A COMPARISON OF ALTERNATIVE EXCHANGE RATE REGIMES

Against the background of the recent floating of the New Zealand dollar this article compares the nature of economic adjustment and policy interdependence under three alternative exchange rate systems, and reviews the main analytic arguments for and against each regime.

Introduction

It is now nearly four months since the New Zealand dollar was floated on 4 March 1985, and the degree of stability in the foreign exchange market over this period has generally exceeded expectations. Certainly there has, as yet, been no occasion when the Reserve Bank has found it necessary to intervene for the purpose of counteracting disruptive market conditions. However, the time since the float is still too short to make any comprehensive assessment of the new regime on the basis of actual experience. Any comparison of the main alternative exchange rate regimes must instead be based on those same conceptual arguments, and relevant foreign experience, that were considered by the Government in its deliberations prior to the float decision.

This article attempts to review the main analytic arguments for and against a free floating regime where the alternative systems considered are:

1. A fixed exchange rate regime with occasional discrete adjustments as prior to 4 March; or
2. A crawling peg along the lines of the regime adopted between 1979 and 1982.

Institutional arguments relating to the capacity of New Zealand financial markets to handle successfully a floating exchange rate and issues relating to transitional arrangements were of course also very pertinent to the float decision, although these will not be discussed here. A broader range of issues relating to the foreign exchange market, including institutional aspects, were addressed in a recent issue of this Bulletin.1

The alternative exchange rate regimes are discussed here in the context of two broadly accepted objectives for exchange rate policy.

1. Structural adjustment: The exchange rate mechanism should facilitate adjustment to external shocks by giving appropriate price signals to domestic economic agents. More specifically, the real exchange rate, defined as the domestic price level relative to the foreign price level in terms of a common currency, should adjust in a satisfactory manner to changes in the fundamental factors underlying the nation's real income earning potential.

2. Monetary policy objectives: Exchange rate policy should be conducive to the achievement of Government's monetary policy objectives.

Structural Adjustment

Adjustment under a Fixed Rate

The situation over the past decade was characterised by economic policies designed generally to facilitate only slow adjustment to the adverse external shocks of the 1970s and early 1980s. Indeed, in some respects the policies effectively attempted to insulate the economy from these shocks. This was achieved through extended periods of relaxed demand management policies supported by a fixed exchange rate, exchange controls, and extensive official overseas borrowing. Exchange controls allowed the Government to maintain an often easy monetary stance, with domestic credit expansion more than sterilising the liquidity drain resulting from persistent balance of payments deficits. It was thus possible to avoid a monetary contraction and the consequent earlier slowdown in domestic inflation that would otherwise have led to a more satisfactory real exchange rate adjustment. Such an adjustment was however inevitable and, as is usual under a 'fixed' rate system, this came eventually, in July 1984, in the form of a large discrete devaluation following a costly and disruptive foreign exchange crisis.2

The increased potential for interest sensitive capital flows resulting from the relaxation of exchange controls and government security ratios in late 1984 and early 1985, implied that there was considerably less scope for

1 The Reserve Bank does however enter the market from day to day for the purpose of meeting Government’s current foreign exchange commitments.


insulating the economy from real external shocks. The authorities continued to have the option of sterilising the monetary effects of an overseas current account deterioration through an increased rate of domestic credit expansion as long as external borrowing facilities remained accessible. However, the continued pursuit of such policies was not judged to be warranted. Moreover, it was no longer possible to hold domestic interest rates below foreign interest rates for any length of time. If a current account deterioration had been sustained under this revised regime then the increased potential for a rapid escalation of speculative pressure against a fixed exchange rate would no doubt have prompted the authorities to allow a real exchange rate adjustment at a relatively early stage.

In general, under a fixed exchange rate, a downward adjustment of the real exchange rate will involve a contraction in domestic activity and employment. Such an adjustment requires a reduced rate of domestic credit expansion and higher interest rates, leading to a decline in real domestic activity and, eventually, a reduction in real wages and domestic inflation relative to overseas inflation. This adjustment process depends on aggregate expenditure effects induced by interest rate changes and therefore may tend to have some cost in terms of higher unemployment, particularly if nominal wages and non-traded goods prices are insufficiently responsive to aggregate demand pressures. For this reason it is more likely under a fixed rate regime that any significant downward adjustment in the real exchange rate will be achieved through a discrete devaluation, bringing with it the likelihood of private speculation against the authorities 'fixed' position. As demonstrated in July 1984, the existence of extensive exchange controls on capital flows may be ineffective in forestalling an outward movement of funds. In the absence of exchange controls, of course, the potential cost to the community of a pre-devaluation speculative run could be very serious.

Adjustment Under a Float

While the relaxation of exchange controls and minimum government security ratios made the management of a fixed exchange rate more problematic, it offered scope for the efficient operation of a more competitive foreign exchange market. However, while a free movement of capital is essential to provide the arbitrage opportunities for smoothing day-to-day exchange rate movements under a float, it also admits the possibility of exchange rate trends that may deviate for some time from the course indicated by 'fundamental' considerations. This possibility has been demonstrated in recent years by the persistent strength of the United States dollar in the face of clear evidence that the steep upward trend in the United States current account deficit, and the real exchange rate level, are not sustainable in the longer term.

The case of the United States dollar represents an extreme example of the 'overshooting' that has been observed in freely floating exchange rates; exchange rates have tended to over-adjust initially to shocks before eventually returning to their new equilibrium levels. This phenomenon has been linked to the relatively rapid speed of adjustment in financial markets as compared to goods and labour markets. The slower the adjustment of goods and labour markets to disequilibria in financial markets, for example as a result of widespread indexation, the more pronounced will be the price variations in financial markets over the adjustment phase. Deviations of the real exchange rate from its equilibrium level may also of course result from expectations of changes in fundamentals that turn out to be ill-founded. Indeed it is quite possible for self-feeding speculation and 'handwagon' effects to exaggerate the initial exchange rate impact of a piece of market information long after the majority of market participants have realised that the information is fundamentally irrelevant. Such exchange rate movements may contain no useful information for the real economy and any unwarranted real responses in goods and labour markets will represent a long term cost.

A relevant point to note here is that, under a fixed exchange regime, any tendency for exchange rate volatility or overshooting would be translated into a higher degree of interest rate volatility. Or indeed, if interest rates were controlled then the volatility would emerge in monetary and other financial aggregates as has been seen in New Zealand on occasions. In evaluating alternative exchange rate systems it is thus necessary to make judgements concerning the least disruptive form of price volatility arising from 'irrelevant' shocks as well as considering the least costly means of adjusting to the more relevant external shocks.

On the first count, there is no clear evidence to support the claim that exchange rate volatility is in general more costly than other forms of financial market volatility. While exchange rate volatility may be expected to be more disruptive in very open economies, there is no convincing evidence that trade volumes in aggregate were adversely affected with the advent of widespread floating in the early 1970s. It is certainly true that traders have available a wide range of instruments for hedging against unexpected exchange rate movements.

On the second count, as discussed above, a permanent downward adjustment in the real exchange rate (and the real wage) is likely to be achieved at less cost by allowing changes in the nominal exchange rate and relative goods prices rather than by relying solely on changes in interest rates and aggregate demand. However, while the fixed exchange rate adjustment mechanism may involve greater disruptions in terms of unemployment and lost output, adjustment under a float may carry with it more explicit problems in terms of inflation. The greater inflation risk will be associated with downward exchange rate movements which unavoidably achieve less than equivalent real exchange rate movements and therefore exert some upward pressure on domestic inflation.

It can be argued that the potential inflationary costs of adjustment under a floating regime will be greater when there is a high degree of indirection in goods and labour markets. However, if relative prices (and the real wage) fail to respond to downward exchange rate movements then firm financial policies will ensure that such rigidities are translated into reduced growth in activity and employment (quantity adjustments); a permanent increase in the rate of inflation will only occur if financial policies are accommodating. Thus, a

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4 For a full exposition of exchange rate overshooting, see Dornbusch, R. 'Expectations and Exchange Rate Dynamics', Journal of Political Economy, Vol. 84, No. 6 (1976).

5 This was the conclusion reached in an IMF survey of the available empirical evidence; International Monetary Fund, 'Exchange Rate Volatility and World Trade,' Occasional Paper No. 28 (July 1984).
downward rigidity in real wages is not so much an argument against a floating regime as a condition necessitating quantity rather than relative price adjustments. Under inflexible relative prices, firm financial policies will imply that quantity adjustments are unavoidable, whatever the exchange rate regime.

Conditions Conducive to a Fixed Rate Regime

While a flexible exchange rate system should provide a more efficient mechanism for transmitting changes in external conditions to the domestic economy, it is clear that the long-run performance of the economy will not be maximised if attempts are made to adjust the productive structure in response to short-term or cyclical changes in external conditions. The Bretton Woods system of fixed parities was based on the premise that the majority of external shocks faced by member countries were of a temporary and extraneous nature. In such an environment, the fixed exchange rate system was deliberately intended to facilitate the insulation of each economy from external shocks. For example, a cyclical downturn in export receipts would be reflected in a reduced level of reserves (possibly supplemented through recourse to IMF resources) and a temporary decline in the incomes of export producers. With a pegged exchange rate and anti-cyclical demand management policies, it was intended that the non-exposed sectors of the economy should be little affected.

The Bretton Woods system of fixed parities became increasingly inappropriate in the 1960s and 1970s because differences in economic conditions between countries became persistent and of a more fundamental nature. In particular, a number of industrial countries were determined to run financial policies that were persistently tighter than in the United States. Also, the energy shocks of the 1970s necessitated widespread and fundamental structural adjustments to production and expenditure patterns. However, notwithstanding the general failure of the Bretton Woods system, there remain certain countries where the structure of the economy and the usual nature of external shocks suggests that some form of fixed rate regime may still be appropriate.

Three general types of situation may be seen to lend themselves to some form of fixed exchange rate system.

The first type of situation conducive to a fixed exchange rate peg, typified in the extreme by Hong Kong in recent years, is that where large extraneous shocks to financial markets may cause serious disruptions under a floating regime. In 1982/83 the high degree of uncertainty surrounding Hong Kong’s political future led to substantial speculative swings in financial markets; the resulting gyrations in the Hong Kong dollar exchange rate threatened to disrupt the commercial and trading base of the economy which, at least from a medium term perspective, remained fundamentally sound. Subsequently, in October 1983 the authorities decided to peg the Hong Kong dollar to its major trading currency, the United States dollar. Following this move, speculative pressures continued to be felt in interest rates and in property and share prices. However, given Hong Kong’s heavy dependence on trade, these fluctuations were considered to be more tolerable than a highly variable exchange rate.

The second situation conducive to a fixed rate regime is that represented in the European Monetary System (EMS) where member countries of a trading bloc attach high priority to the promotion of both stable trade patterns and a more general economic unity within the bloc. The system adopted by the EMS restricts averaged bilateral exchange rates to fluctuate within fixed bands. This helps to ease disruptions to trade between the members of countries and, supported by a wide range of taxes, subsidies and direct transfers, it also furthers the common objective of spreading income gains and losses across the whole EMS membership. While insulating individual members from intra-European shocks the EMS floats against other world currencies and so allows a degree of independence from United States monetary policy while also promoting adjustment to supply shocks emanating in the primary producing countries.

The third situation where a fixed peg may be the preferred option is in the case of a small and highly specialised economy where the overall earnings performance of the country is dominated by the behaviour of a small range of product (usually commodity) prices. If fluctuations in these prices are mainly cyclical rather than secular then it can be argued that the Bretton Woods framework is still relevant and that the non-exposed sectors of the economy should be insulated from such fluctuations through a fixed exchange rate. The validity of this case, which has been used to support the fixed exchange rate argument in many small developing and primary producing countries, relies of course on the claim that the cost of unnecessary adjustments to temporary shocks would exceed any longer term costs incurred by not adjusting to shocks that turned out to be permanent.

The poor economic performance of the New Zealand economy over the past decade indicates clearly that, in the case of New Zealand, the long-term cost of not adjusting to permanent shocks can be very substantial. Over a sustained period, recurring costs of this sort are likely to be well in excess of any short-term costs arising from exchange rate responses to temporary commodity price changes under a floating regime. This argument is supported by the continuing diversification of New Zealand’s export sector which should progressively dampen the overall terms of trade and exchange rate impact of short-term variations in the main pastoral commodity prices. Furthermore, the continuing accelerated pace of change in both domestic and external market conditions suggests that the potential costs of failing to adjust may increase rather than diminish through time. A successful national economic strategy is likely to be one that promotes rather than inhibits adjustment to changing circumstances.

A Crawling Peg?

A regime involving gradual administered exchange rate adjustments appears to offer the potential for insulating the economy against extraneous shocks while also ensuring that fundamental changes in external conditions are transmitted to economic agents via appropriate changes in the real exchange rate. Such a system would necessarily involve exchange rate adjustments to compensate for inflation differentials but would also require adjustments in response to secular movements in fundamental factors affecting the country’s growth potential and the external accounts.

The basic flaw with the crawling peg option is of course the false presumption that the authorities would be able to distinguish the market signals associated with the important longer term developments from those
associated with transient events. There is also the problem that, even when a development is known to require an adjustment in the real exchange rate, there is no way of accurately determining the size of the required adjustment. In view of the lack of relevant information for the effective administration of a crawling peg, there would tend to be a reluctance on the part of the authorities to make real exchange rate adjustments. This was certainly the experience in New Zealand where such a regime was adopted between 1979 and 1982. Such adjustments would tend to be made only after strong evidence of a disequilibrium situation had emerged. Indeed, real exchange rate adjustments under a crawling peg could turn out to be slower than under a fixed rate regime. With the newly increased potential for volatile private capital flows there would thus be a serious risk of the authorities being forced into exchange rate changes that could well be larger than initially warranted.

While the technical difficulties of determining an appropriate real exchange rate level may cause real adjustments to be large and infrequent, there is also the possibility that an administered exchange rate may be used to address economic and political objectives other than the primary objective of moving the real exchange rate towards its equilibrium level. So long as the exchange rate remains a policy instrument, pressures will inevitably emerge for that instrument to address whatever is the most pressing issue of the day. Under a float, on the other hand, exchange market intervention becomes the policy instrument and a greater onus is placed on the authorities to justify why the exchange rate should not be allowed to settle at its market determined equilibrium level.

Monetary Policy Objectives

Policy Interdependence under a Fixed Exchange Rate

Under the fixed exchange rate and the comprehensive system of exchange controls in place prior to January 1985, there was scope to run an independent monetary policy insofar as the policy was loose relative to external monetary conditions. This was amply demonstrated through much of the period between 1974 and 1984 when rates of domestic credit expansion were higher, and real interest rates were lower, than in the main trading partner countries. The result, of course, was a persistent balance of payments deficit and a rapid accumulation of official foreign debt. The containment of domestic savings through exchange controls nevertheless allowed this situation to persist over a sustained period. Given that exchange controls restricted outward but not inward capital flows, the Government was not able to achieve the same degree of independence when its monetary policy was intended to be tighter than in the external sector. This was demonstrated in late 1984 when attempts to absorb domestic liquidity through increased government stock tenders were neutralised through increased private capital inflows.

In the period leading up to the July 1984 devaluation, it became apparent that the established system of exchange controls was not an effective barrier against strong speculative pressures. A relatively easy monetary policy could not be supported indefinitely. Furthermore, there was evidence that the growing sophistication of domestic financial participants was in any case making the exchange control system more vulnerable to avoidance and less neutral in its impact.

Once exchange controls were removed in late December 1984, there was potentially little scope for an independent monetary policy so long as the fixed rate regime was maintained. As suitable channels for offshore investment were developed, private capital flows and the timing of trade finance flows quickly became more responsive to interest differentials. Domestic interest rates became more closely related to foreign rates — with some allowance for a risk premium that reflected the expected rate of exchange rate depreciation, which in turn was affected by differential rates of expected inflation and/or the expected rate of deterioration in the balance of payments. In this environment the stance of monetary policy, as reflected in the size of the Government stock tender programme, had limited direct impact on the level of interest rates. Attempts to run a relatively tight policy for example, through accelerated debt sales, merely resulted in a private capital inflow and a switch in the structure of the public debt from foreign to domestic liabilities. Any attempt to run an easy monetary policy would have had the reverse effect of increasing the official foreign debt and may even have caused interest rates to rise if the relaxation had contributed to expectations of a future exchange rate depreciation. Thus, under a fixed exchange rate and in the absence of exchange controls, domestic monetary conditions would ultimately have been strongly influenced by conditions prevailing in other countries.

Considering this policy dependence from a more positive perspective, a fixed rate regime may be seen as a choice to lock in to the monetary conditions prevailing in the external sector. Such a strategy may have merit in a situation where the authorities are attempting to reduce domestic rates of growth in money and prices to external levels, although it is evident that such an approach will only be successful over the longer term if domestic financial policies are firmly committed toward this end. By way of illustration, an important advantage of the EMS was considered by many member countries to be the enforced financial discipline that would result from locking into the monetary policy of the dominant member country, West Germany. In practice, however, those member countries that have continued to pursue more relaxed policies have persistently exhibited higher rates of inflation and current account deficits that have from time to time culminated in large speculative capital movements followed (usually belatedly) by negotiated re-alignments of the EMS bands.

Interdependence under a crawling peg

If domestic financial policies are persistently out of line with those of the rest of the world then, within the context of administered rate systems, this should be explicitly recognised through some form of crawling peg arrangement. Continuous small exchange rate adjustments based on inflation differentials and/or trends in the balance of payments would probably be preferable to intermittent and possibly forced discrete adjustments under a fixed exchange rate regime. Under both regimes, interest rates would reflect foreign interest rates and the expected rate of change in the exchange rate. Under a crawling peg, however, the

6 It may be noted here that the United Kingdom does not participate in the exchange rate arrangements of the EMS.

domestic risk premium may be reduced due to the greater degree of certainty in the system. Under both regimes the level of interest rates may be influenced by the general stance of financial policies but there would be very limited scope for short term management of monetary conditions. The short term control of domestic liquidity is likely to be ineffective under any exchange rate regime that requires the authorities to continually stand in the foreign exchange market at pre-specified exchange rates.

Interdependence under a float

With the benefit of hindsight it is now apparent that the advocates of floating exchange rates in the 1960s overstated their claim that floating rates would allow the pursuit of fully independent national economic policies. Under a float, as under a crawling peg, a country may choose to adopt levels of inflation and nominal interest rates that differ over the long term from the rest of the world. However, as discussed earlier a floating rate does not insulate the domestic economy from real shocks, including changes in relative prices and changes in real interest rates. The latter may result, as in recent years, from policy efforts by a major economic power (the United States) to change its trend rate of inflation. The result is a degree of domestic policy dependence in the short to medium term on the policies of the major economic powers.

The high real interest rates coming out of the United States domestic policy mix have been reflected around the world in higher real interest rates and/or lower real exchange rates. In countries (or groups of countries) that have floated, a choice has been possible: the adjustments could be taken through a lower real exchange rate with real domestic interest rates being maintained at relatively low levels; or alternatively, monetary policy could be tightened so as to avoid the inflationary effects of an exchange depreciation at the expense of a contraction in aggregate demand. In countries with fixed exchange rates and relatively free capital movement a choice has not been possible: the adjustment has necessarily occurred through higher real interest rates. In the situation at present in New Zealand, the float has broadened the choice of monetary policy alternatives, but the Government has clearly chosen to continue with its relatively firm monetary policy stance. This has been seen in a high domestic interest rate structure and in an exchange rate which has held up despite a relatively high domestic inflation rate (as at June, 1985).

The greater scope for an independent monetary policy under a floating rate, albeit at the possible expense of greater volatility in the real exchange rate, can be seen in the context of alternative intervention strategies in the foreign exchange and money markets. These two markets are closely interdependent because of the high and increasing degree of substitutability between domestic and foreign financial assets. The authorities can thus intervene to set one price; either the domestic interest rate or the exchange rate; it cannot set each price independently. Under an administered exchange rate regime the authorities are committed to defend a predetermined exchange rate level and consequently domestic interest rates (and the money stock) cease to be controllable through an independent monetary policy. Under a floating regime, monetary policy can be used to determine domestic interest rates (and hence the money stock) provided the exchange rate consequences are accepted. If at some stage an exchange rate target becomes desirable then this may be achieved through intervention in either the money or foreign exchange markets provided that the interest rate consequences are accepted.

Alternative strategies for controlling the level of official overseas debt may be considered within a similar framework. Under an administered exchange rate regime, the authorities stand passively in the foreign exchange market at a set price and therefore lose direct control over the level of net official foreign assets. Nevertheless, with a free movement of private capital, the official net foreign position may be controlled indirectly through official intervention in the domestic money market. In order to reduce the foreign debt, for example, the Government would increase its sales of domestic debt, inducing a private capital inflow and a consequent build up in official foreign reserves. Alternatively, under a floating regime, the official net foreign position may be controlled directly through discretionary exchange market interventions. The official foreign debt may be kept fixed by limiting exchange market intervention to the extent of debt service requirements. Alternatively, the mix of domestic and foreign official debt may be changed, independently of monetary conditions, through equal and offsetting interventions in the foreign exchange and domestic money markets. Since the time of the float, the New Zealand Government has adopted the strategy of holding the level of net foreign debt at approximately its pre-float level. The Government has continued to borrow abroad to refinance the existing debt, but has serviced that debt through purchases of foreign exchange on the domestic market. All new borrowing has come through the monthly government stock tender programme.

Conclusion

The discussion has focused on the main analytic differences between a floating exchange rate and an administered exchange rate regime. The arguments were related to two important objectives of exchange rate policy:

- The effective transmission of shocks affecting the equilibrium real exchange rate.
- The enhancement of monetary policy objectives.

Relevant matters relating to the ability of local institutional structures to cope with a floating regime were not covered, although the fledgling foreign exchange market seems to have performed remarkably well to date. The main points of the discussion may be summarised as follows:

1. Under a fixed exchange rate regime, the weakening and eventual removal of exchange controls meant that the scope for insulating the domestic economy from external shocks through offsetting financial policies became increasingly limited.

2. Under a fixed rate, relative price adjustments to external shocks tend to occur via changes in

7 For a further discussion, see R. Dornbusch, 'Flexible Exchange Rates and Interdependence', IMF Staff Papers Vol. 30, No. 1 (March 1983).
interest rates and aggregate demand. Accordingly, adjustment costs in terms of unemployment and output disruptions may be more unfavourable than under a float, particularly when nominal wages are inflexible downwards.

3. Under a float, adjustments work more directly through relative prices rather than aggregate demand, and may involve more unfavourable inflation effects than under a fixed rate regime.

4. The extreme practical difficulty of properly administering a crawling peg arrangement would be likely to result in sustained departures of the real exchange rate from its equilibrium level. Recent experience suggests that the cost of such departures may be high.

5. Under an administered regime it is probable that discrete exchange rate adjustments would eventually be required. In the absence of exchange controls, the likelihood of associated speculative pressures implies that the direct costs of such adjustments may be great.

6. Experience has shown that freely floating exchange rates may at times exhibit short to medium term variations that give inappropriate relative price signals to the real economy. Such variations result from differential speeds of adjustment between real and financial markets and from the capacity of financial markets to react to information that may not be relevant to longer term considerations.

7. In the New Zealand situation the potential costs of short term exchange rate volatility under a float are likely to be dominated by the potential losses from ‘getting it wrong’ under an administered regime. The reverse may be true for small open economies where financial markets are very volatile and/or where real shocks are predictably transient. A fixed rate regime may also be appropriate for the members of a trading bloc where there is a high degree of conformity among national economic policy objectives.

8. ‘Locking in’ to the monetary policies of foreign economic powers, through a fixed exchange rate with free capital movement, is no substitute for firm domestic financial policies. Relatively lax domestic policies will eventually result in forced discrete exchange rate adjustments.

9. Under an administered regime, a change in the level of world interest rates tends to be reflected in domestic interest rates. Under a float, the domestic authorities have a degree of policy independence to the extent that the adjustment may be absorbed through either interest rates or the exchange rate, thus ensuring scope for effective domestic monetary control.

10. Under a floating regime, offsetting interventions in the foreign exchange and domestic money markets may be used to closely control the foreign/domestic composition of the official debt. Such control may only be achieved in an indirect manner under an administered exchange rate regime.

The thrust of the present governments economic policies has been directed towards a stable policy environment that is conducive to sustainable non-inflationary growth over the medium term. To provide such an environment it is important that policies should enhance the flexibility and responsiveness of the economy to changing external conditions while also ensuring a background of consistently firm monetary conditions. The above comparison of alternative exchange rate regimes suggests that a floating rate regime is wholly consistent with these objectives.