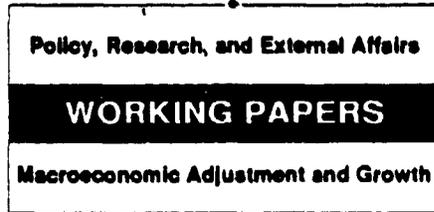


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# Exchange Rate Policy in Developing Countries

W. Max Corden

In general the best approach to exchange rate policy is the “real targets” approach, although the nominal anchor approach is appropriate for certain situations. The exchange rate should follow, rather than lead, it should be linked with appropriate noninflationary monetary policy, and if it must change, it should change quickly.

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This paper — a product of the Macroeconomic Adjustment and Growth Division, Country Economics Department — is part of a larger effort in PRE to improve the understanding of the role of exchange rate policy on economic adjustment. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Max Corden, room N11-023, extension 39175 (43 pages with figures).

After comparing the “real targets” and the “nominal anchor”<sup>\*</sup> approaches to exchange rate policy in developing countries, Corden offers four basic recommendations:

In general the best approach to exchange rate policy is the “real targets” approach. The exchange rate should follow rather than lead — taking into account shocks or variables in fiscal and trade policy and changes in terms of trade.

Exchange rate policy should be linked with appropriate noninflationary monetary policy. Normally there must be a commitment to anti-inflation objectives if inflation is to be avoided. Without such a commitment, if monetary policy is inflationary, exchange rate policy must still be aimed at the real target — the real exchange rate — unless there is reason to believe that such a target would significantly reduce the commitment to anti-inflation.

Because capital is so mobile, delayed exchange rate adjustments must be avoided. If the rate must change, it should change quickly.

The nominal anchor approach may be useful in two kinds of countries — at opposite ends of the inflation spectrum.

- Countries that have long-established fixed exchange rate systems — with occasional devaluations and with relatively noninflationary records — may be well advised to stay with such a system, since their commitment will be credible. One thinks especially of Thailand, perhaps Indonesia, and some African countries in the franc zone.

- Countries with histories of high inflation that are now ready to stabilize — to commit themselves to radical policy shifts (one thinks of Argentina, Brazil, and Mexico) — may find a fixed exchange rate (or an active crawl) a valuable anchor. It should constrain government monetary policies and help achieve credibility with the markets including the labor market. But countries that choose a fixed rate regime or an active crawl must recognize that there is a kind of “exchange-rate-adjusted Phillips curve” tradeoff: at least for a short time, misalignment of the real exchange rate is quite likely.

\* The real targets approach, orthodox in the World Bank, assumes that nominal exchange rate changes have prolonged real effects and that the exchange rate should adapt to other policies. Fiscal expansion, for example, may require depreciation or appreciation, depending on the circumstances. With the nominal anchor approach, the exchange rate is used as an instrument of anti-inflation policy — as a way of constraining domestic policies and influencing private sector reactions. But governments can temporarily evade the exchange rate constraint through import restrictions or foreign borrowing.

# EXCHANGE RATE POLICY IN DEVELOPING COUNTRIES

W. Max Corden\*

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## EXCHANGE RATE POLICY IN DEVELOPING COUNTRIES

W. Max Corden

A distinction can be made between two approaches to exchange rate policy in developing countries: the "real targets" and the "nominal anchor" approach. A related distinction is between an approach where the exchange rate follows other policies and private sector price and wage setting and where it leads them. Part I gives an overview of the two approaches and the assumptions they imply. Part II expounds the "real targets" approach and its implications in some detail. This is really the approach that is now orthodox. Part III expounds the "nominal anchor" approach and its implications, and considers to what extent it might explain the low inflation experiences of the many countries where exchange rates have been (more or less) fixed for long periods. Part IV considers the implications of increasing capital mobility for exchange rate policy, and Part V has some conclusions for policy. The paper draws on examples of exchange rate policies and experiences of a group of seventeen developing countries which are being studied as part of a World Bank project on macroeconomic policies and growth over a longer period. All references to developing countries are to these seventeen as a whole or to particular ones among them.<sup>1</sup>

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<sup>1</sup> The countries include two that are members of the franc zone - Cameroon and Cote d'Ivoire - so that their exchange rates have been completely fixed, four - namely Argentina, Brazil, Chile and Colombia - that were "chronic inflation" countries before 1973, when they had quite high inflation rates and crawling peg or variable exchange rates even when most other countries had fixed rates and low inflation; and finally, eleven

This paper is written in honor of Bela Balassa, an economist who has had an enormous influence on the developing countries policy debate and, above all, on the movement towards more open policies. For many years his incredible productivity has filled me and many others with awe. His work is always thoroughly down to earth and highly policy-relevant. In this respect the present paper is an attempt at emulation.

On the subject matter itself Bela's most comprehensive contribution is Balassa (1987), though he has touched on some of the issues in many other writings. It is interesting to look at his several collected volumes (Balassa, 1977, 1981, 1985, 1989a, 1989b) from this point of view. It is clear that he is a "real targets" man, praising countries for adjusting their nominal exchange rates to bring about desirable real exchange rate changes, for example in response to external shocks, or to avoid undesirable ones, and criticizing countries for failures on this front. A principal theme of Balassa (1987) - backed typically with a compact presentation of the relevant empirical evidence from many studies by himself and others - is that elasticity pessimism with regard to the real exchange rate is not justified. In Balassa (1983) he examined in detail the Turkish experience of 1979-83. In that case a reversal of a 22% real appreciation led to a doubling of exports between 1980 and 1983.

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others - Mexico, Costa Rica, Morocco, Turkey, Kenya, Nigeria, India, Indonesia, Pakistan, Sri Lanka, and Thailand. The project is entitled "macroeconomic policies, crisis and growth in the long run."

On the basis of all this evidence it will be assumed here that changes in the real exchange rate - provided they are expected to last for some time - do have significant "switching" effects, increasing exports, reducing imports, and normally raising the demand for domestic output. But this leaves open the issue to be discussed in this paper to what extent nominal exchange rates lead to long-term real changes, and to what extent they influence domestic macroeconomic policies.

## I. Two Approaches to Exchange Rate Policy

The real targets approach is that the nominal exchange rate can be and should be used, together with other policy instruments, as an instrument to attain real objectives such as an appropriate (non-inflationary) level of demand for home-produced goods and services ("internal balance") and a desired current account target. The assumption that a nominal policy instrument can achieve a real objective means that this approach is essentially Keynesian. Furthermore, it is assumed that the government can be trusted to make sensible use of the exchange rate and other instruments - ie it does not need to be constrained to prevent it from pursuing inflationary monetary policies. In addition, it is assumed that the nominal exchange rate is a policy instrument that is distinct from domestic monetary and fiscal policies, though it often has to work with these policies. All these are conventional assumptions in a great deal of World Bank and IMF policy advice, and, I think, in the policy advice implicit or explicit in much of Bela Balassa's writings.

The last assumption - that the exchange rate is a policy instrument separate from domestic monetary policy - is particularly important at this stage and will be maintained throughout the discussion in Parts II and III below. It means that a nominal exchange rate objective can be attained by sterilized intervention. It is thus assumed that effective

exchange controls or other factors ensure that international capital mobility is not high for the country.

The approach implies that a nominal devaluation has real effects that are sufficiently long lasting to be worth pursuing, at least provided expenditure policy avoids excess demand at the same time. Domestic prices and wages are assumed to be imperfectly flexible downward (and in the simplest models presented later, are actually held constant). There is strong evidence by now that, other than in the Latin American chronic inflation countries, devaluations do have real effects that last for several years provided appropriate domestic credit policies are being followed at the same time. Thus the evidence does seem to justify one of the key assumptions, at least for a period of, say, two to four years. Even in the case of high inflation countries continuous nominal depreciations may have real effects in the sense of preventing real appreciations that would otherwise take place.<sup>2</sup>

The alternative nominal anchor approach is a version of monetarism, and used to be known as "international monetarism". The exchange rate anchors the domestic inflation rate (broadly) to the inflation rate of trading partner countries. Possibly the

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<sup>2</sup> On the basis of the real exchange rate indices calculated by the IMF it seems clear that since 1981 real and nominal (trade weighted) exchange rates have moved closely together in the case of many of the countries in our group. For earlier years there is strong evidence in Edwards (1989). But the effects do tend to get eroded, as evidenced both in Edwards (1989) and, for example for Indonesia, in Warr (1984).

exchange rate is adjusted on the basis of some predetermined scale to affect the inflation differential with trading partner countries. It constrains domestic monetary policy (and hence possibly fiscal policy) so that the latter becomes endogenous. Rather than the exchange rate following other nominal variables, such as domestic price and wage inflation, in order to attain real objectives, such as maintenance of competitiveness, it leads them. Apart from restraining governments it is meant to send out clear and credible signals to private agents about prospects for inflation. The implication is that if the signals are clear and credible the real economy will adjust appropriately to various shocks, including anti-inflationary exchange rate policy.

This approach - which focuses on the need to restrain government inflationary tendencies through some kind of commitment, and on the credibility of government monetary policies in affecting private agents' expectations - is very much in tune with recent macroeconomic theorizing. In a way it is surprising that the current policy orthodoxy with regard to developing countries takes little account of it. Hence it is discussed at some length in Part III below.

## II. Exchange Rate Policy Targeted on Real Variables.

How should the nominal exchange rate move in response to various "real" shocks or objectives, for example a fiscal expansion or trade liberalization? What is the meaning of

exchange rate "overvaluation" or "misalignment"? A systematic analysis will now be presented to deal with these questions.

### 1. The Basic Model: Switching and Expenditure Adjustment

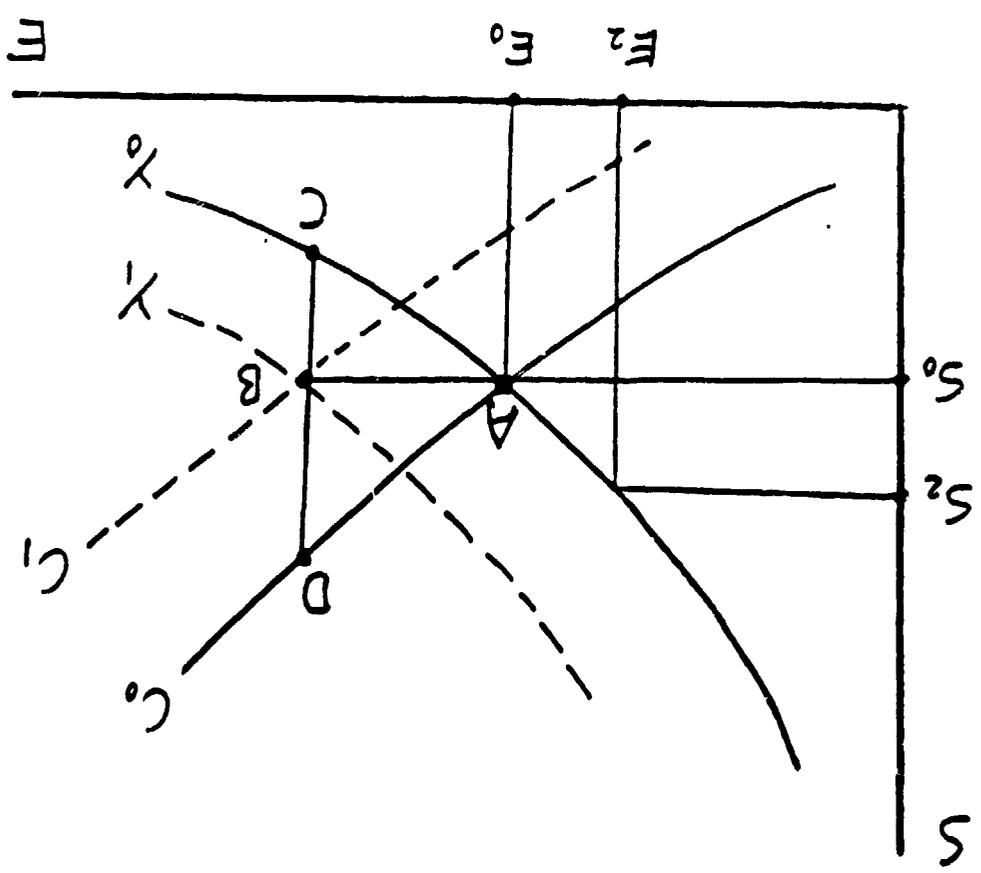
Figure I is the "Swan diagram" from Swan (1963). While familiar, it calls for careful interpretation here. It will be assumed that the country is small in world markets, so that any changes in the terms of trade are exogenous. The vertical axis shows the relative price of traded to non-traded goods in domestic currency terms, allowing also for the effects of tariffs, quantitative restrictions, and so on, that affect this relative price ratio. This is the S ratio, S standing either for "Salter" or for "switching".<sup>3</sup> It is sometimes called the "real exchange rate", a movement upwards being a real depreciation.<sup>4</sup>

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<sup>3</sup> The reference is to Salter (1959), where the first systematic, diagrammatic model with traded and nontraded goods was presented.

<sup>4</sup>The assumption is made here that imports and domestically-produced "importables" are perfect substitutes an assumption which, in a world of product differentiation, is clearly unrealistic. Hence it should be regarded as no more than a simplifying assumption. It should be noted here that the real exchange rate could be defined as the relative price of domestically produced tradables to nontradables, as here, or as an index of "competitiveness". The latter definition is favored in Balassa (1987) and is the relative price of traded goods in foreign countries, adjusted for the nominal exchange rate, and their prices in the domestic economy. This definition hinges on the realistic assumption that foreign and domestic tradables are imperfect substitutes so that their prices adjusted for the exchange rate can indeed differ. The main arguments in this paper - especially the comparison between the real targets and the nominal anchor approaches - apply fully when imports and domestically-produced import-competing goods are imperfect substitutes, the latter, in terms of the (Salter) model of this paper, being, in effect, nontradables.

Figure 1



The horizontal axis shows real expenditure or absorption ( $E$ ), which can increase as a result of monetary or fiscal expansion or various other factors, such as higher incomes yielded by a terms of trade improvement.

The curve  $Y_0$  shows varying combinations of  $S$  and  $E$  that yield constant real income  $Y_0$  resulting from constant demand for home-produced goods. Another curve  $Y_1$  represents a higher level of demand and income. The curve  $C_0$  similarly represents a constant current account balance and the curve  $C_1$  a current account which is more in deficit.

Let us now look at the three crucial prices, namely the prices of nontraded goods, of imports and of exports.

Firstly, there is a large category of nontraded goods  $N$ , with the price  $p_n$ . This category contains two sub-classes, namely pure nontradables which would be priced on the basis of domestic demand and supply even if there were free trade, and goods that might well have been imported under free trade but on which there are prohibitive quantitative import restrictions, so that, just like nontradables, they are priced on the basis of domestic demand and supply, not prices of competitive imports. The latter are "QR-propelled" nontraded goods: importables that have been converted into nontraded goods.

Secondly, there are imports  $M$ , the domestic price of which is  $e(1+t)p_m$ , where  $p_m$  is the border price of imports in foreign currency terms,  $e$  is the nominal exchange rate defined as units

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of domestic currency per unit of foreign currency (an increase being a depreciation), and  $t$  is the tariff rate, explicit or implicit, whichever effectively determines the price. An implicit tariff results, of course, from quantitative restrictions on these imports.  $t$  would rise if restrictions were tightened up, or their range expanded within the broad category of  $M$ .

Finally, there are exports  $X$ , where  $p_x$  is the foreign price of  $X$  and hence the domestic price is  $ep_x$ .

Since there are two kinds of traded goods weights must be attached to the two prices in order to get an average price of traded goods. These weights are  $a$  and  $(1-a)$ . We thus get an expression for  $S$ , the relative price of traded to nontraded goods, taking into account trade restrictions, and allowing for the possibility that the terms of trade ( $p_x/p_m$ ) may change.

$$S = e [ a(1+t)p_m + (1-a)p_x ] / p_n \quad (1)$$

When the weights are held constant  $S$  can change because of an exchange rate change, a protection change, one or two foreign price changes, and a change in domestic (nontraded) prices, the last possibly because of a change in the nominal wage level. If there is a nominal depreciation, ie if  $e$  rises, and with  $p_n$ ,  $t$ ,  $p_m$  and  $p_x$  given,  $S$  will increase. In that case we can equate a change in  $S$  with a change in  $e$ , a movement upwards in Figure I (positive switching) being a real depreciation or devaluation. An increase in  $p_n$  would lower  $S$  (negative switching). If  $p_n$  rose more than  $e$  (and with  $p_m$ ,  $p_x$  and  $t$  still constant) one might say

that there has been a real appreciation. When  $P_M$ ,  $P_X$  and  $t$  are constant, and only  $e$  and  $p_N$  vary, it seems appropriate in terms of conventional usage to use the real exchange rate concept, positive switching resulting from real depreciation ( $e$  rising more than  $p_N$ ). But a problem with this concept arises when  $P_X$ ,  $P_M$  or  $t$  change.

## 2. A Fiscal Expansion: How Should the Exchange Rate Move?

Let us now consider a common situation in developing countries. There is a fiscal expansion financed by borrowing, domestic or foreign. We take this as given. We also hold protection ( $t$ ), and world prices ( $P_X$ ,  $P_M$ ) constant. Which way does  $S$  have to move? Should the exchange rate appreciate or depreciate?

It is not difficult to show that if the deficit is domestically financed and provided there is initial excess capacity and unemployment, the exchange rate needs to depreciate. In Figure I, at a constant  $e$  and  $p_N$ , the movement would initially be from A to B, the net result of the fiscal expansion itself and of the possible crowding out of some private spending, the latter caused by a higher interest rate or credit rationing brought about in turn by the domestic financing of the fiscal deficit. The current account worsens (to  $C_1$ ) and demand for nontraded goods rises, bringing demand for home-produced goods to  $Y_1$ . Clearly, a depreciation could restore the initial current

account situation provided it were possible to sustain higher domestic output. The system would go to D.

The more interesting case is where the fiscal deficit is foreign-financed and the initial situation was one of full capacity or full employment ("internal balance") so that the system cannot stay above  $Y_0$ , even though it may move there initially.  $S$  must then fall, to bring the country to C. This could be brought about by a rise in  $P_n$ , yielding a real appreciation. If a domestic price rise (temporary inflation) is to be avoided nominal appreciation is required. The current account, of course, worsens. This negative switching reduces the profitability of export industries (and of import-competing industries, if there are any), and hence yields the familiar Dutch Disease effect. It is caused by a fiscal expansion which is foreign financed, or financed, at least temporarily, out of reserves and where the starting point is one of internal balance. Given such a starting point it is the effect of any transfer, whether in the form of loans or aid, into the country.

It follows that the fiscal expansion may have to be associated with either a depreciation or an appreciation, depending on the extent to which output of home-produced goods can be increased and the extent to which the deficit can be financed by foreign borrowing or the use of reserves.

Now suppose the country is at the last situation - at point C, with a current account deficit and internal balance. The reserves are running out or foreign borrowing is becoming too

difficult. Can one say that the exchange rate is "misaligned" or "overvalued"? We still hold  $p_x$ ,  $p_m$ , and  $t$  constant. Should the country be recommended to devalue?

If fiscal policy stayed unchanged a devaluation might temporarily bring the country back to B (or even to D), creating excess demand at home. But  $p_n$  would rise until S were back at C. Given the fiscal policy, the appreciated  $e$  is the correct one. The exchange rate is not overvalued. The fiscal expansion has to be reversed if the current account is to be improved. If it is impossible to reverse the fiscal expansion there is no point in depreciating. This is often forgotten. It would just cause a temporary inflation. It is wrong in this situation to advocate devaluation without assurance that adequate fiscal contraction will take place also. But if there were only a fiscal contraction, with the exchange rate unaltered and  $p_n$  inflexible downward, a recession would result. Given that the current account has to be improved, it is really the package of fiscal policy and exchange rate that is misaligned. A reversal of the fiscal expansion should be accompanied by a devaluation so as to undo the earlier appreciation of the currency.

### 3. Import Restrictions and Exchange Rate Misalignment

Protection - realistically, quantitative import restrictions - can now be introduced as a variable. To simplify, hold  $p_n$ ,  $p_m$  and  $p_x$  constant. The two policy instruments are  $e$  and  $t$ , a rise in  $t$  representing a tightening or extension of restrictions.

Referring back to equation (1) a given  $S$  can be obtained with varying combinations of  $e$  and  $t$ . Suppose we start (in Figure I) at the desired level of  $S$ , namely  $S_0$ , obtained by combining a particular level of  $e$ , namely  $e_0$ , with a positive level of  $t$ , namely  $t_0$ . Is the exchange rate then "misaligned"? The question is whether the exchange rate leads or follows.

It is certainly possible that it follows. The level of protection may have been set at  $t_0$  because this was desired from a long term protectionist point of view or because tariffs are meant to raise revenue. In that case protection leads.  $e_0$  is then the equilibrium rate to ratify  $t_0$ , given the target  $S_0$ .

The currently more familiar story is that of trade liberalization. Again, the exchange rate is meant to follow. The much repeated message is that trade liberalization requires devaluation to maintain both internal balance and the initial current account balance.<sup>5</sup> This is an important example of the real targets approach. If the devaluation does not take place trade liberalization cannot be sustained. In due course import restrictions, though not necessarily exactly the same as before, will be reimposed to deal with a current account problem that may have been caused by the earlier liberalization. In fact, this is the explanation for many failed liberalization attempts. The exchange rate is meant to follow but fails to do so.<sup>6</sup>

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<sup>5</sup> See Corden (1971) and Krueger (1978).

<sup>6</sup> Krueger (1978). The point is also made in many papers by Bela Balassa.

A common experience in developing countries has been one of creeping overvaluation followed by increasing trade restrictions. A country starts at its desired internal and external position (point A in Figure I) and with a low level of trade restrictions, say zero. Domestic prices ( $p_n$ ) then rise faster than world prices owing to domestic monetary expansion. Therefore  $S$  would fall unless  $e$  were increased *pari passu*. Continuous nominal depreciation is needed to compensate for the excess of domestic inflation over world inflation. But the country fails to depreciate sufficiently for a variety of reasons, some of which will be referred to later, but perhaps primarily in order to discourage further inflation. Therefore restrictions have to be continually intensified to maintain  $S_0$  and hence equilibrium at A in Figure I. This is also a case where the exchange rate leads when, from the point of view of the real targets approach, it should have followed. Restriction of imports turns out to be the residual policy and is not optimal.

The effect of the increasing import restrictions that result from the continuous overvaluation of the real exchange rate is that export industries are continuously squeezed.<sup>7</sup> Eventually the limit of import restrictions will be attained: the country is down to its bedrock level of imports. Either  $S$  must fall below

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<sup>7</sup> The term "real exchange rate" is used here in a particular way, namely to refer to the movement of  $ep_m/p_n$  or  $ep_x/p_n$ , ie excluding the effect of the change in  $t$ . Alternatively one might follow Edwards and van Wijnbergen (1987) and define the real exchange rate as  $S$  (equation (1) in this paper) in which case there would not necessarily be any real appreciation when a fall in  $ep_m/p_n$  leads to a sufficient rise in  $t$ .

$S_0$ , producing a current account deficit or an internal balance problem (depending on whether real expenditure,  $E$ , is raised or reduced) or the exchange rate must start depreciating.

Numerous examples could be given at this point. Indeed there is hardly a country in our group of seventeen that has not at some time gone through an episode like this, where rigidity of the nominal exchange rate brings about increasing import restrictions.<sup>8</sup> Of course, it is a constant theme in the literature, in the writings of Bela Balassa, and of World Bank policy recommendations, that this is an undesirable outcome. The exchange rate should be adjusted appropriately. That is the essence of the real targets approach.

A rather dramatic example of this kind of story can be found in recent Nigerian economic history. Inflation (CPI) was about 23% in 1983 and 40% in 1984, and yet the exchange rate stayed fixed. From the end of 1982 to the end of 1984 the real exchange rate (calculated by the IMF) increased by 64% (appreciated).

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<sup>8</sup> It might be argued that the chronic inflation countries of Latin America in our group have never been reluctant to depreciate. In particular, Brazil has been most ready to depreciate, with the nominal exchange rate tracking domestic inflation with the aim of roughly maintaining the real rate over considerable periods. Nevertheless Brazil has made much use of quantitative import restrictions. Wage indexation has often limited the ability of Brazilian nominal exchange rate depreciation to bring about sufficient real depreciation. In the case of the other chronic inflation countries in our group - Argentina, Colombia and (at an earlier stage) Chile - there was also often a reluctance to depreciate enough or quickly enough. Colombia (which is a "chronic moderate" inflation country) has usually had a crawling peg though, from the point of view of optimal switching and avoiding restrictions, it has not always crawled fast enough.

Import restrictions were increasingly tightened. In 1985 the exchange rate was allowed to depreciate substantially so that the earlier real appreciation was fully reversed by mid-1986. But it was still far too high in real terms, mainly because of the precipitous fall in the oil price in 1986. By that time imports were certainly down to bedrock. A structural adjustment program was adopted in 1986 and implemented through 1987. Import licensing was abolished and the exchange rate was floated. There was a massive nominal and real devaluation as a result: the IMF index (where a real depreciation is a decline) went from 114 in mid-1986 to 25 at the beginning of 1989 - which may be some indication of the implicit tariff that the import restrictions were equivalent to just before they were abolished.

#### 4. Wage Indexation: What Difference Does It Make?

The implications of wage indexation need to be considered. Wage indexation, explicit or implicit, has been a factor at certain times in all the Latin American countries, above all Brazil, but much less so in the other countries of our group. There was wage indexation in Chile from 1976 to 1981. At the same time one cannot help noting big drops in real wages that have taken place since 1981 in Mexico, Argentina (both countries with influential and centralized trade union movements) and Chile. In many of the other countries, for example Indonesia, it is not a factor at all, or hardly so. Turkey has also seen a big decline in real wages since 1980. Of course one cannot conclude that just

because real wages have fallen substantially over some period that they can fall indefinitely. For example, in Mexico since 1988 there has been some degree of indexation as part of a social pact.

If there is formal or informal wage indexation  $p_n$  will tend to rise, usually with a lag, when  $e$  rises. In the extreme case a devaluation cannot bring about a change in  $S$ . How does this possibility affect the orthodox real target model?

If the economy started at  $Y_0$ , ie at internal balance, in the absence of indexation a devaluation on its own would lead to an endogenous rise in  $p_n$  until internal balance were restored. This rise in  $p_n$  could be avoided by a simultaneous reduction in  $E$ . Hence if a current account improvement is desired  $E$  must fall and if, at the same time, internal balance is to be maintained,  $e$  must rise. There is a role for devaluation, but only as part of a policy package. By contrast, when there is indexation  $p_n$  rises when  $e$  rises and would do so even if  $E$  were reduced. There is no role for devaluation at all, not even as part of a policy package. A reduction in  $E$  would be needed to improve the current account, but supplementing it with a devaluation would not affect  $S$  and thus could not maintain internal balance.

Suppose we observe that devaluations have been followed by increases in  $p_n$ , possibly causing the whole effect on  $S$  to be eroded after a while. There can be two explanations and, from a policy point of view, it is very important to know which is the correct one. One possible explanation is that there was a failure

to reduce  $E$  sufficiently, so that  $p_n$  rose because of excess demand. The conclusion then follows that a policy package which includes contractionary aggregate demand policy should have been, but failed to be, implemented to a sufficient extent. The second explanation could be that there was some tendency to indexation, formal or informal. In that case a reduction in  $E$  would not have allowed  $S$  to rise, ie to bring about positive switching, even though it was still required for a current account improvement. The policy implication in that case may be to try to end indexation.

There is some useful evidence as to which explanation is likely to be more important. Edwards (1989, pp 264-69) has analyzed the erosion of the real effects of nominal devaluations for a large group of developing countries (29 "stepwise" devaluations) and found that the rate of growth of domestic credit played a crucial role - ie failure to reduce  $E$  in terms of our mode tended to lead to failure of a devaluation to have a sustained real effect. This suggests that indexation is relatively less important than is an adoption of the full policy package.

### III. The Exchange Rate as Nominal Anchor

We now consider the alternative approach to exchange rate policy already outlined in the introduction, namely the "nominal anchor approach". This means that the exchange rate is used as a

nominal anchor for a country, one which restrains governments in practicing inflationary policies and which sends out clear, credible signals to private agents about prospects for inflation. The exchange rate leads. In terms of the model presented so far,  $P_n$  is no longer given: it becomes endogenous, depending on what happens - and is expected to happen - to  $e$ . In this view a readiness to devalue to achieve short-term real objectives means that this anchor is abandoned, and in the long run more inflation results. When expectations are allowed for, the long run may not be so long. Furthermore, the argument is that in the long run real output would not be affected by the exchange rate or the level of nominal expenditure.

#### 1. The Exchange Rate as Anchor: Domestic Policies and Private Agents' Reactions

One can decompose the nominal anchor approach into three steps. We continue to assume here low capital mobility owing to effective exchange controls or other factors. First the government makes a nominal exchange rate commitment. What this means will be discussed below with regard to countries that have kept their exchange rates fixed for longish periods. Secondly, governments are presumed to adjust their domestic monetary policies to fit in with this commitment. Since, to a great extent, monetary policy in developing countries is determined by fiscal policy - deficits tending to be monetized to varying extents - this means that fiscal policy must adjust to exchange rate policy. To reduce the rate of money supply growth a fiscal

deficit will have to be reduced. Oversimplifying a little, in the nominal anchor approach the exchange rate leads and fiscal policy (insofar as deficits are monetized) must follow.<sup>9</sup> This is to be contrasted with the real targets approach where fiscal policy leads and the exchange rate follows.

Governments have two temporary ways of evading the constraint on monetary policies which a nominal exchange rate commitment is meant to provide. One way is to impose increasingly tight import restrictions to deal with the consequences of the incompatibility of monetary with exchange rate policy. The other way out is to run down the reserves and to finance the growing current account deficit with foreign borrowing. The constraint imposed by the exchange rate can be - and often has been - evaded in these ways with severely adverse effects. An example from Nigeria was given earlier, and many other examples could be given.

The third step is that, if the constraint is effective, private agents in due course adjust their price and wage setting to the fiscal, monetary and exchange rate policies. If the exchange rate commitment itself, and then the commitment (if any) to adjust domestic monetary policy to it, have sufficient credibility and are clearly perceived by private agents, their

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<sup>9</sup> This simplification does not apply when a fiscal deficit is financed by issue of domestic bonds or by foreign borrowing. One must then refer specifically to monetary, not fiscal, policy. As the experience of Cote d'Ivoire shows a fixed exchange rate is compatible with a big budget deficit provided foreign finance is available.

price and wage setting may adjust quickly and without much loss of output when policy is designed to reduce the rate of inflation.

This approach of using the exchange rate as a nominal anchor hinges thus both on government behavior and on private behavior. It can fail, or work badly, either because domestic monetary policy (implying usually fiscal policy) is slow to adjust, or even evades the constraint completely, or because private price and wage setting agents are slow to adjust. When this is so the case for the real targets approach to exchange rate policy is strengthened. Indeed a very strong argument in support of the real targets approach is that private agents are slow to adjust so that devaluations do have real effects for some time.

One might take the view that the government does not need to be constrained. It may have a genuine commitment to reducing inflation or actually maintaining price stability. It could achieve this either through exchange rate policy, with domestic monetary policy being adjusted to it - as in the approach just discussed - or through pursuing a non-inflationary or anti-inflationary domestic monetary policy with the exchange rate adjusting. Thus, again, the exchange rate could lead or follow, but this time the choice is between two ways of achieving the same nominal objective - between two forms of monetarism, namely exchange rate and money supply (or nominal income) targeting.

The case in favor of the exchange rate as the nominal anchor is that it is a very visible, very well-defined anchor, hence

increasing the likelihood that private agents adjust quickly. It is much more visible, and hence more credible, than a money supply, nominal expenditure, or more general anti-inflation commitment. Its visibility is strengthened when the exchange rate is fixed to a particular currency, such as the dollar, rather than to a basket. The case against it is that exchange rate targeting is more likely to produce a balance of payments problem.

The last point is illustrated in Figure II. Assume the country starts at point A with a steady rate of inflation, nominal expenditure growth, and depreciation yielding a constant  $S$  and constant  $E$  at point A. It is then desired to reduce the rate of inflation. One approach is to reduce the rate of depreciation. If the nominal expenditure reduction comes with a lag the movement is thus first from A to B, with  $S$  falling and  $E$  constant (or even rising). The current account deteriorates from  $C_0$  to  $C_1$ . In addition, output falls. Then real expenditure is reduced (ie the rate of growth of nominal expenditure is reduced) to restore the current account, and the system moves to D. Output falls further. Eventually the domestic rate of inflation declines and the system returns gradually to A, with output recovering. The movement from B to D represents the government monetary policy reaction and the movement from D to A the private agents' reaction. Of course, in the final equilibrium the inflation tax will have to be replaced by some other taxes, or government expenditure has had to fall.

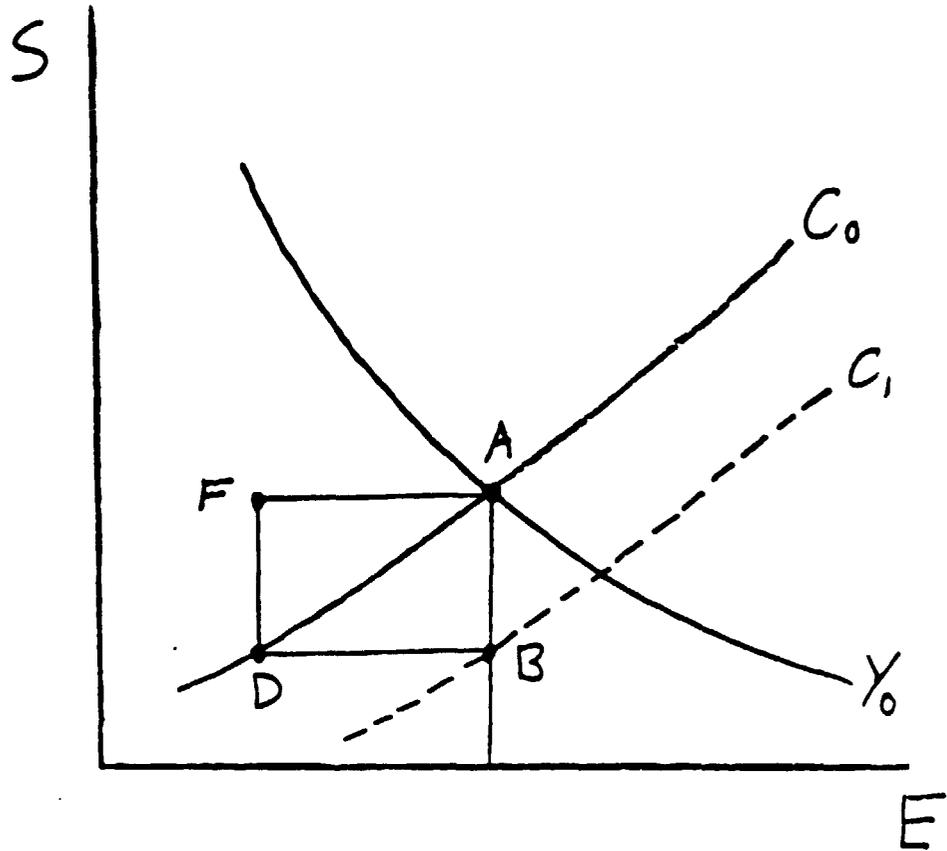


Figure 11

Now contrast this with the case where domestic expenditure reduction leads rather than follows. First the rate of growth of expenditure falls, while the exchange rate is not yet adjusted. The system moves to F, with the current account improving. Then, owing to the current account improvement, the real exchange rate is appreciated (ie the rate of depreciation declines), bringing the country to D and restoring the original current account situation. The third stage - the move from D to A - is the same as when the exchange rate leads. The main point is that, when the exchange rate leads (as it does in the nominal anchor approach), the domestic policy adjustment might lag behind so that a temporary balance of payments problem could result.<sup>10</sup> This possibility is avoided when domestic expenditure policy leads in the disinflationary process.

2. Experiences in Five Asian Countries and Turkey: Have Exchange Rate Policies Actually Constrained Domestic Policies?

The exchange rate experiences of the five Asian countries in our group may shed light on the relevance of the nominal anchor approach. Their currencies have all been fixed to sterling or the dollar, and at some stage between 1975 and 1984, they switched to pegging to a basket, with some exchange rates more flexible than others. In general they have been low inflation countries (with exceptions in some periods). To what extent have their exchange rate policies constrained domestic policies and provided nominal

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<sup>10</sup> When expectations and capital mobility are introduced there can be a foreign exchange crisis at this point.

anchors? Of course a fully documented answer can hardly be given here nor can their exchange rate policies be described in detail.

Beginning with the extreme case, Thailand's rate was fixed to the dollar from 1955 until 1984, with just one small devaluation (9% in 1981) during the whole of that period. and a 15% devaluation at the end. This is a country that did not adjust its nominal exchange rate to its two severe adverse terms of trade shocks (ie the two oil shocks). The tendency has been to move the baht with the dollar even after formal pegging to the dollar was ended.

India's rupee was fixed to sterling until 1975, with just one major devaluation (36% in 1966) during the whole postwar period until then. In 1975 India switched to a flexible peg, with the peg being to a trade-weighted basket. Since then overt devaluations have been avoided and there have been various movements in nominal and real rates. It seems that at times there has been some tendency to rigidity (but not actual fixing) in terms of the dollar, because the real rate depreciated from late 1985 to 1988, reflecting dollar depreciation.

Pakistan's rate was unified in 1972, then devalued sharply (130%) because of the secession of Bangladesh, and then the rate was pegged to the dollar until 1982. Since 1982 it has depreciated in terms of the dollar and in real terms.

In Indonesia there was a period from 1970 to 1978 when the nominal exchange rate was fixed to the dollar but there was substantial real appreciation owing to higher domestic inflation.

This was made possible by the oil boom, generating the Dutch Disease effect. In 1978 there was a 33% devaluation. Since then the tendency has still been to keep the rupiah rate to the dollar constant, apart from two devaluations, in 1983 (33%) and 1986 (31%).

Sri Lanka's exchange rate was fixed to sterling from 1952 to 1976 (with some devaluations from 1972), and in 1977 the rate was unified, many exchange controls were removed and there was a big (81%) depreciation. Until 1985 the rupee depreciated against the dollar but stayed almost constant in trade-weighted nominal terms. During that period of 1977 to 1985 it went through a somewhat similar experience as Indonesia earlier, with real appreciation resulting from some degree of rigidity of the (trade-weighted) nominal exchange rate.

We have then some countries, or lengthy periods in some countries, where the exchange rate has been fixed in nominal terms, formally so, or effectively so, sometimes to the dollar or sterling, and at other times to a basket. Since 1973 the floating of the major currencies has clearly presented a problem - especially since 1981 when the dollar started appreciating and later depreciating. When currency relationships among major trading partners change so much the concept of a clear nominal anchor became difficult to maintain and the abandonment of the various pegs became inevitable - late though this was in many cases relative to the 1973 watershed year when the Bretton Woods system finally collapsed. One can sense that some of the Asian

governments have wanted to maintain the credibility of a peg by moving with the dollar rather than firmly pegging to a basket, even when the formal peg to the dollar was ended. But this has then presented problems by leading to unintended real appreciations or depreciations as the dollar moved up and down.<sup>11</sup>

Thailand, India, Pakistan and Sri Lanka have been low inflation countries, and even Indonesia (from 1969) could be categorized that way - certainly in a Latin American perspective.<sup>12</sup>

Did their exchange rate policies compel these countries to follow low inflation fiscal and monetary policies so as to avoid balance of payments and competitiveness problems? Can one explain their low inflation records in terms of the exchange rate as a nominal anchor? The real commitment, I suspect, was not to the exchange rate as such, but to low inflation, and hence to conservative domestic monetary and fiscal policies.<sup>13</sup>

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<sup>11</sup>This problem has been central to the literature concerned with exchange rate policies for developing countries. How should developing countries fix their rates in a world where the major currencies are themselves floating? See Black (1976), Williamson (1982), and Joshi (1990).

<sup>12</sup>The average annual (CPI) inflation rates 1965-88 have been 8.2% for India, 8.7% for Pakistan, 8.4% for Sri Lanka and 6% for Thailand. For Indonesia the inflation rates in each year 1962-68 were well over 100%, but the average for 1969-88 was 14%. Figures for 1982-88 were 8.6% (India), 5.9% (Pakistan), 10.3% (Sri Lanka), 3% (Thailand), and 8.5% (Indonesia) - rather remarkable when seen with Latin American eyes and, in the case of Thailand, with any eyes!

<sup>13</sup> It must also be remembered that all the countries used quantitative import restrictions and exchange controls for short term balance of payments purposes, strongly so in the case of

One has to ask what the nature of the exchange rate commitment was, especially up to 1981. What stopped the countries going the South American road? Clearly, the commitment has not been absolute, since there were devaluations before 1981, and, as outlined above, there have been significant real and nominal depreciations since 1982. Notably Indonesia devalued by substantial amounts - about 30% - three times from 1978 to 1986. But focusing on the pre-1982 period, it seems to me that the explanation for a considerable degree of rigidity of nominal exchange rates lies in certain well-established beliefs.

There was concern with prestige: devaluation was thought to represent an admission of failure. More generally, views about the desirability of fixed exchange rates that were internationally prevalent under the Bretton Woods system were widely held in these Asian countries even after 1973. An important factor was the thoroughly justified belief that devaluation was inflationary. In Sri Lanka's first macroeconomic crisis 1968-70 devaluation was ruled out as an appropriate policy: there was a particular concern with the adverse effect that a devaluation might have on newly established industries that were heavily dependent on imports of intermediate goods. This has also been a consideration at other times and in other countries.

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India, Pakistan and Sri Lanka, so that a switching instrument which was a substitute for devaluation - though not, of course, for continuous devaluation - was available.

When exchange rate pegging to a single currency came to an end all five countries continued to follow reasonably low inflation policies. Looking back with hindsight, it may be that the spell of the fixed exchange rate did at least back up the anti-inflation commitment, so that there was some element of a nominal exchange rate anchor. But with substantial devaluations by some countries since 1973, and with large changes in bilateral nominal rates compelled by the fluctuations of the dollar, the spell has no doubt been broken by now.

Similar issues arise for various other countries in our group, which maintained more-or-less fixed rates (sometimes with occasional devaluations) for long periods, namely Mexico until 1976, Costa Rica until 1980 (there was a devaluation in 1974), Nigeria (to 1984), Kenya, Morocco and Turkey. In all cases there have been long periods with fixed rates, or near-fixed rates lasting well after the 1973 breakdown of the Bretton Woods system. Some of the countries - Mexico, Costa Rica (briefly), Nigeria and Turkey - have gone through high inflation episodes, while Kenya and Morocco have not. All have used quantitative restrictions for balance of payments purposes at various times. Only the two countries that are part of the franc zone - Cote d'Ivoire and Cameroon - have had a true fixed exchange rate commitment, leading inevitably both to low inflation and to real depreciations and appreciations that reflected movements in the franc-dollar rate.

The case of Turkey is particularly interesting since this is a country which has been transformed since about 1977 from a relatively low inflation to a high inflation one, a transformation associated with a switch in exchange rate regime from fixed to crawling peg.<sup>14</sup> From the point of view of the real targets approach a very simple story can be told. For reasons which need not be discussed here Turkey had its debt crisis from 1977 to 1979. The real exchange rate appreciated somewhat from 1974 to 1979 and this, together with the need to drastically improve the current account, called for substantial real depreciation. As part of a major stabilization program which eventually included trade liberalization the nominal exchange rate was depreciated by about 70% in 1980. From 1981 the rate was adjusted daily. The net result was a substantial real depreciation - about 30% - by 1984 and more since, and this was quickly followed by a remarkable export boom. This episode was regarded by Bela Balassa (1983) and others as a striking and praiseworthy example of the success of exchange rate policy, above all, as evidence that export supply and demand elasticities were high.

How does this episode look from the point of view of the nominal anchor approach? The exchange rate was fixed to the US dollar up to 1973 and during the period 1960-70 inflation averaged less than 5%. From 1971 to 1977 it averaged 18%. 1980

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<sup>14</sup> This discussion draws on the study on Turkey by Ziya Onis and James Riedel (to be published) conducted for the World Bank project.

was an exceptional year, with over 100% inflation, reflecting the effects of the stabilization program, principally the big devaluation and large price adjustments by state enterprises. Inflation from 1981 to 1986 averaged 37.5% and since then has increased, reaching 75% in 1988 and 1989.

One could argue that such a high rate of inflation sustained now for nine years after a drastic stabilization program can only be explained by the removal of the nominal anchor in 1980. If one agrees with this one would have to say that Turkey faced a trade off between the benefits of maintaining a more appropriate real exchange rate for some time and the longer-term costs of higher inflation. This could be described as an "exchange rate adjusted Phillips curve" trade off. It is the trade off which is implied if one concedes the validity of both the real targets and the nominal anchor approaches. But against the view that the change in the exchange rate regime explains (or helps to explain) the relatively high inflation since 1981 it can be pointed out that the inflation rate started increasing already in 1971 and had reached 44 % by 1978.

A reasonable conclusion is that by 1980 substantial devaluation by Turkey was essential and indeed inevitable. But a government more committed to low inflation might have tried to fix the exchange rate firmly at a new, more depreciated, level. Yet this would only have worked if there had been a genuine long term commitment to a non-inflationary monetary policy (and hence fiscal policy) in support of the nominal anchor at its new level.

This commitment would have required strong public support for such a policy, including a willingness to accept the transitional costs.

### 3. Inflation and Exchange Rates in the Latin American Chronic Inflation Countries

Any discussion of the exchange rate as a nominal anchor must refer to the much-discussed experiences of the four chronic inflation countries of South America in our group, as well as Mexico. Brazil and Colombia have practiced crawling peg policies over long periods, but it is quite clear that in these cases the exchange rate followed rather than led.<sup>15</sup> The aim of continuous nominal exchange rate adjustment was to avoid real appreciations - a clear example of the real targets approach in an inflationary context. The aim was not to slow up inflation by constraining governments or sending signals to private agents. This "passive crawling peg" policy, as Williamson (1981) has called it, has also been practiced in Mexico, Argentina and Chile since 1982.<sup>16</sup>

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<sup>15</sup> See Urrutia on Colombia and Fendt on Brazil in Williamson (1981).

<sup>16</sup>With respect to Mexico it should be added that, after six years of depreciation necessitated by high inflation, in 1988 the Mexican peso was fixed to the dollar and in 1989 it was adjusted on the basis of an active crawling peg policy, both episodes being part of the Mexican stabilization plan which, among other things, required wage increases to be limited. But one cannot really say in this case that the exchange rate was the nominal anchor: the anchor was (and is, at time of writing) the commitment to the whole stabilization plan.

Finally, Argentina and Chile each experienced earlier a brief but much discussed "nominal anchor" episode.<sup>17</sup>

The Argentinean episode of 1976-80 (under Finance Minister Martinez de Hoz) is now classic. A crawling peg exchange rate, with advance announcement of the rate at which the exchange rate would be devalued (a "tablita") operated for two years from 1979. In Williamson's (1981) classification this was an "active crawling peg". A real appreciation resulted and there was massive capital outflow. Domestic inflation failed to decline much because there was a continued high fiscal deficit. The failure of domestic inflation to decline sufficiently brought about the real appreciation. The failure was thus in the accompanying domestic policy which led both directly to a balance of payments problem and indirectly to a slowness in the reaction of private agents owing to the lack of credibility of the policies.

In the case of Chile, the exchange rate was fixed to the dollar for a brief period from the end of 1979 to 1981, the aim having been to bring inflation down from the 33% level it had reached in 1979 - itself a considerable achievement in view of very high inflation a few years earlier. The policy succeeded, since inflation was 7% by the end of 1981. But there was still

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<sup>17</sup> On Argentina see Calvo (1986), or Chile, Balassa (1985b), Corbo (1985) and Edwards and Edwards (1987), and on both countries, Corbo, de Melo and Tybout (1986) and Corbo and de Melo (1987).

high unemployment and a large real appreciation (with the US dollar appreciating during that period relative to other currencies and, additionally, Chilean inflation still higher than US inflation). Domestic monetary and fiscal policies were not out of line. To some extent, domestic prices and wages were slow to adjust to reduced inflation because of lagged wage indexation. But such slowness in price and wage adjustment in response to disinflationary policies could be expected even if there had not been formal wage indexation. In addition, some degree of real appreciation was also to be expected because of massive capital inflow. In my view this much-analyzed episode cannot really be considered a failure. The subsequent problems of Chile arose because of excessive private borrowing during that brief period as well as the decline in the terms of trade and rise in real interest rates.

It must be observed that the Chilean exchange rate commitment for two years was only a nominal anchor insofar as the government chose to adhere to it. The fundamental commitment in Chile was to the objective of reducing inflation just as in the five Asian countries it has been to the objective of keeping inflation low.<sup>18</sup> The true anchor is the belief by the policy makers - usually rooted in and backed by widespread community beliefs - in the undesirability of inflation. Perhaps a fixed exchange rate has a role in signalling this anti-inflationary commitment to

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<sup>18</sup> A critique of the nominal anchor approach as applied to Chile can be found in Balassa (1985b, pp. 203-8).

private agents. But they will always be alert - as they were in Argentina - to the possibility that the signal is a false one. If they are rational they will look out for the underlying commitment.

#### IV. Capital Mobility: What Difference Does It Make?

Finally, in considering exchange rate policy one cannot ignore the increase in capital mobility. Measurement of capital mobility is difficult.<sup>19</sup> It is not sufficient to look at actual capital movements. There have been dramatic episodes of capital flight from Argentina and Mexico, so clearly mobility is high in those cases. But capital mobility may also be high in the case of a country such as Brazil where, until recently, the incentive for capital outflow did not exist to the same extent because of flexibility of the nominal exchange rate designed to maintain the real rate. In other countries interest rates are quickly raised when there is a tendency to capital outflow, or in still other countries - notably Pakistan and Turkey - the flow of remittances from citizens working abroad is likely to vary to some extent in response to exchange rate expectations.

Without going into this further, the judgment may be made that in many of the countries in our group - including Pakistan, Thailand, Indonesia, Turkey, Morocco and all the Latin American

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<sup>19</sup> See Cumby and Obstfeld (1983), Cuddington (1986), various papers in Lessard and Williamson (1987), and Haque and Montiel (1989

countries - international capital mobility is now high and has been steadily increasing through the seventies and eighties. What is the implication of this for exchange rate policy?

In general the appropriate model is still one where sterilized intervention is possible - ie domestic interest rate policy is distinct from foreign exchange rate intervention policy. Hence the model is one of imperfect capital mobility, whether owing to partially effective exchange controls or imperfect substitutability of domestic currency-denominated and foreign (usually dollar) assets.

The implication is that it is no longer possible to maintain a nominal exchange rate for any length of time which the market believes to be seriously overvalued. Such expectations would lead to capital outflow and thus to a balance of payments problem unless domestic interest rates rose sufficiently. And the tightening of domestic monetary policy to sustain an exchange rate may have to be so severe that there are limits to this instrument. Exchange rates do not have to float, but when market expectations turn significantly against a rate it will have to be quickly adjusted. There are some countries where policies of maintaining a rate have been so consistent and hence credible that market pressures against it hardly take place. Perhaps Thailand is the best example of this. But for most developing countries the days of the Bretton Woods "fixed but occasionally adjustable" system are over. This consideration explains why many countries in our group have moved in the direction of more

flexibility since 1982 - usually, so far, to flexible pegs, not actually floating rates (with the exception of Nigeria, which has had a floating rate since 1986).

The Bretton Woods system broke down in 1973 largely because of increasing capital mobility and the failure of the United States and perhaps others to pursue credible domestic policies which would sustain particular rates. Thus the developed world moved into the floating rate stage. By contrast, the developing countries (other than the four chronic inflation countries of South America) generally tried until around 1982 to maintain either fixed rates of some kind or a fairly inflexible peg, with intermittent adjustments. But, with a lag, capital mobility for them increased also, and many of their economies became destabilized as a result of the recession and debt crisis of 1980-82. Hence, with a few exceptions, their exchange rate regimes have now changed in the direction of much more flexibility. At the moment it seems unlikely that they could go back to the "fixed but adjustable" regimes of the earlier period.

This has implications both for the real targets approach and the nominal anchor approach. Both approaches call, at any point in time, for a policy-determined nominal rate. It might be an "active" crawling peg, but this still means that it is fixed at a point in time. Yet such a rate cannot be sustained unless the market is convinced it will be sustained. It is true that expectations of depreciation can be offset by sufficiently high domestic interest rates, but the need to target domestic

monetary policy on sustaining the exchange rate when the market expects substantial depreciation is itself a constraint on the attempt to fix the exchange rate.<sup>20</sup>

It follows that the whole package of policies that goes with an exchange rate commitment - whether meant to achieve a real target or a nominal anchor - must be thoroughly credible if an exchange rate is to be maintained. This is conceivable when a country has been following steady policies in the past (like Thailand, or like Mexico up to 1973) and is perhaps keeping the rate constant or crawling on some steady basis. In the absence of such credibility the actual rate would have to follow the direction in which the market expects it to move.

The policy implication is that - when there is high capital mobility - it is no longer possible to have extensive discussions about the appropriate real exchange rate and what this implies for the nominal rate, and then to make a major adjustment,

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<sup>20</sup> The problem only arises when expected depreciation substantially exceeds expected domestic inflation, so that a high real rate of interest is required to sustain the current nominal exchange rate. A high real rate has adverse effects both for private investment and for the budget. This problem is intensified when inflationary expectations are excessive - ie when actual inflation later turns out to fall below current market expectations of inflation. In addition, in many developing countries the domestic free market rate exceeds the international (US) rate by a substantial risk factor.

The net effect of all these factors was that in 1989, when Mexico practiced an active crawling peg policy, the Mexican real rate of interest as usually calculated was around 30% while the US rate was closer to 4%. The usual calculation assumes that the expected rate of inflation is equal to the current one, but there is little doubt that in this case the rate of inflation expected by the market exceeded the remarkably low current one, so that the true real rate of interest must have been less than 30%.

perhaps as part of a stabilization program. Changes have to be quick, and normally small and more frequent. This is the direction in which countries have been moving. When large changes are expected the market would force an early adjustment. It is rare for a large change to be unexpected.<sup>21</sup> If particular changes are desired so as to achieve real targets the domestic policies that go with it must be in place or credibility about policy intentions must be established. If there is a change in the fundamentals - such as a change in the terms of trade or a major trade liberalization - a nominal exchange rate change will be expected and cannot be delayed. If quick policy action does not bring it about the market will force it.

All the issues discussed in this paper in connection with the real targets and the nominal anchor approaches are still relevant when there is capital mobility, and the basic trade offs remain the same. But with capital mobility credibility becomes crucial. If either approach calls for a particular nominal exchange rate and the market does not believe that this rate will be sustained it is necessary first for domestic monetary policy to be tightened sufficiently so as to maintain the rate immediately, and second, for signals to be sent out - for example, through fiscal policy decisions - that convince the

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<sup>21</sup> The one example from our group of countries of a large unexpected devaluation is the 33% Indonesian devaluation of 1978, the incentive for which was "exchange rate protection" of the tradables sectors, and not a balance of payments problem. See Warr (1984). It appears from the low forward premium that the 15% Thai devaluation of 1984 was also unanticipated.

market that the rate will be sustained. The short Argentinean "Martinez de Hoz" episode of 1979-80 clearly shows what happens when this is not done.

#### V. Conclusion

Can one conclude with some simple policy recommendations? I would suggest four propositions which, because of their simplicity, may seem rather trite.

First, in general the real targets approach to exchange rate policy is the right one. The exchange rate should follow rather than lead, taking into account the various shocks or changes in other variables discussed in Part II of this paper - notably fiscal policy, trade policy, and terms of trade changes.

Secondly, exchange rate policy should be associated with appropriate non-inflationary monetary policy. Normally there has to be a direct commitment to the anti-inflation objective if inflation is to be avoided. In the absence of such a commitment, with monetary policies being inflationary, exchange rate policy must still be aimed at the real target - ie the real exchange rate - unless there is reason to believe that it would actually affect the commitment itself to a significant extent.

Thirdly, because of capital mobility delayed exchange rate adjustments must be avoided: if the rate needs to change it should be done quickly.

Fourthly, there is some role for the nominal anchor approach for two kinds of countries, these being at opposite extremes of the inflation scale.

Countries that have long established fixed exchange rate systems with possibly very occasional devaluations and with relatively non-inflationary records may be well advised to stay with such a system, since the commitment will be credible. One thinks especially of Thailand here (and possibly Indonesia) and, of course, of the African countries in the franc zone. But by now only a few countries in our group could fall into this category, though many more would have in 1973.<sup>22</sup>

In addition, countries with high-inflationary histories ready to stabilize - ie to shift policy radically and make the necessary commitment - may find a fixed exchange rate (or an active crawl) a valuable anchor. It should constrain government monetary policies and should help to achieve credibility with the markets (including the labor market) on the lines that have been discussed. Possibly Argentina, Brazil and Mexico all come into this category. But whenever a fixed rate regime or an active crawl is chosen it has to be recognized that there is the kind of "exchange rate adjusted Phillips curve" trade off that was discussed earlier with reference to Turkey: some cost owing to

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<sup>22</sup> One might even wonder about the franc zone countries. As a result of its public spending boom 1976-80 inflation in Cote d'Ivoire did increase, there was thus a real appreciation, and this led to increased tariff and non-tariff import restrictions. Latin American-style inflation has certainly been avoided in spite of a prolonged fiscal crisis, but import restrictions and a severely reduced growth rate have not.

real exchange rate misalignment at least for a limited period is quite likely.

### References

- Balassa, Bela (1977), Policy Reform in Developing Countries, Pergamon Press: Oxford.
- Balassa, Bela (1981), The Newly Industrializing Countries in the World Economy, Pergamon Press: Oxford.
- Balassa, Bela (1983), "Outward Orientation and Exchange Rate Policy in Developing Countries: The Turkish Experience," in Bela Balassa, Change and Challenge in the World Economy, Macmillan: London, 1985.
- Balassa, Bela (1985a), Change and Challenge in the World Economy, Macmillan: London.
- Balassa, Bela (1985b), "Policy Experiments in Chile, 1973-83", in Gary M. Walton (ed.), The National Economic Policies of Chile, JAI Press: Greenwich, Connecticut.
- Balassa, Bela (1987) "Effects of Exchange Rate Changes in Developing Countries," The Indian Journal of Economics, (October), 203-32; also available as World Bank Development Research Department Discussion Paper No. DRD 291, 1987.
- Balassa, Bela (1989a), New Directions in the World Economy, Macmillan: London.
- Balassa, Bela (1989b), Comparative Advantage, Trade Policy and Economic Development, Harvester Wheatsheaf: London.
- Black, S.W. (1976), Exchange Rate Policies for Less Developed Countries in a World of Floating Rates, Princeton Essays in International Finance No 119.
- Calvo, Guillermo (1986), "Fractured Liberalism: Argentina Under Martinez de Hoz," Economic Development and Cultural Change, 34, 3 (April).
- Corbo, Vittorio (1985) "Reforms and Macroadjustment in Chile during 1974-84," World Development, 13, (8), 893-916
- Corho, Vittorio and J. de Melo (1987), "Lessons from the Southern Cone Policy Reforms," The World Bank Research Observer, 2, (July), 111-42.
- Corbo, V. et al. (1986), "What Went Wrong with the Recent Policy Reforms in the Southern Cone," Economic Development and Cultural Change, 34, (April), 607-40.
- Corden, W.M. (1971), The Theory of Protection, Oxford University Press: Oxford.

- Cuddington, John (1986), "Capital Flight: Estimates, Issues and Explanations," Princeton Studies in International Finance No.58.
- Cumby, R.E. and M. Obstfeld (1988), "Capital Mobility and the Scope for Sterilization: Mexico in the 1970s" in P. Aspe et al., (eds) Financial Policies and the World Capital Markets, University of Chicago Press: Chicago.
- Edwards, Sebastian (1989), Real Exchange Rates, Devaluation, and Adjustment: Exchange Rate Policy in Developing Countries, The MIT Press: Cambridge.
- Edwards, Sebastian and A. Cox-Edwards (1987), "Monetarism and Liberalization: The Chilean Experiment," Ballinger Publishing Co: Cambridge.
- Edwards, S. and S. van Wijnbergen (1987), "Tariffs, The Real Exchange Rate and The Terms of Trade: On Two Popular Propositions in International Economics," Oxford Economic Papers, 39, (September), 458-64.
- Haque, Nadeem Ul and Peter Montiel (1989), "Capital Mobility in Developing Countries - Some Empirical Tests," International Monetary Fund (mimeo).
- Joshi, Vijay "Exchange Rate Regimes in Developing Countries," in M. Fg. Scott and D. Lal (eds) Public Policy and Economic Development: Essays in Honour of Ian Little, Oxford University Press: Oxford, 1990.
- Krueger, Anne (1978), Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences, Ballinger Publishing Co.: Cambridge.
- Lessard, Donald R. and John Williamson (1987), Capital Flight and Third World Debt, Institute for International Economics: Washington, DC.
- Salter, W.E.G. (1959), "Internal and External Balance: The Role of Price and Expenditure Effects," Economic Record, 35, (August).
- Swan, T.W. (1963), "Longer Run Problems of the Balance of Payments," in W.M. Corden and H.W. Arndt (eds) The Australian Economy: A Volume of Readings, Cheshire: Melbourne.
- Warr, Peter G (1984), "Exchange Rate Protection in Indonesia," Bulletin of Indonesian Economic Studies, 20, (August), 53-89.
- Williamson, John (1982), "A Survey of the Literature on the Optimal Peg," Journal of Development Economics, 11, 39-61.
- Williamson, John (ed), (1981), Exchange Rate Rules, St Martin's Press: New York.

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