IV. Exchange Rate Policy

by Richard Barth
1. Introduction

Exchange rate policy involves choosing an exchange rate system and determining the particular rate at which foreign exchange transactions will take place. A country's exchange rate policy affects its relative price structure in domestic currency terms between goods which are traded internationally (tradables) and goods which are produced for the domestic market (non-tradables or home goods). Moreover, exchange rate policy will affect the overall level of domestic prices. For these reasons, the particular exchange rate system and exchange rate level selected will have a widespread impact, in terms of price incentives, on the entire economy.

A country's economic structure and its institutional characteristics are important considerations in determining exchange rate policy. In this context a number of characteristics that are common to many developing countries may be noted:

- reliance on primary commodity production and exports (minerals and agricultural crops);
- limited substitutability of domestically produced goods for imports;
- dependence on the external sector for essential imports, particularly intermediate goods and capital equipment;
- importance of capital flows, including direct investment and official and private lending; and
- underdeveloped financial markets, with a limited number of foreign exchange dealers.

These characteristics have implications for the choice of an exchange rate system and suggest possible limitations on the use of exchange rate policy to effect resource shifts, particularly in the short run, in response to balance of payments disequilibria.

Section 2 of this chapter covers alternative exchange arrangements for developing countries. Section 3 discusses issues related to the particular level chosen for the exchange rate. A brief review of experience with exchange rate policy is provided in Section 4. Box IV.1 provides a summary review of exchange rate concepts.

2. Options for exchange rate policy

a. Peg to a single currency

Pegging the value of a currency to that of a single currency has a number of advantages.
• Trade may be facilitated between the pegging country and the country whose currency is used as the peg. Typically, the currency to which a developing country pegs is that of its main trading partner. By pegging, the uncertainties associated with changes in exchange rates are reduced. Capital flows related to investment in the developing country may be positively affected by the stability of the exchange rate.

• Confidence in the developing country's currency may be enhanced if the country whose currency is being used for the peg is regarded as following economic policies conducive to stable prices. In this case, in order for the pegging country to maintain the level of the peg, it must also follow policies which will maintain stable prices. Thus, an exchange rate peg may serve as a basis for following macroeconomic policies consistent with domestic stability.

The main drawback to an exchange rate peg to a single currency is that movements in the rate vis-à-vis the currencies of other countries may interfere with domestic policy objectives. To a certain extent, the effects of fluctuations in the exchange rates of other currencies cannot be avoided, but they may be amplified by a single currency peg. If, for example, the intervention currency appreciates vis-à-vis other currencies, then prices of internationally traded goods will fall, stimulating import demand and raising the incentive to shift resources into production intended only for the domestic market (nontraded goods). These effects may be contrary to the intended objectives of macroeconomic policy.

b. Peg to a basket of currencies

An alternative approach to exchange rate policy determination is to maintain a peg to a weighted average of several currency values, commonly referred to as a basket peg. There are two main advantages to this form of exchange arrangement.

• By pegging to a basket, a country is normally able to avoid large swings in its exchange rate with respect to several trading partners' currencies, and is thus able to stabilize its nominal effective rate.

• Price instability resulting from exchange rate changes is reduced. In general, changes in the exchange rates of industrial countries vis-à-vis a developing country as well as the geographical pattern of the source of imports will affect import prices denominated in domestic currency. By weighting the changes in exchange rates of supplier countries by their shares in the imports of the developing country, the effect on the import price index (in domestic currency) of any bilateral rate movements will be dampened. Thus, a peg to a basket the currency composition of which is determined by import shares will enable a developing country to avoid some import price fluctuations.
Exchange Rate Definitions

Exchange rate

The exchange rate may be defined as the price of a unit of domestic currency in terms of foreign currency. Demand and supply in the foreign exchange markets lead to the establishment of a nominal exchange rate at a point in time. As demand and supply in the foreign exchange market shift, and depending on a country's exchange system, the exchange rate may change. An increase in the rate (or price) is referred to as an appreciation with respect to the foreign currency, while a decrease is termed a depreciation. Since the exchange rate is frequently defined as the number of units of domestic currency per unit of foreign currency, in this case an appreciation of the domestic currency should be identified with a decrease in the rate and depreciation with an increase.

Effective exchange rate

The domestic exchange rate defined in terms of a single foreign currency is termed a bilateral rate. Increased exchange rate flexibility since the mid-1970s, however, has led to the construction of exchange rate indices that are designed to measure the average change of a country's exchange rate against a number of other currencies during a particular period. This concept of the average relationship between a currency and a set of other currencies is referred to as the effective exchange rate. The effective exchange rate index is thus an average of bilateral exchange rates. Correspondingly, movements in the effective exchange rate index indicate either an appreciation or depreciation of the domestic currency vis-à-vis the set, or basket, of other currencies. Movements in the index are referred to as effective appreciations or depreciations.

Real effective exchange rate

The effective exchange rate index is a nominal index since it is calculated as an average of nominal bilateral exchange rates. In order for an effective exchange rate index to be useful in terms of measuring a country’s external competitiveness, however, the nominal index must be adjusted for movements in prices or costs at home relative to those abroad. The nominal index adjusted for relative price movements is referred to as a real effective index. Alternatively, the real effective index may be considered an index of relative prices — domestic prices relative to an average of the prices of a group of countries — adjusted for nominal exchange rate movements. This latter definition is equivalent to an index of relative prices, expressed in a common currency. Therefore, assuming that exchange rates are stated as the price of a unit of domestic currency in terms of foreign currency, an increase in a country’s real effective exchange rate index, or in its effective price index adjusted for nominal exchange rate movements, is an indication that external competitiveness has deteriorated. Conversely, a decrease in a country’s real effective exchange rate — a real depreciation of the currency — or a decrease in its effective price index is an indication that competitiveness has improved. Currencies which have shown real effective appreciations over levels in base periods when the external position was considered adequate are said to have become overvalued, and vice versa.
There are several disadvantages, however, to a basket peg.

- Technical difficulties of implementing a peg which would in general change on a daily basis vis-à-vis all of the industrial countries.
- Varying cross rates between developing countries using different baskets; under a single-currency peg, currencies pegged to the same major currency would remain stable vis-à-vis each other.
- Diminished attractiveness to foreign investors of a country pegging to a basket since there might be more uncertainty about the future value of the country’s currency, reflecting the possibility that a basket peg as compared with a single currency peg was more open to manipulation, particularly if details of the composition of the basket were not publicized.

\section*{c. Independent floating}

While pegging the exchange rate to a basket may dampen the variability of a country's effective exchange rate, it does not ensure equilibrium in the foreign exchange market. Independent floating potentially provides a mechanism for determining the equilibrium exchange rate and may also serve to insulate the domestic monetary system from external shocks.

- \textbf{Exchange rate determination.} Independent floating, in principle, allows a more continuous adjustment of the exchange rate to shifts in the demand for and supply of foreign exchange. This avoids the difficulty of determining the appropriate level of the rate under either a fixed or basket peg.
- \textbf{Domestic monetary policy.} Under a fixed rate system shifts in the demand for and supply of foreign exchange will affect the overall external balance and the level of official reserves, thereby having an impact on the monetary base. A floating exchange rate, on the other hand, equilibrates the demand for and supply of foreign exchange by changing the exchange rate rather than the level of reserves. Since the monetary base is not affected by foreign exchange flows under a floating rate system, a country has the freedom to pursue its own monetary policy without having to be concerned about balance of payments effects. Thus, external imbalances would be reflected in exchange rate movements under a floating rate system instead of reserve movements, with monetary implications, under a fixed rate system.

An evaluation of the attractiveness of a floating rate system should allow for the factors mentioned below.

- \textbf{Potential for an efficient foreign exchange market.} Even if an adequate market were to develop, initially there may be high variability in the exchange rate due to the thinness of the market.
• **Response of trade and capital flows to exchange rate fluctuations.** Greater movements in exchange rates will be necessary to adjust to external shocks if the price elasticities of trade are low. Increased variability in rates may have adverse consequences for capital inflows, particularly if foreign investors also are concerned that exchange rate flexibility may reduce a country's willingness to follow restrained domestic monetary policies.

d. **Experience with alternative exchange rate systems**

While most industrial countries and some developing countries have adopted floating or flexible exchange rate systems, the financial systems and other institutional features of a number of other developing countries do not readily lend themselves to an exchange regime of this type. Table IV.1 shows the evolution of exchange rate arrangements of Fund member developing countries over the period 1977–90. The trends described below may be noted.

- A shift toward greater flexibility, with the proportion of developing countries pegging to a single currency falling from 61 percent as of end-1977 to 36 percent as of mid-1990; over the same period the percentage of developing countries choosing a flexible arrangement rose from 13 to 36 percent.

- Within the group of countries pegging to a single currency, the proportion pegging to the U.S. dollar declined steadily over the period and as of mid-1990 the pound sterling was no longer used as a peg. Fourteen countries were pegged to the French franc in 1977 and in 1990.

- The share of countries pegging to a basket of currencies rose sharply between 1977 and 1985 and this was maintained through mid-1990. In contrast, pegging to the SDR as a convenient basket has diminished in importance.

The sharp rise between 1977 and 1990 in the proportion of countries relying on flexible exchange arrangements reflects mainly the increased number of independently floating currencies, although the number of currencies adjusted by means of a managed float, in which the rate is effectively set by the authorities and adjusted frequently, has also grown. The increased use of flexible arrangements has been in large part a response to accelerating domestic inflation rates, which made necessary continuing currency depreciation in order to avoid a deterioration in external competitiveness, and the uncertainties associated with the fluctuations in the exchange rates of the major currencies.

As previously indicated, while basket pegs have been adopted to reduce the impact of major currency fluctuations, there has also been some reluctance to tie exchange rates to a preannounced formula. Rather, countries have found it expedient for both economic and political reasons to adopt a more flexible arrangement.
### Table IV.1

<table>
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<th></th>
<th></th>
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<tbody>
<tr>
<td>Pegged to a single currency</td>
<td>61.11</td>
<td>49.57</td>
<td>40.00</td>
<td>35.94</td>
</tr>
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<td>U.S. dollar</td>
<td>40.74</td>
<td>33.91</td>
<td>25.60</td>
<td>21.68</td>
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<tr>
<td>French franc</td>
<td>12.86</td>
<td>12.17</td>
<td>11.20</td>
<td>10.94</td>
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<tr>
<td>Other currency, of which</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pound sterling</td>
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<td>3.48</td>
<td>3.20</td>
<td>3.91</td>
</tr>
<tr>
<td>Pegged to composite</td>
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<td>28.70</td>
<td>32.00</td>
<td>29.13</td>
</tr>
<tr>
<td>SDR</td>
<td>14.31</td>
<td>13.04</td>
<td>9.60</td>
<td>5.47</td>
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<tr>
<td>Other (currency basket)</td>
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<td>15.66</td>
<td>22.40</td>
<td>22.66</td>
</tr>
<tr>
<td>Flexible arrangements</td>
<td>12.96</td>
<td>21.74</td>
<td>28.00</td>
<td>35.94</td>
</tr>
<tr>
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<td>4.00</td>
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</tr>
<tr>
<td>Other 1/</td>
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<td>19.13</td>
<td>24.00</td>
<td>33.59</td>
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<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>


1/ Includes the following categories: "flexibility limited vis-a-vis single currency," "managed floating," and "independently floating."

### 3. Adjusting the exchange rate

#### a. Indicators of adjustment need

The need for an exchange rate adjustment should be considered in the context of an assessment of the overall external position, taking into account prospects for the medium term. This assessment is usually complemented by a consideration of the indicators listed below.
• **Real effective exchange rate index.** This is the indicator most commonly used in assessing the need for an adjustment of the exchange rate. An increase in a country’s real effective exchange rate index (real appreciation of the domestic currency) over its level in a period when the external position was considered adequate is an indication that external competitiveness has deteriorated. Real effective exchange rate indices are usually constructed using bilateral trade flows, although to gauge export competitiveness it would be preferable to take into account the importance of export competitors in third-country markets. While a unit labor cost index would be the best indicator of cost developments, the consumer price index is commonly used in real exchange index calculations because of the unavailability of data on unit labor costs in most developing countries. If the consumer price index basket includes a significant proportion of traded goods, a rising value for the real exchange rate index rather than reflecting a loss of competitiveness could simply be associated with successful adjustment of an overvalued currency and not indicate the need for further adjustment. Thus, it is important to examine carefully the reasons underlying a change in the real exchange rate index.

• **Rate in the parallel market.** The rate in the parallel market, if one exists, is another indicator that may be useful in judging the appropriateness of the level of the exchange rate. A parallel market rate in which transactions take place at a more depreciated rate than the official rate, for example, might indicate that the domestic currency is overvalued in terms of the official rate. Consideration of the parallel market rate should, however, allow for the size of this market and the possibility of the rate including a substantial risk premium if the market is not officially sanctioned.

b. **Devaluation effects**

Exchange rate action in the form of a change in the external value of the domestic currency can be an effective means of improving a country’s balance of payments. It is most often appropriate when a country is running an unsustainable balance of payments current account deficit but may also be used in the case of current account surpluses. The basic idea of exchange rate action, raising or lowering the external value of the domestic currency, is to alter the relative domestic profitability of tradable goods. Tradable goods consist of exportables, which include actual exports as well as goods produced and consumed domestically that are close substitutes for exports, and importables, which consist of imports as well as goods produced and consumed domestically that are close substitutes for imports. The domestic prices of tradable goods are determined by the world market and the exchange rate, subject of course to international transport costs, tariffs, and export subsidies, if any. The prices of nontradables, which consist for the most part of services, are determined by domestic supply and demand.

A deterioration in a country’s current account position may have a variety of causes and frequently reflects the impact of a combination of factors. Some of the main factors are the following:

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• domestic supply disruptions;
• higher debt servicing costs due to an increase in international interest rates;
• worsening of the terms of trade — prices of imports rising relative to export prices; and
• expansionary monetary and fiscal policies.

An external imbalance can persist as long as it can be financed by capital inflows or by drawing down official external reserves, but there are limits to these sources of current account finance. A large and persistent current account deficit, therefore, is normally not sustainable and policy actions must be undertaken to deal with the imbalance in order for adjustment to take place. A number of possible policy responses are open to the authorities, including exchange rate action, which is normally undertaken in combination with complementary measures. The latter may include a tightening of fiscal and monetary policy, debt rescheduling, price liberalization, and a variety of structural measures depending on the immediate cause of the problem. The case for exchange rate action is particularly strong when the underlying cause of the current account deterioration has been overly expansionary financial policies, but a worsening of the terms of trade may also call for an exchange rate change.

If the terms of trade deteriorate from a decline in export prices caused, for example, by a recession in the industrial countries, developing countries could await the cyclical upturn and the improvement in prices rather than make a change in the exchange rate. However, if the decline in export prices is a reflection of a more permanent shift in demand away from certain exports, perhaps due to technological change, then diversifying the export base would be called for and an exchange rate action would be appropriate. In practice, developing countries may have neither the reserves nor the borrowing capacity to await the cyclical upturn of industrial countries. They may also lack the ability to diversify the export base in the short or medium term. In either of these situations a devaluation may be required to restore profitability to the export sector.

When the exchange rate remains unchanged while export prices in foreign currency terms fall, the profitability of exports is reduced. A devaluation raises the domestic currency price of exports, thereby increasing their profitability, assuming that the domestic price of all intermediate goods used in their production and labor costs do not rise by an equivalent amount. The higher domestic price of foreign currency following a devaluation will also provide an incentive to develop nontraditional export activities, thus encouraging a diversification of the export base.

Overly expansionary macroeconomic policies frequently have their origin in unrealistically high government expenditures when compared to the financial resources available to the government from tax and nontax revenues and voluntary lending from the nonbank private sector. The ensuing fiscal deficit is then financed by borrowing from the banking system which, when added to bank lending to the
private sector, creates an excess supply of liquidity in the economy. The expansionary monetary policy raises incomes, thereby allowing domestic expenditures to increase, which puts pressure on the prices of nontraded goods and on wages. Under a fixed exchange rate, this sequence of events will cause the prices of nontraded goods to rise relative to the prices of traded goods, whose prices are set in world markets. Domestic expenditures on traded goods will thus tend to rise for two reasons: because nominal incomes are higher and because the prices of traded goods are relatively lower. While domestic expenditures are thereby shifted away from nontradables toward tradables, production of tradables is discouraged, as domestic factor costs rise and profits in the traded goods sector are squeezed. Therefore, as a consequence of the expansionary fiscal and monetary policies, the external current account will tend to deteriorate as a larger proportion of tradables is consumed domestically and the supply of tradables is reduced.

If administrative restrictions on imports are to be avoided, the profitability of exports must be restored and expenditures must be cut to a level consistent with the country’s income. In principle, a devaluation can be used to achieve both of these results.

- A devaluation increases the domestic price of tradables, thereby raising the price and profitability of tradables relative to nontradables. The external current account will improve to the extent that domestic expenditures are shifted away from tradables and the production of tradables is expanded.

- A devaluation will also tend to bring about a reduced level of expenditures. Since a devaluation raises the domestic price of traded goods while leaving unchanged the price of nontraded goods, the average domestic price level will rise and incomes and expenditures in real terms will fall.

It is important to highlight the fact that for the current account to improve, there must be a reduction in expenditure in real terms which may represent a cut in living standards. A relative price change by itself will not eliminate the external imbalance.

c. Supporting monetary and fiscal policy

For a devaluation to be effective, the value of the domestic currency must depreciate in real terms. That is, the increase in the relative price and profitability of tradables to nontradables, brought about by the devaluation, must not be eroded by a subsequent rise in the price of nontradables. Since devaluation inevitably increases the aggregate domestic price level there will be pressure to raise wages to compensate for a reduced standard of living of wage earners. Moreover, a devaluation will cause government expenditures on goods and services to rise in proportion to their import content and the size of the devaluation, while the domestic currency equivalent of the cost of debt service payments will also increase. To a certain extent these higher fiscal costs will be offset by a rise in receipts from international trade taxes, but on balance there is likely to be pressure on the budget.
These pressures may force monetary policy to a more accommodating stance, since monetary policy is frequently subordinated to domestic employment and fiscal considerations. Both theory and recent experience suggest that to avoid an erosion of the gains from relative price changes brought about by a devaluation, wage and fiscal restraint are of critical importance.

4. Experience with exchange rate policy

Exchange rate policy actions have been important elements of many countries’ macroeconomic programs, whether or not the programs have been supported by the Fund. Box IV.2 reviews experience with exchange rate policy in Singapore.

Policy actions have related to both the exchange rate system and the exchange rate level. Moving to a flexible exchange rate system has frequently been a key element of structural adjustment programs. In some of these countries, a floating exchange rate was considered feasible and put in place. Subsequently, several of these countries had to abandon their floating rates, often under pressure from expansionary demand policies. Moreover, while a sizable adjustment was made in the level of the exchange rate in a number of countries, the adjustment was not always sufficient to correct the initial distortions in exchange rates. Despite the mixed record of policy implementation, however, in most cases there was some depreciation of the domestic currency in real effective terms. On the other hand, there were also large fluctuations in the exchange rate and in many cases, the initial real effective depreciation was eroded in part or entirely.

Several conclusions can be drawn from the experience of countries undertaking exchange rate actions.

- There appears to be evidence of a significant response of exports to exchange rate changes. Export diversification, on the other hand, is only evident after a longer time period and seems to take place only if the exchange rate action is supported by other policies, such as trade liberalization and adequate external financial support.

- Import substitution has been limited in the short run, particularly for imported raw materials and investment goods, but substitution has been more promising for food and energy products. In part, reflecting an often large share of imports tied to aid, the effectiveness of exchange rate action on import demand has been limited.

- Exchange rate changes affect the domestic price level in the short term through increases in prices of imported goods. The concern for the potential inflationary impact of exchange rate changes has been a major reason behind the reluctance of countries to adjust the exchange rate. A key factor behind the inflationary impact of an exchange rate change has been the strength of monetary management. In cases where monetary expansion was kept under effective control after a depreciation, inflation decelerated and vice versa.
Exchange Rate Policy in Singapore

The evolution of Singapore's nominal and real effective exchange rates and the rate of inflation in Singapore relative to its trading partners is shown in the Chart below. From 1978 to 1985 the Singapore dollar, the value of which is determined by a managed float, appreciated vis-à-vis the currencies of Singapore's trading partners. During this period, exchange rate movements of the Singapore dollar closely followed movements of the U.S. dollar, which was appreciating. Since the inflation rate in Singapore over this period, as measured by the consumer price index (CPI), was lower than its trading partners, the Singapore currency appreciated in real terms by 11.5 percent as compared to a nominal appreciation of 30 percent. If unit labor costs are used to calculate the real effective exchange rate index, however, the real effective appreciation amounted to about 40 percent, as a high wage policy was followed during this period and unit labor costs rose by almost 50 percent. One effect of the real appreciation of the currency was a loss of external competitiveness which contributed to a decline in exports and a recession in 1985.

The policy response to those developments was to implement a severe wage restraint and, owing to the close link between the Singapore dollar and the U.S. dollar, a 16 percent nominal depreciation between 1985 and 1988. As a result, the value of the Singapore dollar in real effective terms depreciated sharply during 1986 and 1987 and to a lesser extent in 1988. Export growth resumed in 1986 and accelerated in 1987-88. In 1989, exchange rate policy was directed toward an appreciation of the currency, mainly in order to forestall inflation pressures. As the currency appreciated by 17 percent in nominal effective terms from mid-1988 to mid-1990, this more than offset the decline of 4 percent in the rate of inflation in Singapore relative to its trading partners, resulting in a real effective appreciation of 13 percent.


(Index, 1980 = 100)

Note: Exchange rate indices are calculated using the price of Singapore dollars in terms of foreign currency. Relative prices indicate Singapore's CPI divided by the average CPI in trading partners.


