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The Role of Exchange Rate and Other
Pricing Policies in the Adjustment Process 1/

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Abstract

The paper focuses on the role on exchange rate and other pricing policies in the adjustment process. The paper discusses how the need for the implementation of adjustment programs may arise either as a result of exogenous developments or as a result of the pursuit of inappropriate domestic policies. The use of exchange rate policy is considered from two viewpoints; first, as a response to extant disequilibria, and second in its role in ensuring smoother adjustment in the future to changing economic circumstances. Finally, the merits of removing other policy-induced distortions, such as tariffs, quotas, and interest rate ceilings, are discussed with illustrations provided by recent experience in New Zealand.

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1. Introduction

The external environment faced by policymakers in both the smaller developed economies and in oil-importing developing countries during the 1980s has been difficult. The increase in the price of crude oil and refined petroleum products of 1979-80 was followed closely by prolonged recession in the major industrialized countries, accompanied this time, in contrast to the situation after the first oil price shock, by tight monetary policies, which resulted in declining inflation and high real interest rates. The recession led to a marked weakening in the major industrialized countries' import demand for manufactures and to a substantial decline in primary product prices. The reduction in world trade associated with the recession also served to increase protectionist tendencies in the major industrialized countries, particularly against some agricultural commodities, such as meat and dairy products, and certain labor-intensive manufactured goods, like textiles. And in some cases, protectionist policies had repercussions outside the markets of immediate concern to the policymakers. A notable example is the high support price provided under the Common Agricultural Policy to sugar beet growers in the EC, leading in a period of reduced internal demand to the "dumping" of excess supplies on the world market. Such actions contributed to low prices for sugar in the "free" market and adversely affected the export earnings of non-EC sugar producers. And although ACP sugar exporters, for example, do have access under quota to the EC market at favorable prices, they nevertheless must often still sell significant amounts outside the protected EC and United States markets.

While the discussion above concentrates on external factors influencing trade account performance, external payments positions of debtor countries were significantly affected by high real interest rates and the reduced availability of credit in international financial markets. In addition, the high real interest rates influenced in varying degrees the behavior of both short-term capital flows and interest rates on domestic financial instruments.

These external developments have not been conducive to attaining stable growth rates with low inflation and have made the task of economic management more difficult for policymakers. The changes in the external environment and the attendant pressures on payments positions have in a number of instances heightened concerns about lack of effective coordination among exchange rate, monetary, and fiscal policies. At the same time, the need to re-establish a viable current account often has to be considered in light of a lack of diversity in the structure of trade and the difficulty of quickly transferring or channeling more resources into the tradable goods sectors. This aspect of the adjustment process is often of particular importance, although not exclusively so, to the smaller developing countries. Increased attention has therefore been

focused on past policy-induced barriers or disincentives to appropriate resource allocation. Often among these are trade policies (tariffs, import quotas) and the pricing of foreign exchange and money.

It is against such a background that this paper seeks to comment on the role to be played in the process of adjustment by exchange rate and other pricing policies. The outline of the paper is as follows. Section II discusses the nature of the different types of shocks that countries face and whether policy changes are necessary to facilitate adjustment. Section III examines both the role of exchange rate policies when there is a need for adjustment and the consequences either of not recognizing or not accepting that exchange rate policy should be changed. The section also considers the problems and difficulties of altering the "real" exchange rate, while Section IV considers the closely related issue of the choice of exchange rate regime. Section V examines reforms in financial and goods markets and issues related to policy coordination. To illustrate some of the points being made, reference is made in these two latter sections to recent experience and policy response in New Zealand.

II. Types of Shocks and the Need for Adjustment.

It is often useful in thinking about external account imbalances to try to make distinctions between types of disturbances that impinge upon an economy. It is common, for example, to distinguish between real and monetary (or financial) shocks, shocks of internal and external origin, and between transitory shocks and more lasting changes in the economic environment (which are referred to somewhat anomalously as "permanent shocks"). A bad harvest, which reduces output available for export or requires import of food grains for domestic consumption, can be classified as a real transitory shock of internal origin. The increase in the real price of crude oil that occurred in 1973/74 is an example of a more durable external real shock. The high real interest rates that have prevailed since the start of the present decade might be similarly regarded. A one-period surge in a country's money supply due to domestic credit expansion can be considered as a transitory internal monetary shock, while a sustained expansion to finance budgetary deficits, for example, may be viewed as a more lasting monetary disturbance. It should be noted, however, that not all external balance difficulties manifest themselves in a deterioration in the current account; net capital inflows may change, either temporarily or because of more lasting developments affecting creditworthiness, savings rates, or the productivity of capital investment.

The notion of transitory disturbances has encouraged theoretical work in open economy macroeconomics using a stochastic framework (see, for example, Frenkel and Aizenman (1981)). The emphasis in these studies is clearly on the issues relating to short-run stabilization policies and

the properties of particular policy reaction functions. An example of one prescription offered on the basis of such analyses is that purely transitory real disturbances that affect the current account should not occasion exchange rate changes under a pegged rate regime. Foreign reserves and/or official borrowing should be used to accommodate the current account deficit and cushion domestic expenditures. The usual application of the prescription is to small developing countries whose export earnings are heavily dependent on a limited range of commodities subject to price cycles of considerable amplitude. However, with limits on foreign borrowing and on the use of official reserves under a pegged exchange rate arrangement (or on the behavior of private net capital inflows under a float), some real or monetary developments require or will engender a more substantive adjustment in an economy's aggregate demand-supply balance.

In practice, of course, it is often very difficult for agents (including policymakers) in the economy to distinguish the source of the shock and to decide whether a shock is transitory, cyclical, or more permanent. Furthermore, real and monetary shocks may occur together or follow closely upon one another. For example, the second round of oil price increases was accompanied by a significant tightening of monetary policies in the major industrialized countries, which resulted in high real interest rates and a downturn in these countries' average trend rate of inflation. Another example was the upward phase of the price cycle for certain primary commodities in the mid-1970s, which boosted the export earnings of a number of developing countries producing such commodities. As is well known, such developments often present the authorities with difficult stabilization problems due to the problems of sterilizing the impact on the domestic money supply. However, government tax revenues also increased owing to their sensitivity to developments in the trade accounts, and this factor, combined with the favorable initial development in foreign reserves, encouraged some Governments to overexpand the scope and substance of their expenditure programs. The difficulty of adjusting government expenditures and the need to finance budget deficits in the subsequent down-phase of the cycle resulted in continued expansion in domestic credit, which was accompanied by domestic inflationary pressures and foreign payments difficulties. ^{1/} In these cases, the cyclical nature of the shock was mistaken for a favorable permanent development with unfortunate consequences.

^{1/} Even where fiscal policies do not follow this pattern, windfall gains and monetary expansion can often spill over quite quickly into the labor market, so that in the upward phase of the cycle nominal (and real) wages rise. With downward stickiness in money wages and other prices, monetary contraction in the downward phase of the cycle could have a significant impact on output and employment. This puts pressure on the monetary authorities to attempt sterilization.

Current account imbalances resulting from various types of shocks are mirrored in differences between aggregate expenditure and domestic output. If the imbalance must be reconciled, a decrease in aggregate domestic demand, an increase in domestic supply, or a combination of both must take place. This is, of course, well understood and the role of various policies, including that of exchange rate policy, in achieving the reconciliation has been widely discussed in various fora and in the literature (see, for example, Khan and Knight(1981) and the references therein). Nevertheless, the role of exchange rate policy remains controversial, particularly so in many developing countries. Often, exchange rate policy is seen principally as a relatively short-term balance of payments correcting device and as a means of dealing with surges in the domestic rate of inflation. This view is probably linked to the main role that was traditionally assigned to nominal exchange rate adjustments in stabilizing the economies of the well-developed and diversified industrialized countries. Within this paradigm, considerable scope is assumed to exist for substitution in demand and supply to take place in the short-term in response to exchange rate changes.

For countries with less diversified economic structures, however, the appropriateness of the paradigm has been called into question and has provoked considerable debate. There has been much discussion, for example, about whether a devaluation, which has both an expenditure-dampening and expenditure-switching effect, will or will not be contractionary in terms of domestic output for such economies in the short run. (See, for example, Krugman and Taylor (1978), Gylfason and Schmid (1983)). A common weakness of these analyses is that they tend to ignore the fact that the need for "adjustment" is in many cases made evident by an incipient or actual balance of payments crisis, that is, evidence that the current account deficit is indeed unsustainable and that relative prices are out of alignment. In an immediate sense, the response must be to tackle the inconsistency in real income claims and to implement measures aimed at stabilizing (in a non-cyclical sense) the situation. This involves reducing the current level of aggregate domestic expenditure relative to output. Such a reduction (in which an exchange rate change may play a part) brings with it the possibility that in the short run output may fall in comparison with the level attained in the run-up to the crisis, although such a comparison may well be moot. The focus then must shift to policy options or combinations that, together with available financing, can reduce the welfare costs in a transition period during which resource reallocation takes place in the economy. For example, the need to transfer resources from one sector to another may be hampered by distorted price signals stemming from previous government intervention policies (including exchange rate policy). Policy reforms aimed at providing the appropriate relative price signals and at removing other distortions in the economy may be required in order to reduce the real costs over time of the adjustment process. The focus on the efficiency or otherwise of exchange rate

policy as an instrument of short run stabilization has frequently tended to obscure the role of exchange rate and other pricing policies in inducing allocative and structural changes (desirable or undesirable) in the economy over the longer term. In what follows, therefore, emphasis will be given to the implications of price signals provided to agents in the economy and which are sustained over time by the exchange rate and associated policies adopted by the authorities.

III. Real Exchange Rates and the Adjustment Process

A needed point of reference for the discussion that follows is some notion of what constitutes an appropriate alignment of the exchange rate. Under the Bretton Woods system, adjustment to a par value was deemed justifiable if a country's exchange rate could be considered or shown to be in "fundamental disequilibrium". Williamson (1983) has suggested that the criterion of "fundamental disequilibrium" for an exchange rate change under the Bretton Woods system can be inverted to help establish the desired reference point. To use Williamson's terminology, the "fundamental equilibrium exchange rate" or FEER is that level of the real effective exchange rate (here defined as the nominal effective exchange rate adjusted for differences in price performance at home and abroad) consistent with both internal balance and medium-term or cyclically-adjusted external balance. ^{1/} Although the use of FEERs by Williamson was directed towards the issue of target zones for the major industrialized countries whose currencies are floating, he also noted that the idea of a FEER is still widely used in analyzing exchange rate policies of countries maintaining a pegged exchange rate arrangement.

Abstracting for the moment from the practical difficulties of determining the equilibrium real exchange rate (either by the authorities or by market participants), the discussion of various types of shocks can be reintroduced. A so-called "non-transitory shock" in this policy framework may be regarded as one that causes a sustained departure of the real exchange rate from its fundamental equilibrium value or as one that changes the equilibrium value itself. Examples of these are, respectively, are the pursuit over time of domestic policies that lead to worsening inflationary performance and real effective appreciation under a pegged exchange

^{1/} Allowance being made for "underlying" capital flows, the stance of commercial policies, and the the need to abstain from the imposition or intensification of damaging trade restrictions. The internal balance criterion usually refers to unemployment levels. So-called "stop-go" episodes in the United Kingdom during the 1960s are often cited as example of the incompatibility of the real exchange rate with the internal balance criterion.

rate arrangement, and an exogenous change in the terms of trade that can be regarded as being secular and that requires a real effective depreciation for external balance adjustment.

The pursuit of over-expansionary monetary and fiscal policies, for example, will lead at a pegged exchange rate to reserve losses and inflationary pressures. If the trading system remains relatively open in terms of tariff or quota incidence, the prices of nontradable goods and services (including wages) are more affected by excess demand pressures than the prices of tradable goods. Even where exports or import-substitutes are differentiated products, for which the "law of one price" does not hold in the short to medium term, substitution possibilities and the pressures of arbitrage in goods markets will constrain the inflation in tradable goods prices.

Real effective appreciation is thus likely to be closely linked to a rise in the price of nontradable goods relative to tradable goods. This relative price is often referred to as the real exchange rate. The change in relative prices, that is appreciation of the real exchange rate so defined, alters relative profitability in the tradable goods sectors, thus adversely affecting current account performance, even where reserve losses and the reduction in the money supply are acting to help restore equilibrium in the external accounts. In some economies the deterioration may occur quite quickly in response to changes in relative price signals (including price/cost relationships). This may be the case for countries with a diversified trade structure and where manufactures play a dominant role in trade performance.

It is often claimed, however, that in countries with less diversified trade structures and where primary products are the dominant source of export earnings, trade volumes are likely to respond only modestly in the short run to changes in relative prices. Indeed, there is empirical evidence to support this claim, although it is insufficient to justify complete short-run "elasticity pessimism" (Goldstein and Khan (1984)). Thus, even abstracting from the difficulties of obtaining changes in the real exchange rate, it is clear that the structure of production and trade is important in determining the role of real exchange rate movements in short-run external adjustment. Nevertheless, the important allocative role of changes in relative prices cannot be neglected. If inappropriate price signals are maintained over time, disinvestment can occur and resources can be transferred out of the tradable goods sectors to other sectors or uses. There have been notable cases in Africa, for example, of agricultural disinvestment and reductions in export earnings due in major part to real exchange rate overvaluation and the steady erosion over time of producer price incentives. Such a process might be termed structural maladjustment. By the same token, the need to transfer resources or to channel new investment to the tradable goods sectors in response to

a secular adverse change in the external terms of trade requires the correct prices and incentives, even if the full response is likely to be spread out over a medium-term period and require the implementation of other supportive measures.

Failure to direct exchange rate policies towards correcting or realigning the relative prices means that the burden for such an adjustment will fall on downward movements in domestic prices and costs. If real appreciation has occurred at a pegged rate, this would call not only for changes in domestic financial policies to stem current account deterioration but further tightening in order to achieve the requisite disinflation. If nominal prices (including wages) tend to be sticky downwards, the stringency in demand management policies needed to achieve the adjustment in the real exchange rate may well involve recession and unemployment significantly in excess of what could be expected under an alternative adjustment strategy.

Another avenue other than the exchange rate through which prices can be altered directly is to introduce changes in the structure of tariffs and export subsidies. If a fall in export prices is the source of a deterioration in the current account, an export subsidy could be used to reestablish profitability and domestic relative price relationships. Similarly, an import tariff/export subsidy package could aim to raise the relative prices of tradable goods following a period of internal inflation during which real appreciation has occurred, although as with devaluation this presupposes restoration of discipline over domestic demand management policies. However, because such measures are frequently introduced in an ad hoc fashion or in response to pressures from specific industries, achieving neutrality in effective protection or subsidization between different activities is often difficult to ensure. Differences in sectoral or industrial incidence can lead to serious inefficiency in resource use and to structural weaknesses. In addition, extensive use of export or production subsidies can place a growing burden on the government budget. This in turn makes the conduct of fiscal and monetary policies more difficult, particularly in those cases where the need for adjustment stems from policy error in this area.

Policy actions undertaken by the authorities are often aimed not at attempting to change the real exchange rate and at ensuring the consistency of real income claims but at containing the external payments situation and suppressing other symptoms of imbalance in the economy. If the country has access to international capital markets, extensive foreign borrowing may be undertaken in an attempt to sustain the levels of private and public consumption rather than to finance capital formation. Alternatively, rather than accepting the consequences of a decline in foreign assets on the money supply at a pegged exchange rate, trade restrictions and exchange controls may be introduced or intensified to narrow the current

account deficit and to lessen other demands of bank and non-bank residents on the foreign exchange resources of (or under the control of) the central bank. Many developed and developing countries have regulations prohibiting or strictly controlling portfolio investment abroad. Furthermore, other capital account transactions, such as those involving direct investment, private sector term borrowing, and trade credits, are frequently subject to regulation. Access to the official foreign exchange market for current account transactions is also often closely controlled in developing countries: import licensing schemes, regulations concerning service payments and private transfers, and surrender requirements on export proceeds are not uncommon. With the administrative machinery for the controls regime in place, attempts to tighten the system in response to pressure on foreign reserves are frequently tempting to the monetary authorities.

The enforcement of a tight system of exchange controls also allows the establishment of a wedge between the domestic money and financial markets and those in the rest of the world. The controls serve to prevent or limit flows of private saving abroad and interest rate arbitrage in financial assets by the private sector (both bank and nonbank). Frequently, the system of controls is closely linked to extensive regulation of the domestic financial system. A central element is typically the imposition of controls on interest rates and the subjection of financial intermediaries to various reserve and liquidity ratios beyond those that might be recommended for prudential reasons. The recourse to such regulation usually stems from inadequate control of fiscal policy and the desire to ease the placement and decrease the servicing cost of public debt. Even in the absence of current account pressures, repressed yields on domestic financial instruments and the resulting interest differential between foreign and domestic financial markets provides incentives for the acquisition of foreign financial assets. Hence, the need to try to enforce the capital and exchange controls regime to prevent the private sector from exchanging its domestic financial assets for the foreign currency assets of the central bank.

But the domestic regulatory framework is also likely to have an adverse effect on the efficiency and development of the financial system. Both the brokerage function of intermediaries (i.e., bringing ultimate lenders and borrowers at minimum resource cost) and the maturity transformation function (which enhances the liquidity of the non-bank private sector) can be compromised. Constraints on the deposit rates (particularly on time deposits) that can be offered by regulated intermediaries and the excess demand for loans at the interest rate ceilings encourage disintermediation or less efficient forms of intermediation. The existence of curb markets is symptomatic of this development in a number of developing countries, where so-called policies of "financial repression" and relatively strict exchange controls are in effect. The different market-clearing

mechanisms employed, that is, by quantity rationing in the regulated market versus rationing by price in the unregulated market, distort the flow of funds in the economy and lead to inefficient use of resources.

The dependence on and the efficacy of control systems differ considerably between countries attempting to postpone or avoid exchange rate action and other corrections to the policies being pursued. In many countries, the authorities' attempts at containing the external balance pressures are sooner or later undermined by evasion of capital and exchange controls leading to rising speculation in the official foreign exchange market, i.e., a full-blown foreign exchange crisis. In other cases, the trade and payments regime may be made sufficiently repressive and effective that the non-official sector's response takes the form of increased goods smuggling and the growth of unofficial markets for foreign exchange. In several developing countries that have permitted the latter type of situation to develop in recent years, the resulting severe resource misallocation and economic dislocation has reduced both realized real output and growth prospects. ^{1/} However, even where the regime of controls is less repressive, the distortions that build up in the goods and financial markets in the period before a crisis in the foreign exchange market can be very costly and disruptive.

It must, of course, be recognized that using exchange rate policy in an attempt to achieve real effective exchange rate adjustment may be very difficult. There is certainly the extreme view that nominal exchange rate changes will be almost totally ineffective in this regard. A devaluation would quickly lead to an offsetting increase in domestic prices and costs, bringing the economy back to the original situation. There can be little doubt that in the inflationary environment of the 1970s and 1980s the tendency for offsetting to occur has increased, and it can be argued that this tendency may well be stronger and quicker for small specialized economies with relatively open trading regimes. An additional factor that will increase the extent of the offset is the presence of wage-indexing schemes with cost of living adjustments explicitly or implicitly included in labor contracts. In such circumstances the scope for changes in exchange rate policy to bring about a realignment in relative prices and costs would appear very limited. Nevertheless, the need for some kind of policy response cannot be ignored. It may well be necessary for the authorities and labor to enter into socially and politically difficult negotiations to achieve modifications to the wage-indexation schemes. Failure to do so will mean that a greater burden of the unpleasant necessity for change will be placed on tight monetary policies. Having to bring about adjustment in this fashion increases the likelihood that the

^{1/} A notable example is Ghana, where real GDP declined almost continuously in the period 1973-83.

process will be associated with decreased output and high levels of unemployment. Nevertheless, if real factor prices are inflexible downwards, external balance will be realized only at high continuing domestic cost.

IV. Achieving Appropriate Real Alignment

The previous section stressed the costs involved in failing to direct policies to achieving and maintaining a realistic exchange rate. An important question is the extent to which permitting or opting for some degree of nominal exchange rate flexibility can contribute to this objective. Conceptually, two issues can be distinguished: first, there is the issue of the response to extant disequilibria; and, second, there is the question of whether in the future greater flexibility in the exchange rate would permit smoother adjustment to changing economic circumstances. The latter question itself raises a number of closely connected issues concerning the choice of exchange rate regime, the trade and exchange control system, and the conduct of monetary and fiscal policies.

A necessary condition for the maintenance of an unchanging exchange rate peg over time is acceptance by the authorities of constraints on the conduct of domestic economic policies--in particular monetary policy--which influence domestic price performance relative to that being experienced abroad. The country, in effect, undertakes to keep its inflation rate (at least in terms of the medium-term trend) in line with that of the standard to which it is pegged. It also means that even if such a commitment serves to prevent internal inflation, which otherwise could lead to a sustained real appreciation, the burden for achieving a real depreciation over time falls on a tightening of domestic policies sufficient to produce a fall in nominal prices and costs (including wages). However, exchange rate pegs are not immutable: except perhaps in the case of a genuine common currency area, there is always the possibility of parity changes. The case for parity adjustments is the familiar one of achieving the required relative price and cost change more directly and at lower cost in terms of output losses and increases in unemployment than would be the case if reliance was placed solely on tight demand management policies. Both theoretical considerations and the lessons of the past indicate that the so-called "adjustable" peg arrangement can be maintained over time only if devaluations are relatively rare events. Otherwise, the economy (even if exchange and capital controls are fairly strict) will be subject to recurrent disruptions to the trade accounts (and hence to output and employment) and to seriously debilitating speculative episodes. ^{1/} In countries where inflation rates historically have been very high and variable and where the prospects for disinflation (at least

^{1/} This clearly rules out discrete devaluations in any anticyclical role.

to a rate of inflation more nearly comparable to that being experienced in the major industrialized countries) without "shock" treatment are remote, this has been recognized by the adoption of a form of crawling peg regime based on depreciating the nominal exchange rate in line with the difference between domestic and foreign inflation. Experience with such exchange rate regimes has been greatest in Latin America, where ongoing inflation rates in the high two-digits or even three-digits have not been uncommon.

While similarly chronic rates of high inflation have been outside the experience of countries in the Asian and South Pacific regions, rates of domestic monetary expansion have occurred that have resulted in episodes of moderate to high inflation. Dealing with these types of episodes present policy makers with difficult problems of policy coordination. This is particularly so in an environment in which inflation rates in the major industrialized countries have themselves been variable and intercountry disparities marked at times. ^{1/} A crawling peg based on the inflation differential (in effect a real exchange rate rule) does seem to provide a means of dealing with some of the worse consequences of differences in inflationary trends. However, strict adherence to such a policy rule is not without its dangers. Several writers (McKinnon (1981), Niehans (1984), Adams and Gros (1985)) have questioned whether the inflationary process will be stable if the monetary authorities persist with following real exchange rate rules.

With the prospects for disinflation to the norm established by the major industrialized countries seemingly not as remote as for countries with histories of chronic inflation, the key issues to policymakers are how to deal with real appreciation when it has emerged and the attitude and approach towards disinflation. It may well take considerable time to reestablish a policy commitment towards lowering the domestic rate of inflation. This would seem to be a reasonable description of the rationale behind New Zealand's crawling peg between 1979 and 1982. Clearly, instituting a crawling peg based on the inflation differential that has emerged would only make sense if the initial real appreciation was first reversed. It should be emphasised here that although relative purchasing power parity indicators may be very useful in determining the extent of the needed correction, it is usually necessary to supplement information from such indicators with additional judgmental analysis. This is the case, for example, if the emergence of balance of payments difficulties prompted a reassessment of commercial policies and a determination to liberalize trade. The important policy issue is whether

^{1/} This has been the case in the 1980's during which time the key industrialized countries have succeeded in bringing down their rates of inflation to fairly low levels.

reversal of the real appreciation should be attempted in one step through a large discrete devaluation or whether it would be better to make some initial adjustment in the exchange rate, to be followed by a number of further small adjustments. The "shock" approach to disinflation is usually considered to have distinct merits in very high inflation countries (e.g., Argentina, Brazil, Israel), but for countries with more moderate rates of inflation, the decision on "gradualism versus shock" is less clearcut. Much depends on the special characteristics or circumstances of the particular country being considered, but it is often felt that the costs of disinflation can be more equitably shared and the strains on the social fabric reduced if a gradualist approach is adopted. While the rate of inflation is being reduced by credit, fiscal, and incomes policies, it will be necessary to continue the depreciation of the nominal exchange rate.

While crawling peg regimes may be required in response to on-going domestic inflation and/or during the period of disinflation, changes in other circumstances or conditions may, as previously suggested, call for real depreciation or appreciation. An important issue is the extent to which some form of crawl or active exchange rate management can be used in conjunction with changes in other policies to deal with such developments. Unfortunately, there are no simple objective indicators that can be relied upon to reflect the changing economic conditions. This means in effect that the authorities must enter into a series of judgments based on various sources of information to determine if and by how much the equilibrium real exchange rate has changed. Certain indicators of pressure in the foreign exchange market can be utilized, such as reserve losses departing from previous experience of seasonal and cyclical patterns. Terms of trade developments can be monitored and cyclically adjusted. Wage rate, employment, and output trends in various sectors can be followed, as can developments overseas in financial and goods markets.

Nevertheless, the equilibrium real rate can undoubtedly be very difficult to measure. Concepts such as the "cyclically-adjusted" current account and underlying capital flows must be given empirical counterparts; various scenarios for the external environment as well as policy scenarios at home and abroad have to be specified. Misgivings about the accuracy that can be expected from such judgmental analysis certainly have some validity, but that the analysis provides at least the basis for giving warning of serious misalignment of the real exchange rate. If so, policies can be formulated (including if necessary negotiating access to external financing) to achieve the new target at lower cost than would be the case if adjustment were delayed and a crisis situation allowed to develop. The case for a crawling peg rather than a one-step devaluation under an "adjustable" peg regime would then seem to rest on two considerations: first, that a sizable discrete devaluation may require a greater degree of confidence in the initial prognosis; and second, that there may be a case for gradualism rather than shock, as discussed earlier.

Empirical evidence reviewed by Khan and Knight (1983) on the balance of payments problems faced by non-oil developing countries in the 1970s supports the hypothesis that both the external environment (indicated by low growth in the major industrial countries, a secular shift in the terms of trade, and an increase in foreign real interest rates) and domestic factors (fiscal deficits, real appreciation) were important in explaining deteriorations in current account positions. The persistence of external balance difficulties and the fact that many adjustment programs were implemented from positions of near or actual balance of payments crisis suggest that a number of countries would have been better served by taking adjustment measures (including exchange rate action) at an earlier stage.

Because of the difficulties and complexities inherent in the judgmental approach, the question arises of whether in looking to the future greater reliance should not be placed on market forces in the foreign exchange market to help bring about requisite real exchange rate adjustments in response to changes in underlying economic conditions. This was certainly one of the conclusions of the New Zealand authorities when following the foreign exchange crisis and discrete devaluation of July 1984, they elected in March 1985 to change the exchange rate regime from an administered arrangement to a floating regime with the stated intention of refraining from direct intervention in the foreign exchange market. 1/

V. Removal of Distortions and Aspects of Policy Coordination

The decision to adopt a floating rate regime in New Zealand was in part the result of a more general assessment that greater reliance should be placed on market forces and the resultant price signals to determine the allocation of resources rather than government intervention policies. This was reflected in the financial sector by decisions to abandon interest rate controls and credit guidelines, to remove mandatory reserve requirements, and to permit wider portfolio selection by the removal of remaining controls on capital movements. With respect to the traded goods sectors, the intention was announced of further reducing the reliance placed on subsidies, quotas, and tariff protection. Additional reforms were introduced in other areas where it was considered that regulation or other government intervention policies were giving rise to an inefficient use of resources. One such problem area targeted was the pricing policies of

1/ It should be emphasized here that the reference is to the type of regime to be operated in the future starting from a position of equilibrium. There were clearly other factors behind the decision to float, including considerations relating to other major policy reforms and the control over the money supply.

public enterprises. Although it is clear that the removal of major policy-induced distortions influences aggregate demand, these type of initiatives were directed at enhancing the "supply-side" of the economy.

There has been growing awareness in developing countries, also, that removal of distortions in order to promote more efficient resource use is desirable. Where, for example, extensive reliance has been placed on quantitative restrictions, the first steps in a program of reform would be to replace the quotas by tariff protection to be followed over time by rationalization and then reduction of the tariff structure. Another area where reforms are often required is agricultural pricing policies. For example, the desire to increase yields may be attempted by introducing subsidies on fertilizer which, however, by altering relative input prices can result in wasteful usage. Or, prices for particular agricultural commodities may be controlled for social reasons, acting as an incentive to increased domestic consumption and as a disincentive to production and exports.

In financial markets, the control of interest rates and the system of financial regulation can inhibit competition and the efficiency and growth of the financial intermediaries. Detailed regulation of the rate structure for deposits and loans, for example, suggests that any competition between intermediaries will be of a non-price variety and will act to retard efficiency in and to inhibit entry into the sector. There is, however, the concern that relying on market-determined rates to clear financial markets could give rise to serious imperfections because of the degree of concentration in the sector. The small scale of the domestic financial market and scale economies in banking may mean that the market structure is monopolistic or oligopolistic, a particular concern possibly in some very small island economies. In such a situation, freeing interest rates from controls would lead to much higher loan rates and widened spreads.

In an inflationary environment, controls on deposit rates can result in highly negative real interest rates on financial savings for considerable periods of time. Such a development can depress flows into the financial intermediaries, as the non-bank private sector hoards real goods or otherwise attempts to adjust to the high opportunity cost of holding domestic financial assets. ^{1/} As real credit availability is restricted, real investment is similarly affected.

Apart from efficiency and resource allocation aspects, the implications of controls on interest rates cannot be divorced from the degree to which domestic financial markets are or can be isolated from foreign

^{1/} See for example, Lanyi and Saracoglu (1983)

markets by exchange and capital controls and other factors. ^{1/} If exchange controls are fairly strict, the extent to which domestic residents can hold foreign currency assets (or foreign residents hold domestic currency assets) and thus engage in interest rate arbitrage will be limited. At the other extreme, under a fixed exchange rate and the absence of exchange and capital controls, interest rate parity conditions would tend to be met. Failure to meet these conditions is often referred to as the abrogation of capital mobility, although it is clear that even countries with extensive exchange and capital controls can still mobilize resources from abroad through foreign currency bond issues, euro-currency loans, aid flows, etc.. Some degree of independence for the determination of domestic interest rates will exist either through a market-determined rate or some form of interest rate controls.

How long interest rate controls can be sustained depends on the authorities conducting a monetary policy consistent with the exchange rate policy adopted, given that the exchange control system allows some additional degree of latitude. In New Zealand, strains on the system became increasingly evident in the late 1970s and early 1980s because of lack of sufficient coordination and consistency between domestic credit, fiscal, and exchange rate policies in the face of continuing difficult external conditions. Both the closed economy constraint--if one controls the price of money one cannot control its quantity--and the open economy constraint--if one fixes the exchange rate one can control credit but not the money supply--proved too much for the controls regime.

The size of the imbalances that had arisen in New Zealand in terms of the fiscal and current account deficits meant that the process of adjustment and the reestablishment of monetary control would inevitably be very difficult. The need in the post-devaluation period to restrict the rate of domestic credit expansion coupled with the large fiscal deficit required the removal of interest rate controls. As has occurred elsewhere following a devaluation and the freeing of interest rates, control of domestic liquidity was made difficult due to capital reflows and inflows, the latter also being made easier by relaxation of capital controls applied to foreign borrowing both by financial intermediaries and by the non-bank corporate sector. Remaining exchange and capital controls were lifted at the end of 1984. Other elements of the financial reform, such as the removal of reserve ratios and other portfolio restrictions, dismantled remaining barriers to financial integration. In this environment and the continuing uncertainty surrounding economic conditions and policies, the move to a floating rate in March 1985 was not surprising.

^{1/} The need for and effectiveness of controls varies between countries. The degree of financial development is clearly an important factor, as is the monetary history of the country concerned.

The period between the devaluation in the face of a crisis in the foreign exchange market and the decision to float, and subsequent developments in New Zealand, have shown how difficult the dynamic path of adjustment is following a needed major change in the conduct of monetary and fiscal policies.

While the resource allocation and monetary control arguments may be used to support financial reforms in smaller developing countries, the extent to which it is desirable for them to fully open up their financial markets remains debatable. Given their lower level of economic development, most would be expected to be capital importers, with resources from abroad supplementing domestic savings in financing both private and public capital formation. But this does not require that all capital and exchange controls be removed, giving complete freedom to domestic residents to hold foreign currency assets in their portfolios. For this reason, many developing countries continue to employ regulations and controls governing capital account transactions.

Nevertheless, as the trading and domestic financial system becomes broader and more developed over time, links to conditions in external financial markets are likely to become closer. For example, a reasonable degree of freedom for non-bank residents to engage in current account transactions and negotiate trade financing arrangements will increase the influence of interest rate factors on the timing of receipts and payments. Such factors also influence the development and depth of the foreign exchange markets. ^{1/} Greater responsibility could devolve onto the financial intermediaries in the payments clearing process, allowing the central bank to consider operating a band around a parity and encouraging the development of an active forward market. Central bank intervention policies would then be determined by such factors as the size of public sector capital inflows, which influences the role of the central bank as a residual supplier of foreign exchange, and the insulating role that can be played by official reserves and foreign borrowing in response to cyclical disturbances to export earnings.

^{1/} See Wickham (1985).

References

- Adams, Charles and Daniel Gros, "Some Illustrative Examples of the Consequences of Real Exchange Rate Rules for Inflation" (unpublished, International Monetary Fund, January 24, 1986).
- Frenkel, Jacob and Joshua Aizenman, "Aspects of the Optimal Management of Exchange Rates," in The International Monetary System: Choices for the Future, ed. by Michael B. Connolly (New York: Praeger, 1982), pp. 19-48.
- Goldstein, Morris and Mohsin Khan, "Income and Price Effects in Foreign Trade," in Handbook of International Economics, Vol. 2, ed. by Ronald W. Jones and Peter B. Kenen (Amsterdam: Nsyth Holland, 1984), pp. 1041-1105.
- Gylfason, Thorvaldur and Michael Schmid, "Do Devaluations Cause Stagflation," Canadian Journal of Economics (Toronto), Vol. XVI (November 1983), pp. 641-654.
- Khan, Mohsin and Malcolm D Knight, "Stabilization Programs in Developing Countries: A Formal Framework," Staff Papers, International Monetary Fund, (Washington), Vol. 28 (March 1981), pp. 1-53.
- _____, "Determinants of Currency Account Balances of Non-Oil Developing Countries in the 1970s: An Empirical Analysis," Staff Papers, International Monetary Fund (Washington), Vol. 30 (December 1983), pp. 811- 842.
- Krugman, Paul and Lance Taylor, "Contractionary Effects of Devaluation," Journal of International Economics, (Amsterdam), Vol.8 (August 1978), pp. 445-56.
- Lanyi, A., and R. Saracoglu, "The Importance of Interest Rates in Developing Countries," Finance & Development, International Monetary Fund-World Bank (Washington), Vol. 20 (June 1983), pp. 20-23.
- McKinnon, R., "Monetary Control and the Crawling Peg," in Exchange Rate Rules, ed. by John Williamson (New York: St. Martins, 1981), pp. 38-49.
- Niehans, Jurg, International Monetary Economics, (Baltimore: Johns Hopkins University Press, 1984).
- Wickham, Peter, "The Choice of Exchange Rate Regime in Developing Countries," Staff Papers, International Monetary Fund (Washington), Vol. 32 (June 1985), pp. 248-288
- Williamson, John, "The Exchange Rate System," Policy Analyses in International Economics, No. 5 (1983), Institute for International Economics (Washington).