korea	5.10	2.44
Malaysia	3.55	1.09
Thailand	4.54	2.28
Hong Kong SAR	5.35	5.39
Philippines	8.60	3.83

The average inflation rate in the Philippines is higher than what most observers would consider appropriate, although it is clearly not on a scale that creates major disruptions in economic activity.[2] This is especially the case when the effect of the high inflation in 1991 is taken out, in which case the average of the decade is reduced to 7.5 per cent per year. The problem in Hong Kong does not really concern the average inflation rate per se but its high variability. We know that variable inflation is undesirable, at least to the extent that it is unexpected, because it contributes to uncertainty and it leads to unintended redistribution of income and wealth. Of course, the sharp decline in inflation in 1999 and 2000 - the two years most responsible for the high overall variability - is presumably part of the adjustment mechanism to external shocks, and as such it may be preferable to an adjustment path that involved only changes in economic activity and no changes in prices.

The three countries in Chart 1 - Australia, New Zealand, and Singapore - have throughout the 90s maintained inflation rates close to those considered optimal in industrialised countries. Analysis both in countries that have adopted inflation targeting explicitly and in countries like Germany and Switzerland that have done so more informally, has led to the conclusion that an inflation rate somewhere between 0 to 3 per cent per year would be appropriate. Viewed in this light, the performance of the countries in Chart 1 is quite satisfactory.

It is often argued that the optimal inflation target of emerging markets is higher than the 0-3 per cent range proposed for industrial countries. D'Amato, Gerlach and Hawkins (2001) refer to larger measurement biases, the consequence of high productivity growth on relative prices, and the greater reliance on seignorage for deficit financing, suggesting that this might warrant an increase in the target rate of some 2-3 percentage points. On this scale Korea, Malaysia, and Thailand have performed quite well with the exception of the temporary surge followed by the drop in inflation rates subsequent to the 1997 crisis.

The possible reaction to these data could be that the monetary policy strategies adopted in the countries represented in these charts have led to broadly satisfactory outcomes. In other words, 'if it isn't broken, don't fix it' may be a tempting conclusion. This would, however, be premature, as we need to consider other potential objectives of central bank policy than price stability on the one hand, and whether changes in the environment of monetary policy requires new policy strategies, on the other.

2.2 The Monetary Policy Strategy

It is interesting to note that the inflation outcomes described in the previous section have been achieved with very different monetary policy frameworks. Two countries are following inflation targeting strategies. New Zealand is usually thought of as the pioneer of explicit inflation targeting, having adopted this policy in March 1990, and Australia followed three years later. Both countries are now included among the countries that have adopted all the trimmings said to be required of bona fide inflation targeting regimes including a fully independent central bank, announcing a numerical target for the inflation target, having a fully flexible exchange rate, and a great deal of transparency of their policy. It would be tempting to conclude that their excellent inflation performance is a result of these aspects of their monetary policy strategy.

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2 The empirical evidence on the effects of inflation on economic growth indicates that the negative effects of inflation set in mainly when inflation has reached double-digit levels.

A comparison with Singapore should make us pause, however. The inflation performance in this economy is as enviable as in Australia and New Zealand, yet the monetary policy framework is quite different. The Monetary Authority of Singapore (MAS) is not an independent institution in the sense this term is used in the literature on independent central banks. The monetary policy strategy of the MAS is based on the objective of preserving the purchasing power of the Singapore dollar. This is not defined exclusively in terms of a target inflation rate but it takes into account the external value of the currency as well. Furthermore, the MAS has adopted the nominal effective exchange rate (NEER) as an intermediate target for policy, but as the basket of currencies that enter the calculation of the NEER are not disclosed, the strategy cannot be characterised as fully transparent.[3]

During the first part of the 90s, Korea, Malaysia, and Thailand operated within a fixed-exchange rate framework, essentially with respect to the US dollar. As a result of the crisis in 1997-98 the currencies depreciated sharply and they have subsequently followed different paths. Malaysia has returned to a rigid peg vis-à-vis the USD, whereas both Korea and Thailand have moved towards a more flexible exchange rate arrangement. The latter two have also officially adopted an inflation-targeting framework for their monetary policy, Korea in 1998 and Thailand in 2000. We have seen that in all three countries inflation was not a problem as long as the fixed exchange rate regimes lasted, and it is too early to tell what the consequences will be of the diverging monetary policy strategies.

Of the countries highlighted here the Philippines has the worst inflation record. According to Debelle and Lim (1998) the reason is that the central bank has pursued inconsistent and at times unattainable goals, such as stimulating growth, achieving a competitive exchange rate, financing government spending and bailing out financial institutions. Put differently, it appears that the Philippine economy has lacked a nominal anchor, and that monetary policy has not been part of a coherent overall policy framework.

Finally there is Hong Kong, a country that has maintained a strict currency board arrangement with a fixed exchange rate vis-à-vis the USD since 1983. As we have seen, this system has delivered an average inflation rate that is consistent with what fast-growing economies should target, albeit with a relatively high variability.

2.3 The Alternatives as We Move Forward

As a conclusion to the preceding brief review of monetary policy strategies, I would argue that many different approaches to monetary policy are capable of delivering satisfactory inflation outcomes, provided they are carried out consistently with their own internal logic, and provided they are part of a coherent overall economic policy framework. The first of these requirements implies, for example, that a central bank that focuses on the exchange rate (interest rate) as an intermediate or operating target cannot simultaneously have an independent target for the interest rate (exchange rate). The second requirement implies in particular that monetary policy cannot be called upon to finance government expenditures if it is to provide a stable nominal anchor for the economy.

3 See Monetary Authority of Singapore (2001) for a description of the exchange rate policy in Singapore.

As we contemplate the design of monetary policy frameworks for the future, the past success of diverse strategies should be kept in mind. Perhaps there are reasons to keep this diversity, or at least not to give it up without substantial proof that there is one, and only one, alternative that is better.

Looking at specific countries, it seems likely that both Australia and New Zealand will want to continue their current strategies, although questions have apparently been raised as to the usefulness for New Zealand of having its own currency compared to forming a monetary union with its larger neighbour. I will not comment further on that except to note that the fact that the question has even been raised suggests that exchange rate questions do loom large in highly open economies, and that they need to be incorporated more explicitly into inflation targeting strategies than is often done in the more theoretical literature.

Hong Kong, at the other end of the floating/fixed exchange rate spectrum, is also likely to maintain the approach that has served it well during the better part of the past two decades. One could argue that pegging the Hong Kong dollar to a basket of currencies, rather than to the USD, would provide more real exchange rate stability, but the gain on this score must be carefully weighed against the loss of transparency of the current system. Furthermore, if the Renminbi continues to remain stable with respect to the US dollar, a basket peg for the HKD would increase the variability of the bilateral RMB rate, which may create difficulties of its own.

For the countries that are searching for new ways to conduct monetary policy, my view is that the most pressing question is not whether they are capable of targeting inflation, but rather how this objective should be combined with other concerns of the monetary authorities, and how best to achieve the aims. In the next section I will explore some general considerations in this respect.

3. Inflation Targeting, a Selective Guide for the Potential User

Inflation targeting is fundamentally about the objectives of monetary policy, and as such it is potentially compatible with a variety of monetary policy strategies. The overall theme of this section is that there is no one strategy that is best for all countries at all times. I illustrate this by emphasising how differences between economic structures, institutions and external environment can lead to different solutions in terms of the ultimate goals of monetary policy, the choice of an intermediate target, and operating procedures. An essential element of all successful inflation targeting strategies, however, is that they must be supported by a coherent framework involving not only monetary policy but also fiscal policy.

3.1 Defining Inflation Targeting: One Size Does Not Fit All (Unless It Is Sufficiently Elastic)

Inflation targeting was adopted first in a handful of highly industrialised countries. Their success in achieving a durable reduction in inflation without any discernible loss of real economic growth has naturally led to many attempts to describe what these pioneers actually did. The resulting list of measures and procedures has virtually become the definition of inflation targeting, and countries are measured against this list to determine whether they are suitable candidates to join the club of inflation targeters.[4] Hence it is not surprising that the question has been raised whether emerging markets should adopt this new strategy for monetary policy.[5] The relatively sceptical answer given in Masson, Savastano, and Sharma (1997) was based on the practices adopted in the pioneering countries and on the solutions adopted to deal with their particular problems. These authors emphasised difficulties associated with (the absence of) central bank independence, limited understanding of the transmission mechanism, and lack of formal forecasting models to argue that many emerging countries are not ready to adopt inflation targeting. There are two problems with this argument. The first, pointed out in Debelle (2001) and D'Amato, Gerlach, and Hawkins (2001), is that the difficulties mentioned by Masson, Savastano, and Sharma (1997) were also present in the pioneering countries when they first adopted the new strategy, and that they have dealt with them gradually as they have learned to operate within this framework. Hence it would not be necessary for emerging market countries to put in place all the 'best practices' in order to adopt inflation targeting as a guiding principle for their monetary policy. The second problem is even more fundamental, and goes to the heart of adopting a relatively narrow definition of how inflation targeting should be carried out. Countries differ from each other in a large number of dimensions that are relevant for the conduct of monetary policy: political institutions, economic structure, openness to international trade in goods and assets, technical skills of central bank staff, and development of financial markets to mention some of the more important. Hence it would be quite extraordinary if the monetary policy strategy adopted in the United Kingdom, New Zealand or Sweden would be appropriate without significant modifications for every emerging market economy.

The implication of this discussion is that the definition of inflation targeting needs to be stripped down to its bare essentials if it is to be helpful for thinking about monetary policy in countries outside the industrialised group. I would argue that this boils down to two elements: the announcement of a quantitative target for the inflation rate as a goal of monetary policy, and the elaboration of an internally coherent strategy to achieve this goal. The details of the strategy, as well as the definition of the quantitative target for inflation are likely to be country-specific and are best left out of the definition of inflation targeting.[6]

Using this more general definition of inflation targeting forces us to ask what the appropriate goals of monetary policy should be in a particular economy, be it in the emerging or in some other category, and what a coherent strategy to achieve these goals consists of.

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4 A definition of inflation targeting that has now become standard is given in a conveniently condensed form in Mishkin (2000). In his excellent review of the inflation targeting practice in New Zealand, Svensson (2001) suggests that there is an 'international best practice' in inflation targeting, and associates this with the strategies adopted in the United Kingdom and Sweden.

5 Schaechter, Stone, and Zelmer (2000), Debelle (2001) and D'Amato, Gerlach, and Hawkins (2001) are recent examples.

6 One might of course argue that a definition is a definition and that we can therefore put anything we like into it. The danger here is that it may induce some countries to adopt strategies that are not really suitable for them in order to qualify as an inflation targeter, a label that has almost come to signify the adoption of state of the art monetary policy.

3.2 Why Target Inflation?

Everyone Needs a Nominal Anchor

One of the fundamental functions of a monetary system is to ensure that nominal values such as the price level, nominal exchange rates, nominal GDP, etc. are tied down by some mechanism. In analogy with keeping a ship from drifting randomly at sea, this is what we mean by having a nominal anchor for the economy. This can take many forms, among them a money supply that does not grow too rapidly, a fixed nominal exchange rate to a stable currency, or a commodity (e.g. gold) standard.

There is little doubt that either a fixed nominal exchange rate or a limit on the growth rate of the money supply in the economy would constitute a feasible long-run nominal anchor for most economies. In a recent paper Paul De Grauwe and Marianna Grimaldi provide empirical evidence from a large cross section of countries that both purchasing power parity and neutrality of money hold as long run propositions, where the long run is more than two-three years but significantly less than a horizon over which we are all dead.[7]

Experience has shown that there are at least two potential difficulties with relying on either the exchange or the money supply to provide stability. One is that an exchange rate peg is not always easy to maintain or that the growth of the money supply is in fact not controlled. Almost always the reason for this is to be found in some conflicting policy adopted elsewhere, usually in the fiscal area. After all, central banks do not gratuitously devalue when they say they are pegging or print money without limit just to generate seignorage. The solution to this must be found at the source of the problem, usually with the fiscal authorities. No monetary system will by itself be able to serve as a nominal anchor if the fiscal situation is such as to require continuous large-scale monetisation or budget deficits.

The second difficulty with relying on the exchange rate or the money supply relates to short- to medium-run considerations. Experiences in the past twenty or so years have shown that there can be considerable variability in inflation even if the money supply is kept under control, and that allowing the exchange rate to be somewhat flexible can help an economy adjust when faced with certain types of shocks.

The attraction of inflation targeting is that it can in principle address both of the above concerns, function as a long-run anchor for economy on the one hand, and permit some flexibility of adjustment to shocks in the short run on the other. But for these benefits to materialise, it is not enough to announce a quantitative goal for inflation. A coherent overall policy strategy must also be in place, one that is capable both of preventing inconsistencies between monetary and fiscal policy, and of balancing alternative short-term objectives of monetary policy.

3.3 The Importance of Policy Consistency

Attempts by the central bank to provide a nominal anchor can be unsuccessful for a number of reasons related to pressures to satisfy other goals at the same time. The most obvious comes from the need to

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7 De Grauwe and Grimaldi (2001). See also my comments in the same publication.

finance fiscal deficits. Help from the central bank can be solicited in many ways, direct borrowing by the treasury being the most obvious, but not the only one. Intervening in the secondary market for public debt to keep down the interest rate effectively serves the same purpose. The consequence in either case can be an expansion of the monetary base in the economy beyond what is required to achieve a certain inflation target.

Fiscal policy may also throw the central bank off course in a more indirect way. Imagine a situation in which some short-term interest rate is set according to a Taylor rule in response to the inflation rate and the output gap, and suppose that there is no change in either of two variables. The central bank would hence feel comfortable in leaving the interest rate unchanged. If, however, the government has embarked on a fiscal expansion, the equilibrium real interest rate is likely to have increased, and the central bank's 'neutral' policy stance is actually too expansionary. In effect, it is implicitly targeting too low a level of the real interest rate.

Another potential source of policy inconsistency arises if the central bank is aiming at a particular level of the real exchange rate, either because it is trying to promote external competitiveness in the economy or because it operates with both an inflation target and a nominal exchange rate target. Unless the real exchange rate the central bank is aiming at is consistent with the economy's real equilibrium, monetary policy could end up generating an excessively high, and possibly even unstable, inflation rate.

Policy inconsistency cannot be prevented by the central bank alone, even if it has been granted legal independence. It requires the support and awareness of the government more generally and in the limit also of elected politicians. Consensus in two areas is particularly important. It must be generally understood and accepted that monetary policy cannot have any sustained impact on real variables such as the rate of economic growth, the rate of unemployment, or the real exchange rate, but that it can achieve a moderate inflation rate over the medium term. Even independent central banks do not operate in a political vacuum. Monetary policy will ultimately be judged by what elected politicians, and therefore the voters, think that the central bank should accomplish. If there is a widespread belief that monetary policy can lower the unemployment rate, support the competitiveness, and hence jobs, in the export industry, or eliminate business cycle fluctuations, then it will be very difficult for central bankers to stick to a strategy where inflation control is the primary concern. The independence of the central bank may simply be withdrawn, the achievement of external competitiveness or some related variable may be formally introduced into the remit of the central bank, or it may become personally so unpleasant for the central banker to stay on the strictly anti-inflationary course, that it will be abandoned. Hence it is essential that there is widespread agreement on the goals of central bank policy.

Formal central bank independence may not even be necessary for a successful monetary policy. If the government's overall economic policy is sound, and the public understands what the central bank can and cannot do, then the central banker will quite naturally be able to carry out an inflation targeting strategy without having formal independence.[8]

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[8] This is not to say that independence is not useful. Quite the contrary, introducing independence into law is surely a good signalling device about the intentions of the (current) government/parliament, and it can help to tie the hands of future governments/parliaments, thereby making corrupt monetary policy harder for them. The analogy to the difference between a currency board and a traditional fixed exchange rate is instructive if not perfect.

The upshot of this discussion is that inflation targeting, and indeed most other monetary policy strategies, need the support of other policies if it is to be a success. It is hence interesting to note that several of the countries that have introduced inflation targeting have done so in the context of wider reforms aimed at consolidating government finances. Indeed, data assembled by D'Amato, Gerlach, and Hawkins, (2001) Table 3.1, show that in 12 out of 14 inflation-targeting countries for which data were available, the general government budget balance improved after inflation targeting was adopted.

3.4 Inflation Targeting Does Not Mean Targeting Only Inflation

According to the accepted classification, *strict inflation targeting* refers to a policy where the inflation rate (relative to its target value) is the only variable that appears in the objective function of the central bank. The deputy governor of the Bank of England, Merwyn King, has referred to this as a case where the central bank is an 'inflation nutter' and has suggested that this is highly unusual if not totally unrealistic. The typical case is *flexible inflation targeting*, where other objectives are also recognised as being both legitimate and important. Explicitly or implicitly most central banks care about real economic activity as measured for example by the output gap or the unemployment rate, and they would adjust their policy instrument so as to achieve the best possible combination of inflation and this other objective.[9]

I believe that in highly open economies there is some independent reason why the central bank might want to include exchange rate stability among its objectives. Clearly there is no reason (apart from the influence it might have on inflation rate itself) to focus on any particular level of the nominal exchange rate. Nor is it recommendable to set a target for the real exchange rate as it would be the outcome of real economic fundamentals and hence impervious to monetary policy. At issue is whether volatility and misalignments in real exchange rates are harmful, on the one hand, and a legitimate concern of monetary policy on the other.

Revealed preference of a large number of central banks suggests that exchange rate stability is indeed a policy objective, since only a minority (albeit a growing number) of central banks state that their exchange rate regime is one of independent floating.[10] One could of course claim that these central banks are mistaken in the view that some degree of exchange rate management is useful, but it seems more fruitful to try to understand whether there is any rational basis for their concern.

There has been a lot of work on the effects of exchange rate volatility on trade. The initial presumption that exchange rate volatility increases uncertainty and reduces trade was challenged by theoretical arguments emphasising the possibility to hedge foreign exchange risk using forward exchange contracts or similar derivative instruments. Early empirical work also failed to find much support for the initial presumption.[11] This may, however, have been due to the difficulty of measuring changes in volatility in

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9 This is the interpretation usually given to estimated Taylor rules that are meant to describe the behaviour of central banks.

10 According to the IMF's classification, 47 of the 185 members are characterised as pursuing a policy of independent floating, 45 follow rigid pegs, and 93 follow intermediate regimes. These figures do not show that most countries that follow independent floating actually intervene on a regular basis in the foreign exchange market.

11 See Calmfors (1997) for a thorough survey of the literature until the mid-90s.

time series data. Exploiting a large cross section of countries Rose (1999) documents statistically and economically significant negative effects of exchange rate volatility on the volume of trade.[12] To the extent that trade leads to greater economic growth,[13] we can conclude that exchange rate volatility is a legitimate element in policymakers' objective function. Note that this is not because it influences inflation or the output gap, but because it influences the potential level of output.

Prolonged misalignment is another reason why the exchange rate may be of concern for policy makers. Persistent swings in the real exchange rate can cause cycles of investment and dis-investment in the traded goods sector of an economy. Many of these swings can perhaps be explained by developments in fundamentals such as the terms of trade, capital flows, and government spending and taxes, but some are surely the consequence of genuine misalignments. The sharp appreciation of the United States dollar in the years preceding the Plaza Agreement in March 1985 and the prolonged weakness of the Euro following its creation in January 1999 are two examples that come to mind. In such instances, there are often calls for protectionist measures or other harmful policies to deal with the loss of competitiveness. Alternatively, the swings in investment brought about by the misalignment may lead to financial distress to the extent that firms use leverage to finance such investments. In either case potential output in the economy will be lower.

Even if some degree of exchange rate stability or the avoidance of misalignments is a legitimate policy objective, should it fall on the central bank to adapt its policy to deal with it? I would argue yes on the following grounds. First, monetary policy does presumably have a comparative advantage relative to other policies such as trade policies and fiscal policies to influence the nominal exchange rate. Second, just as central banks that follow (flexible) inflation targeting are expected to take into account the output gap in their decisions, so can they incorporate some measure of exchange rate smoothing and/or misalignment. Third, in order to rationalise what central banks actually seem to do in practice, it has been necessary to include interest rate smoothing among their objectives. It seems that for highly open economies, it should not be surprising that some degree of exchange rate smoothing is desirable as well.

3.5 Implementation Must Be Country-Specific

That implementation of monetary policy should be country-specific goes without saying. In the following I simply illustrate this by showing how a number of practical aspects of inflation targeting could differ from country to country. These illustrations are intended to show that the country-specific aspects go beyond the choice of a specific value of the target rate of inflation or the determination of the coefficients in a central bank reaction function for the interest rate, which of course are important as well but which have been discussed elsewhere.

[12] The most spectacular result in Rose's work is the strong effect of membership in a currency union on trade. This aspect of his results has been scrutinised and examined for robustness notably by Persson (2001). As Rose points out in his reply to Persson, the results stand up very well to the tests.

[13] Frankel and Romer (1999).

The Choice of Goals

I have already stressed that inflation targeting does not mean targeting only inflation. What other goals should be pursued, who should decide what these goals are, and how they should be communicated and implemented must therefore be determined. Country characteristics will point to different solutions in different countries. For example, the degree of openness of the economy is likely to determine how significantly exchange rate stability should figure among the objectives. Other features, such as labour market flexibility and industrial diversification, brought up in the literature on the choice of exchange rate regime are of course also relevant.

There is also a question as to who should define the goals of monetary policy: the central bank or the government more generally. I do not intend to review the arguments on the issue of central bank independence except to argue that the consensus in the economy at large about the legitimacy of the central bank is important in this context. In a country like Switzerland, where there is a broad-based agreement that the central bank is conducting monetary policy in the best interests of the country at large, there is not a great need to specify in detail what goals (other than a reference to achieving price stability) monetary policy should aim at. Baltensperger, Fischer, and Jordan (2001) have even argued that doing so could be counterproductive in that it would limit the bank's flexibility to deal with shocks as they materialise. In other circumstances it may, however, be important that the government be involved in the setting of goals and priorities of monetary policy so as to make it more likely that other economic policies are consistent with, and supportive of, what the central bank is aiming for.

How should the existence of other goals be communicated to the public? In actual practice this is usually done in very vague terms, for instance that monetary policy should promote the highest possible rate of economic growth without compromising the primary goal of ensuring the stability of the value of the currency. This places priority on a stable purchasing power of the currency, but it does not give any indication of the relative weights to be placed on other objectives. It might be argued that a more precise indication of these trade-offs should be given in the interest of transparency, and ultimately accountability. Paradoxically, however, being too specific about the existence of multiple goals may render the objectives less clear, because it is very difficult to communicate how the priorities would be implemented in all circumstances. It is also difficult to give precise content to the other goals such as output or exchange rate stability.

Some inflation targeting countries have dealt with this issue by defining the inflation target in terms of a band and by choosing a more or less large width of this band, by specifying a specific horizon over which the target is meant to be met, or by introducing explicit escape clauses. While this may be useful for some purposes, it does not solve the problem of translating the ultimate goals into the metric of bandwidth and horizon.

Choice of Intermediate Target

Is there any role for intermediate targets in an inflation-targeting framework? Although the usual reaction to this question is that inflation targeting is an alternative to exchange rate targeting or monetary targeting, we have already seen that it is perfectly possible to implement a policy of targeting inflation by a variety of strategies. Examples where the exchange rate has been used range from the currency board arrangements of Hong Kong to the crawling pegs of Israel and Chile, to the fixed exchange rates of countries like Austria and the Netherlands. Monetary targets were for a long time explicitly specified by Switzerland with the objective of securing a low and stable inflation rate.

Whether it may be useful for a country to adopt a second nominal anchor in addition to the ultimate goal of price stability depends on a number of factors. The experiences of Chile and Israel seem to suggest that a crawling peg arrangement can be attractive in the process of bringing down a relatively high inflation rate to the desired long run target.[14] Growth rates of monetary or credit aggregates may serve a useful purpose by reminding policy makers that financing government spending by excessive money creation is inflationary. In addition, continuity from a successful history of inflation control may argue in favour of maintaining important aspects of the previous strategy even if it is decided to adopt inflation targeting more explicitly. The example of the European Central Bank is instructive here, even if it is most often used as a criticism rather than an endorsement of the use of multiple anchors. In my view it is not the two pillars themselves that constitute the problem, but rather the labelling of money growth as the first of the two. When inflation is the primary objective it must be clear that other variables are used as indicators only, but there is no reason why one should not elevate some particularly important indicator to a more important status than others. It is in this sense that intermediate targets can serve a useful role.

If some intermediate target is used it is essential that the means are not confused with the ends. This means that a hierarchy needs to be established between the ultimate objectives and the intermediate targets, and it needs to be clear to both the policy makers themselves and the public at large how the central bank will react when there are conflicting signals coming from the two sources.

What Should the Operating Target Be?

The Fed, the ECB, the Bank of England, and many other central banks implement their policy decisions by establishing a target level or range for a short-term interest rate. Leaving the interest rate unchanged is then considered to be a neutral monetary policy, and increases or decreases are implemented when those responsible for monetary policy judge that economic conditions have changed sufficiently to require a reaction.

There is no reason why monetary policy has to be conceived as changing the interest rate. It is perfectly feasible to focus on some reserve aggregate that the authorities can influence, or on the exchange rate. In the former case a neutral policy might be described as a certain growth rate of a particular reserve aggregate, and changes in the stance would be an increase or decrease in that growth rate. In the latter case, monetary policy adjustments would be described in terms of changes in the desired range for some exchange rate measure, be it a bilateral rate or some effective exchange rate. In both of these cases, a neutral policy over some period would surely involve some changes in interest rates.

[14] See D'Amato, Gerlach, and Hawkins (2001) for a summary and Morandé (2000) and Leiderman and Bufman (2000) for more detailed assessments concerning Chile and Israel respectively.

The point here is that monetary policy does not have to be expressed in terms of interest rate changes as it is done at present in the United States, the Euro-zone, or the United Kingdom. To the contrary, factors such as the structure of financial markets in the economy, the mechanisms linking the ultimate targets with monetary and credit aggregates, interest rates, and exchange rates, as well as the sources of shocks in the economy will all have bearing on how a central bank should make its policy operational.

What about Inflation Reports, Communication, and Central Bank Independence?

The early literature on inflation targeting has placed strong emphasis on enhancing credibility and accountability by means of granting the central bank independence, publishing regular inflation reports, and engaging in intensive communication with the public. Independence is meant to limit the scope for governments and politicians to pressure the central bank into financing government spending rather than pursuing the goal of price stability. The purpose of inflation reports is to give information about the process leading up to monetary policy decisions thereby rendering it more transparent, and intensive communication is promoted as a means to ensure accountability. All these are surely important complements to an inflation-targeting framework as indeed they would be to any monetary policy strategy. Their purpose and significance should, however, be put in perspective and related to the particular circumstances of the country we are considering. I have already argued that central bank independence cannot be a substitute for a coherent overall economic policy strategy, although it is useful as a signal. Similarly, the most useful aspect of inflation reports may not be the publication itself but the research and analysis it requires on the part of the central bank. Finally, explaining the general policy strategy and specific policy decision to the general public is particularly important when there is a need to signal a change in focus of policy and a significant break with the past. Once the new framework is well understood the nature and intensity of the central bank's communication efforts can be adjusted.

3.6 Summary

Ensuring a low and stable inflation is arguably the most important objective of monetary policy. Unfortunately this cannot be achieved by the central bank alone, even if it is enjoying some degree of legal independence. Therefore, in order to be successful targeting inflation needs to be supported by a coherent overall economic policy. There is no sense in announcing inflation targets that cannot and will not be met because they are inconsistent with other aspects of government policies.

Targeting inflation cannot be the only goal of monetary policy, because it simply would not be credible. At the same time, however, it is important that other objectives do not conflict with the inflation target, and there must be a clear hierarchy among the objectives. A major task of communication of the central bank should be to explain what it can and cannot accomplish with its policies.

Inflation targeting does not imply any particular operating procedure. It is often carried out by setting intermediate targets for some short-term interest rate, but it is also compatible with procedures that are expressed in terms of exchange rate levels or growth rates of monetary or credit aggregates. The choice of a particular procedure is country-specific and will depend, *inter alia*, on the details of the transmission mechanism and on the nature of the shocks that impinge on the economy.

4. Research Takes on Additional Importance with More Discretionary Monetary Policy

When monetary policy is determined by fixed rules as under a rigidly fixed exchange rate regime, there is relatively little that needs to be known about how the economy reacts to policy initiatives, because by definition there aren't any. If a central bank decides to follow a more active policy of targeting inflation directly, the information requirements increase significantly.

Important preliminary issues revolve around making the objectives of policy operational, i.e. what precise price index should be used to measure inflation, what is the appropriate target inflation rate for this measure, over what horizon should the target be expressed, etc. These issues have been discussed at length elsewhere and I will not pursue them further. Instead I would like to explore some aspects related to the implementation of the strategy. Two related issues appear to be particularly important in this context: the nature of the transmission mechanism of monetary policy and the vulnerability of the economy to interest rate and exchange rate changes. A third question relates to the need for international policy co-ordination in order, for example, to avoid competitive currency depreciations as a way to respond to external shocks.

The importance of the transmission mechanism for the design of monetary policy can be illustrated by the following unrealistic but illustrative examples. Consider first the standard case where monetary policy influences inflation through the effect of changes in interest rates on aggregated demand. In this context it is natural to conduct monetary policy by treating the interest rate as an intermediate target. Changes in policy are expressed in terms of changes in an interest rate like the Federal Funds rate in the United States, and other variables such as the money supply, the volume of credit in the banking system, or the exchange rate become endogenous residuals of the interest rate policy.

Suppose instead that aggregate demand is not sensitive to the interest rate, but does respond to the exchange rate. Now it may be more natural to express policy intentions in terms of an intermediate target (range) for the exchange rate rather than the interest rate. Movements in the latter would be endogenous to the exchange rate target.[15]

In the real world, the transmission of monetary policy occurs via a range of variables including interest rates, the exchange rate, and various monetary and credit aggregates. How best to conduct and signal policy changes in this context presumably depends on the relative strength of the different channels. It is therefore important for a central bank that contemplates moving away from simple fixed rules to have reasonable good information about how its policy instruments impact aggregate demand and inflation. It is not necessary to have detailed models of the transmission mechanism with precise estimates of the relevant equations, but it would seem to be important at least to know the relative strength of different channels in order to determine whether policy should be stated in terms of the interest rate, the exchange rate or some credit aggregate. Theoretical research is needed to determine how differences in the

[15] If the aggregate demand were mainly a function of the availability of credit rather than of the exchange rate or the interest rate, some measure of the volume of credit in the economy would be the natural intermediate target.

transmission mechanism translate into differences in the form optimal policy reactions should take. Empirical work on individual countries is then required to determine what transmission mechanism best characterises a given country.

The vulnerability of the economy to changes in the exchange rate and the interest rate also influences the appropriate form optimal monetary policy rules should take. If monetary policy is implemented by means of an interest rate rule leaving the exchange rate free to adjust to disturbances in the foreign exchange market, the resulting volatility in the exchange rate will influence economic agents through changes in net external debt positions and the prices of export and import goods. An alternative strategy that consists of reducing short-term exchange rate volatility and allowing interest rates to be more flexible will also affect balance sheets of economic agents in different degrees depending on the structure of financial relationships between sectors in the economy. Theoretical and empirical analysis can shed light on how these considerations influence the choice between alternative operating procedures in an inflation targeting framework.

A final topic where research could make an important contribution relates to the potential need for some form of international co-ordination of policies if countries that previously operated with stable exchange rates adopt inflation targeting. Such a policy change would almost certainly result in greater bilateral exchange rate volatility, and it would also increase incentives to rely on exchange rate changes to achieve domestic policy goals. Unless the resulting externality inflicted on close competitors is taken into account the outcome when several countries act independently will be suboptimal.

References

Baltensperger, E., A. Fischer, and T. Jordan (2001), "Understanding SNB Rhetoric in the Inflation Targeting Debate," mimeo, June.

Bernanke, Ben, Thomas Laubach, Frederic Mishkin, and Adam Posen (1999), Inflation Targeting: Lessons from the International Experience, NJ: Princeton University Press.

Calmfors, L. (ed.) (1997), EMU: A Swedish Perspective, Kleuwer.

D'Amato, J., S. Gerlach, and J. Hawkins (2001), "Inflation Targeting in Emerging Market and Transition Economies: A Survey and Issues," mimeo, August.

Debelle, Guy (2001), "The Case for Inflation Targeting in East Asian Countries," paper prepared for the Conference on 'Future Directions for Monetary Policies in East Asia' sponsored by the Reserve Bank of Australia, Kirribilli, July.

Debelle, G. and C. H. Lim (1998), "Preliminary Considerations for an Inflation Targeting Framework for the Philippines," IMF Working Paper, WP/98/39.

De Grauwe, P. and M. Grimadi (2001), "Exchange Rates, Prices and Money. A Long Run Perspective," Working Paper No. 46, Austrian National Bank, May.

Frankel, J. and D. Romer (1999), "Does Trade Cause Growth?" *American Economic Review,* 98(3): 379-99.

Leiderman, L. and G. Bufman (2000), "Inflation Targeting under a Crawling Band Exchange Rate Regime: Lessons from Israel," in M. Blejer, A. Ize, A. Leone, and S. Werlang (eds.), Inflation Targeting in Practice: Strategies and Operational Issues and Application to Emerging Market Economies, Washington, D.C.: International Monetary Fund.

Masson, P., M. Savastano, and Sunil Sharma (1997), "The Scope for Inflation Targeting in Developing Countries," IMF Working Paper, WP/97/130.

Mishkin, Frederic (2000), "Inflation Targeting in Emerging-Market Countries," *American Economic Review, Papers and Proceedings,* 90(2): 105-9.

Monetary Authority of Singapore (2001), "Singapore's Exchange Rate Policy," http://www.mas.gov.sg/resource/download/exchangepolicy.pdf.

Morandé, F. (2000), "A Decade of Inflation Targeting in Chile: Main Developments and Issues," in C. Joseph and A. Gunawan (eds.), Monetary Policy and Inflation Targeting in Emerging Countries, Bank Indonesia, Jakarta, pp.149-79.

Persson, T. (2001), “Currency Unions and Trade: How Large Is the Treatment Effect?” *Economic Policy,* 33: 433-62.

Rose, A. (1999), “Does a Currency Union Boost International Trade?” Mimeo, November. http://haas.berkeley.edu/~arose/CMR.pdf.

Schaechter, A., M. Stone, and M. Zelmer (2000), “Adopting Inflation Targeting: Practical Issues for Emerging Market Countries,” IMF Occasional Paper No.202, December.

Svensson, Lars (2001), “Independent Review of the Operation of Monetary Policy in New Zealand,” http://www.princeton.edu/~svensson/NZ/RevNZMP.htm

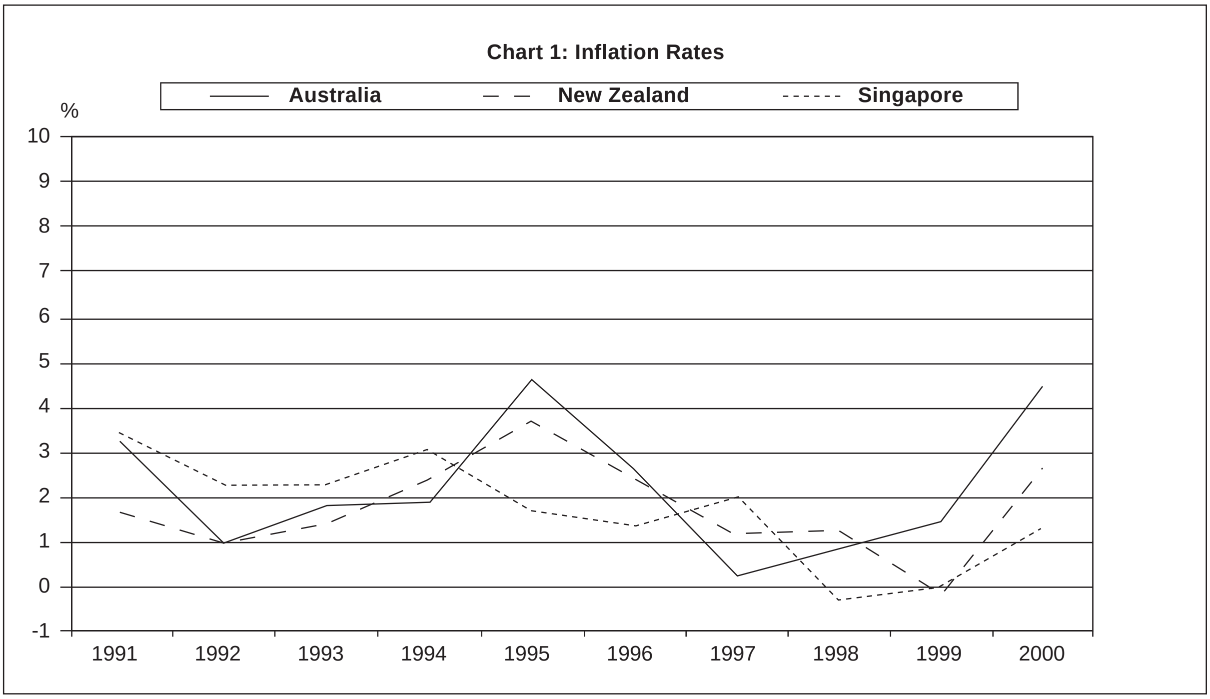

Chart 1: Inflation Rates
Australia
New Zealand
Singapore
%
10
9
8
7
6
5
4
3
2
1
0
-1
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

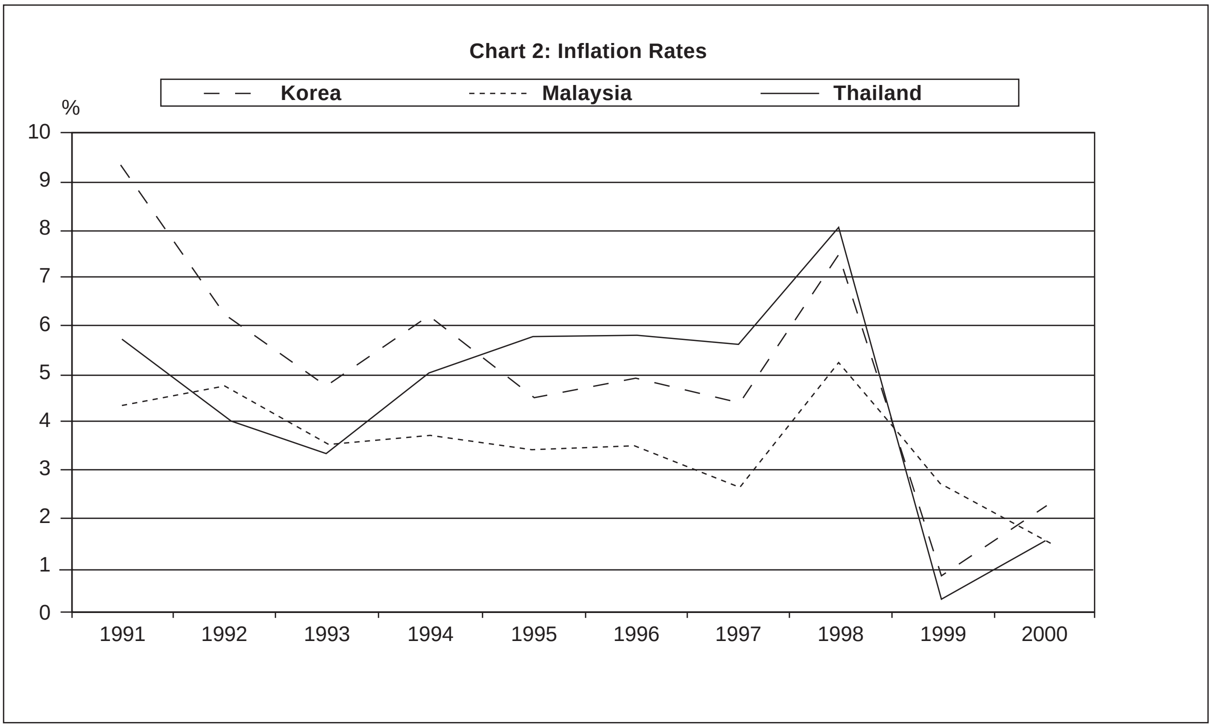

Chart 2: Inflation Rates
Korea
Malaysia
Thailand
%
10
9
8
7
6
5
4
3
2
1
0
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

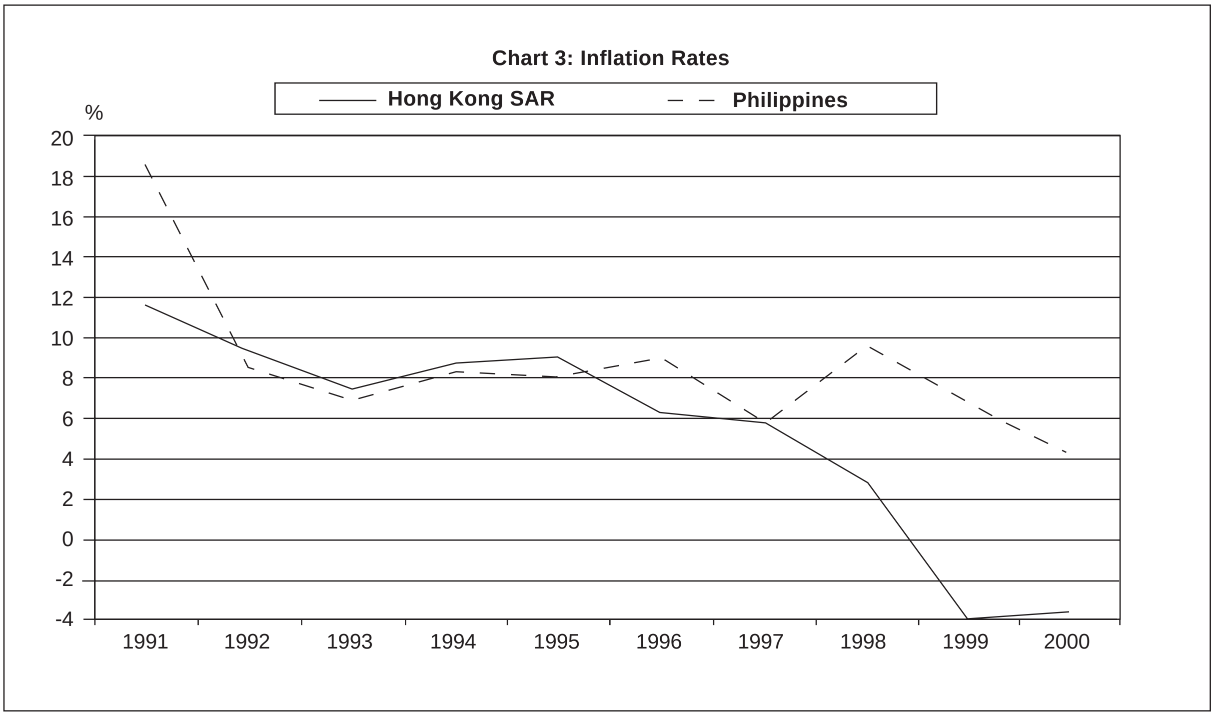
Chart 3: Inflation Rates
Hong Kong SAR
Philippines
%
20
18
16
14
12
10
8
6
4
2
0
-2
-4
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000