

# CEPAL

## Review

*Executive Secretary of ECLAC*  
Norberto González

*Deputy Executive Secretary for  
Economic and Social Development*  
Gert Rosenthal

*Deputy Executive Secretary for  
Co-operation and Support Services*  
Robert T. Brown



UNITED NATIONS  
ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN

SANTIAGO, CHILE, AUGUST 1987

# CEPAL

## Review

---

Santiago, Chile

Number 32

---

### CONTENTS

Introduction: internal debt, external debt and economic transformation. <i>Carlos Massad.</i>	7
Another view of the Latin American crisis: domestic debt. <i>Carlos Massad</i> and <i>Roberto Zahler.</i>	11
Private internal debt in Colombia, 1970-1985. <i>Maricio Carrizosa</i> and <i>Antonio Urdinola.</i>	27
Internal debt and financial adjustment in Peru. <i>Richard Webb.</i>	55
Economic restructuring in Latin America in the face of the foreign debt and the external transfer problem. <i>Robert Devlin.</i>	75
The conversion of foreign debt viewed from Latin America. <i>Eugenio Labera.</i>	103
External debt in Central America. <i>Rómulo Caballeros.</i>	123
External restriction and adjustment. Options and policies in Latin America. <i>Nicolás Eyzaguirre</i> and <i>Mario Valdivia.</i>	149
Review of the theoretical approaches to external adjustment and their relevance for Latin America. <i>Patricio Meller.</i>	169
Recent ECLAC publications	

## Review of the theoretical approaches to external adjustment and their relevance for Latin America

*Patricio Meller\**

The problem of adjustment to external imbalances has become a focus of the attention of economists in Latin America. Various analytical approaches to this problem have been proposed. The current account approach places the emphasis on international trade; the capital account approach places it on financial flows, while the monetarist approach of the balance of payments is based on the global balance of international payments. Each of these approaches gives rise to a set of economic policy measures.

This article presents a summary of these three approaches and an evaluation of their relevance for the analysis of the external sector problems of the Latin American countries. It also presents an outline of the conceptual framework of the adjustment programmes of the International Monetary Fund and a critical commentary thereon. It suggests that the quantitative indicators currently used by the IMF should be supplemented by others designed to limit the level of unemployment, the fall-off in production and the reduction of real wages which are often associated with the strict application of the Fund's programmes.

The author concludes that although it is already possible to make certain improvements in current adjustment policies with a view to minimizing the cost of the adjustment, additional research is also required to determine the course of the adjustment and the behaviour, within that course, of certain key variables for a healthy situation, such as product and employment levels, consumption and income distribution.

\*Doctor of Economics, University of California (Berkeley). Researcher with the Economic Research Corporation for Latin America (CEPLAN).

## I

### Development and logic of the global approaches<sup>1</sup>

The purpose of this article is to carry out a systematic review of the various theoretical approaches found in economic publications on external adjustment; however, the goal is not to offer an exhaustive review, but to focus fundamentally on those models and hypotheses which are relatively more pertinent to an understanding of the functioning of the Latin American economies.

In the past 40 years different types of models have been put forward to explain the factors determining the external imbalance of an economy. The existence of several models is due to the important changes in international trade and financial relations and the need to seek an explanation of the behaviour of the economies in the new external context. However, the dominant theoretical approaches in specialized publications, and the changes and substitutions made in them, have related almost exclusively to the economic situation in the developed countries.

In general terms, a country's normal situation will be that there is no parity between the amounts of inflow and outflow of foreign exchange. This implies a balance-of-payments surplus or deficit. It is therefore important to analyse how a country adjusts its trade and financial flows to hold this balance in equilibrium. A balance-of-payments surplus is not usually considered to be a problem requiring solution; the central problem is to examine how the countries deal with their deficits.

An economy is said to have a problem of external imbalance when it has a deficit in the current account of the balance of payments which cannot be financed by foreign borrowing through the capital account, with the result that international reserves decline. As these reserves are finite, it is essential to find mechanisms to reduce and eventually eliminate this deficit.<sup>2</sup> In

<sup>1</sup>Bibliography for this section: McKinnon (1981), Chacholiades (1978), Dam (1982), Kenen (1985a, b).

<sup>2</sup>A distinction will later be made between cyclical and structural (external) imbalance. Structural imbalance requires an adjustment of the local economy; cyclical imbalance is by nature temporary and it is logical to finance it by foreign borrowing.

this description of external imbalance it is assumed that the economy uses a fixed exchange rate system.

An economy has achieved internal balance when its own economic activity is sufficient to create a situation close to full employment, which ought ideally to coincide with stable prices.

What is the interrelationship between external and internal imbalance? Are the two in conflict, i.e., can an economic policy correct one imbalance and exacerbate the other? Is there a kind of hierarchy between the two types of imbalance? What combination of economic policies can resolve both imbalances simultaneously? What kinds of policy instrument have comparative advantages in the reduction of one of these imbalances? These are some of the questions which will be considered in the review of the various models. For a better understanding of the analytical method and the implications and consequences of these models, it is necessary to outline the historical development of the various theoretical approaches.

It is useful to begin with a brief consideration of the gold standard. This is the system of international monetary relations which for a long period (1870-1910) provided the rules by which countries had to play in resolving their balance-of-payments difficulties. The international institutional framework which required such a standard had two characteristics: firstly, countries guaranteed the total freedom of movement of goods and gold; secondly, countries had to subordinate their domestic goals to the goal of eliminating the external imbalance, which had priority at the macroeconomic level.

The main elements of the gold standard were as follows: a) a parity with gold was established for local currencies, i.e., there was a fixed exchange rate system; b) there was full convertibility; c) balance-of-payments problems were solved by movements of gold among countries, i.e., there was no movement of financial capital; d) the central banks did not neutralize the effect of the flows of gold on the domestic money supply.

The gold standard functioned as if there were an automatic mechanism which eliminated any external imbalance. Suppose that a country

had a balance-of-payments deficit (in the case of a surplus, the reasoning is absolutely the same); the exchange rate was fixed and therefore the deficit was financed by a movement of gold out of the country. As the Central Bank did not neutralize the monetary impact of the variations in the gold reserves, an outflow of gold caused the amount of money in the economy to fall. According to the quantitative theory of money, a contraction in the money supply will cause domestic prices to fall; this will increase the international competitiveness of the country's economy, which in turn will enable it to increase its exports and substitute its imports, thus reducing the balance-of-payments deficit. The movement of gold out of the country will cease only when the deficit has been eliminated.

In short, the gold standard had an automatic mechanism ("movement of gold-level of prices") which resolved any external imbalance. Accordingly, no kind of economic policy would be needed to cope with balance-of-payments problems.

This type of approach underwent a radical change after the Crash of 1929 when people stopped thinking in terms of an automatic mechanism for adjustment of the balance of payments and began to realize that the equilibrium of this balance was a serious problem of economic policy which had to be solved. This change came about as a result of the balance-of-payments problems which affected many countries in the 1930s and it was consolidated by the series of external imbalance problems in developed and developing countries after 1940. Almost all countries underwent such crises, and the common experience taught that external balance was not easily achieved. There then emerged the balance-of-payments theory which examined the factors determining the balance of payments. In the institutional context of Bretton Woods this theory consisted of the analysis of the economic policies needed to reestablish balance-of-payments equilibrium.

The international monetary system created at Bretton Woods (1944) was determined by two different factors. On the one hand, the purpose was to find a replacement for the gold standard, for it had become a symbol which imposed insuperable restrictions on governments in terms of their domestic economic objectives,

despite its virtue of establishing a clear order in international financial relations. This was in sharp contrast to what had happened in the period 1920-1940, which was one of great instability in trade and financial transactions: countries alternated between a free exchange rate and sharp devaluations to solve their economic problems. Experience of the free exchange rate had been considered very negative owing to the problems which this exchange system produced: a) frequent changes in the exchange rate had a disruptive effect on the allocation of productive resources and changes in this allocation and subsequent reversions involved high costs; b) exchange rate fluctuations meant that the exchange risk became the main component in the profitability of a trading operation and this then discouraged international trade transactions; c) a free exchange rate generated instability and led to speculation which rendered the system even more unstable. On the other hand, during the 1930s there were countries which had recourse to the expedient of sharp devaluations as a mechanism for "exporting" their own unemployment; this obviously led to trade reprisals by the country affected by these exports; these reprisals led to a protectionist spiral, and all this resulted in a decline in world trade.

In short, the aim at Bretton Woods was to change the gold standard, but the free exchange rate system was considered very harmful; it was also necessary to prevent countries from using sharp unilateral devaluations to solve their domestic problems. Against this background the following basic principles were devised to guide the Bretton Woods international monetary system: a) a fixed exchange rate system was established; parities were set for national currencies against gold or the dollar; b) the objective of external balance was subordinated to the objective of internal balance; c) the fundamental purpose of movements of capital was to facilitate trade transactions; d) an international financial institution, the International Monetary Fund (IMF), was set up for the central purpose of facilitating the expansion and balanced growth of international trade. To this end, the IMF was to have two functions: i) to make loans to finance temporary external imbalances; ii) to ensure that countries did not change their exchange rate parity, unless there was a fundamental imbalance in the economy.

International trade declined considerably in the 1930s and 1940s; countries used restrictive trade policies (tariffs, quotas, etc.) and exchange controls to protect their own economies. This meant that these economies were relatively isolated, i.e., that domestic markets were not integrated with international markets; as a result, international transactions had no important effects on the development of the domestic economy. What is more, in the 1930s trade flows were unstable and they were expected to remain so; one of the topics of interest for the theoretical models was to examine the type of economic policy measures which would have to be adopted to isolate national economies from external upheavals.

During the period 1950-1970 there was a systematic decline in the trade barriers imposed by the developed countries, especially in the restrictions on trade between those countries themselves. At the same time there was an increase in the protectionist barriers erected by the Latin American countries. Exchange controls were gradually being eliminated in the developed countries, but the restrictions and controls on the movement of capital remained.

In short, during the period 1940-1970 countries and their economies were relatively isolated in trade and finance, although this isolation declined towards the end of the period. This meant (McKinnon, 1981; Kenen, 1985a) that the economies had the following characteristics with respect to the external sector: a) the erection of trade barriers meant that the external sector accounted for a smaller percentage of the GGP (gross geographical product). Furthermore, changes in the exchange rate did not have very significant effects on the level of domestic prices. There was little interrelationship between changes in the domestic prices of the various countries; b) owing to the restrictions on the flow of financial capital, current account deficits could not usually be financed fully by the movement of capital; c) national monetary systems were totally isolated and this meant, on the one hand, that intervention by a central bank in the foreign exchange market could be totally without effect and, on the other hand, that the domestic interest rate could be controlled by the money supply and was therefore unaffected either by the level of international interest rates or by the likelihood of devaluation.

Given these characteristics of the "semi-isolated economies" of the period 1940-1970, the theoretical approaches to the analysis of the problems of external imbalance had the following main components. Firstly, it was assumed that a fixed exchange rate system was in operation and an analysis was made of the factors determining the equilibrium or disequilibrium of the balance of payments. Secondly, as capital movements were of little importance, the theoretical models concentrated on the factors determining the current account; furthermore, when capital movements were totally omitted from the analysis, the current account coincided with the trade balance, and the models focussed on the factors determining the trade balance or its components — exports and imports. Thirdly, the macroeconomic Keynesian theory which emerged in the 1930s, although concerned exclusively with the analysis of a closed economy, had an important influence on the theoretical models in vogue in 1940-1970, as can be seen (Williamson, 1983a; Kenen, 1985a) from the fact that the open economy was analysed by means of equations marginal to the basic closed Keynesian model, equations which related to trade transactions (an appropriate approach when the external sector is a small appendage to the local economy), and that the level of prices was considered fixed. Ultimately, this theoretical approach saw the external sector as a potential source of instability which had to be neutralized; if external disruptions were transmitted, the goal of economic policy would be to use fiscal, monetary and other policies to neutralize them and hold the balance of payments in equilibrium (McKinnon, 1981). To sum up, the domestic economy would have to be isolated from harmful external upheavals so that an independent macroeconomic policy could be implemented to achieve the economic goals required for internal balance.

The "semi-isolated economy" of the period 1940-1970 was transformed (gradually) into the "highly integrated economy" of the 1970s and 1980s. The 1970s was a decade of increasing world integration, and the economies of different countries became fairly interdependent. In the developed countries in particular there was considerable integration in the goods markets; the external sector of these countries practically

doubled its relative importance in the GGP in the space of 30 years. (The external sector of the United States, Italy and Germany accounted respectively for 5, 12 and 16% of the GGP in 1950, and for 10, 25 and 27% in 1980.) Moreover, from 1970 the developed countries began to reduce the controls on the capital account and regional and national capital markets developed more rapidly; the eurodollar market acquired particular importance, as did subsequently the Eurocurrency market.

In the 1980s the developed countries have removed the restrictions and controls on financial flows and the capital account is fully open. Today, therefore, considerable integration has been achieved in the financial market of the developed countries, even greater than that achieved in the goods market. The most surprising thing here is the magnitudes: in 1984 international trade amounted to two million million dollars ( $10^{12}$ ), but financial flows fluctuated between 10 and 20 times that figure. As a result, the role of capital movements could no longer be overlooked from either the theoretical or the institutional standpoint.

At the beginning of the 1970s the international monetary system established at Bretton Woods collapsed and there emerged what some writers have described as a "non-system" (Williamson, 1983a); in other words, a situation in which there is no single and universal set of rules and in which each country does as it likes. Probably the most fundamental change is the replacement of the fixed exchange rate system with a system of floating exchange rates in the developed countries. Most of the developing countries have tied their national currency to the currency of the developed country which occupies the most important place in their trade, and the majority of the Latin American countries have chosen the dollar. This means that the developing countries apparently maintain a system of fixed exchange rates tied to a floating currency.

Among the various factors which contributed to the abandonment of the Bretton Woods system only those of theoretical interest will be considered here: a) under a system of fixed exchange rates, if prices and in particular domestic wages are not sufficiently flexible, it is not possible to alter the terms of trade of a country

with a persistent external imbalance; b) given the operation of a fixed exchange rate system and the free movement of capital, if an economy has a prolonged and large external imbalance, its currency is exposed to severe speculative pressures; c) when there is free movement of capital, the exchange rates and interest rates of different countries become closely interrelated; accordingly, differences in domestic inflation or the performance of the sector producing internationally tradeable goods bring immediate pressures to bear on the purchasing power of the national currency. In short, the increasing role of financial flows is leading to the abandonment of fixed exchange rates.

The new system (or "non-system") is intended to establish a "stable but adjustable" system of exchange rates. There has been a very clear change of attitude towards free exchange rates, for now they are seen as a useful mechanism enabling a country's government to use market forces to establish the balanced parity of the national currency.

The free movement of capital and the important relative and absolute levels of financial flows generated new theoretical approaches in the 1970s, radically different from the earlier ones. The focus of attention shifted: analysis of the equilibrium of the goods market was replaced by analysis of the equilibrium of the financial assets market; in other words, the capital account (or the balance of payments) took the place of the trade balance (or current account); the equilibrium of the flow of goods was replaced by the equilibrium of reserves of assets; financial variables took the place of real variables.

In short, in the developed countries monetary models took the place of the Keynesian models. This also meant a more general and profound theoretical change. In the Keynesian period of 1940-1970 clear priority was given to the objective of full employment and the use of fiscal policy as the relatively most effective tool; in contrast, in the monetarist period, after 1970, priority has been given to the reduction of inflation and use of the tool of monetary policy. Lastly, fundamental discrepancies have emerged between Keynesians and monetarists with respect to the functioning of the economy and the lasting effects of economic policies.

The monetarist approaches of the 1970s criticized various aspects of the theoretical current account models which had been developed earlier. Firstly, given the considerable degree of integration in the goods markets resulting from increased trade, it was necessary to introduce an assumption reflecting the existence of price arbitration; thus was introduced the single price law, which, as will be seen below, played a crucial role in the monetarist balance-of-payments approach. Secondly, the free movement of capital prevented central banks from manipulating the interest rate; this rate became exogenous for the monetary authorities and depended on the international interest rate. Furthermore, if a Central Bank maintained a fixed exchange rate and there was no neutralization, the monetary policy became endogenous.

In other words, in a world of increasing interdependence and integration of the goods and assets markets of different countries the economic authorities were losing their policy instruments, and it was no longer possible to remain autonomous in the management of economic policy. Moreover, the money markets in various currencies were heavily influenced by the activities of speculators who were capable of thwarting some of the intervention strategies of the central banks. This led to the conclusion that exchange and balance-of-payments problems were independent of each other and that they could not be subordinated to the goal of internal balance, i.e., the external and the internal balances were of equal importance.

When the developed countries replaced the fixed exchange rate system with the floating system there was clearly a shift in the focus of attention of theoretical models from analysis of the factors determining the balance of payments to the problem of the factors determining the exchange rate. Subsequently, these models concentrated on explaining problems of fundamental significance for the developed countries; the recent turbulence in the exchange markets of these countries has acquired particular importance.

Since the shifts of financial flows in reaction to frequent changes in various currencies are of very considerable magnitude, much of the theoretical work is focussed on the factors determining the existing parity relations in the (very)

short term among the currencies of the developed countries; furthermore, the changes in the parities among these currencies in the (very) short term are extremely high. All this encourages assimilation of the evolution of the exchange rate to the evolution of the prices of financial assets; the holding of various foreign currencies then becomes an additional asset in the portfolios of economic agents.

To sum up, the exchange rate is viewed differently in each model. In the Keynesian approach the factors determining the exchange rate are the flows of the trade balance, i.e., exports and imports; in other words, the exchange rate is considered to be a real variable, for it is the relative price of two types of goods. In the monetarist approach the factors determining the exchange rate are the monetary

flows of the balance of payments; i.e., the exchange rate is the relative price between two currencies. Lastly, in the assets approaches the factors determining the exchange rate are the equilibrium in the reserve of assets and the expectations of economic agents with respect to future fluctuations in this exchange rate; i.e., the exchange rate is the relative price between two assets.

The three types of model for analysis of the external sector will now be considered separately on the basis of a fixed exchange rate system: (Keynesian) current account approaches, monetarist balance-of-payments approach, and capital account approach. There will also be a specific discussion of the implications and consequences of these models in terms of the factors determining the exchange rate.

## II

### Current account approaches<sup>3</sup>

Most of the models considered in this section use the following basic assumptions: 1) Movements of capital are of little importance for various reasons such as restrictions on movement of financial capital, exchange controls, etc. The result is that a problem of balance-of-payments crisis is resolved to the extent that the current account remains balanced; the capital account can therefore be left out of the analysis. 2) There is a fixed exchange rate determined by the Central Bank. 3) The economy is small; this implies that the prices of exports and imports are exogenous, i.e., determined by the world market. 4) The national monetary system is isolated from variations in foreign currency reserves. This means that: a) the Central Bank completely neutralizes the monetary impact of variations in international reserves; b) given the additional assumption of restrictions on financial flows, the domestic interest rate is determined by the money supply, which is controlled by the Central Bank.

Two separate approaches competed during the 1940s and 1950s for theoretical domination in this respect: the absorption model, which emphasized the use of the income mechanism, and the elasticity model which used the mechanism of relative prices. Subsequently, as will be seen below, a synthesis of these two approaches was achieved.

#### *1. National accounts and basic concepts of the open economy*

Certain basic concepts of the open economy will be described in this subsection, and much of the notation to be used in this article will be introduced. National accounts provide a simple framework for this purpose.

The basic national accounts formula for the open economy is:

$$Y \equiv C + I + G + X - M \quad (2.1)$$

where  $Y$  is the value of the GGP,  $C$  is personal consumption,  $I$  is investment,  $G$  is government expenditure,  $X$  is the value of exports, and  $M$  is the value of imports.

<sup>3</sup>Bibliography for this section: Corden (1977), Dornbusch (1980a), Krueger (1983), Williamson (1983a), Kenen (1985b).



The sum of  $C + I + G$  will be represented by  $Z$ , i.e.,  $Z \equiv C + I + G$ . This concept  $Z$  represents the domestic expenditure of resident nationals; in more technical terms,  $Z$  is the *absorption* of goods by the economic agents of a country's economy.

A definition will also be given for  $B \equiv X - M$ , where  $B$  represents the trade balance when  $Y$  is the GGP;  $B$  represents the current account balance when  $Y$  is the gross national product (GNP) or national income.<sup>4</sup> For the purposes of this section, no distinction will be made between the current account balance and the trade balance. Thus, expression (2.1) becomes:

$$Y - Z = X - M \quad (2.2)$$

This expression (2.2) is interpreted as follows: the first term of (2.2) represents the internal balance or imbalance;  $Y$  is the national income and  $Z$  is domestic expenditure. Then, when  $Y = Z$ , internal balance is achieved — when resident nationals spend exactly what they earn.<sup>5</sup> As a result, a situation of imbalance is created when  $Y \neq Z$ . Moreover, the second term of (2.2) represents the external balance or imbalance; when  $B = 0$ , the current account is balanced, but if  $B$  is negative there is a deficit.

Accordingly, expression (2.2) provides a picture of the interdependence between the external and internal balance or imbalance. When there is internal balance, there is automatically external balance, and vice-versa; if  $Y = Z$ , then  $B = 0$ . When there is internal imbalance, there is external imbalance, and vice-versa. A situation of domestic expenditure greater than income is associated with a current account deficit.

Expression (2.2) gives a picture of the difference between the absorption model and the elasticity model; when there is an imbalance, the first of these models examines the first term of expression (2.2), while the second term is examined by the elasticity model. In the absorption

model expression (2.2) can be assigned the following causality: if a country spends more than it produces ( $Z > Y$ ) it is "living on credit"; a trade balance deficit is then created; it will thus be the internal imbalance that produces the external imbalance. The elasticity model examines the impact of a devaluation on the relative prices of exports and imports, with a view to solving the problem of a trade deficit.

## 2. The absorption model

This is the model for an open economy obtained by a simple extension of an (elementary) macro-economic Keynesian model for a closed economy. The central (and sole) mechanism used by this model is the incomes mechanism.

Let us consider the following simple Keynesian model for an open economy: i) The level of output is determined by the level of total expenditure. ii) Prices are exogenous to the country's economy. iii) The level of expenditure is a (direct) function of the level of income,  $Z = Z(Y)$ . iv) Exports depend (positively) on the level of foreign earnings  $Y^*$ ; thus,  $X = X(Y^*)$ . v) Imports depend (positively) on the country's level of income, i.e.,  $M = M(Y)$ .

As the level of output of the country's economy is determined by the total demand, the balance in the goods market will be given by:

$$Y = Z(Y) + X(Y^*) - M(Y) \quad (2.3)$$

$$Y - Z(Y) = B = X(Y^*) - M(Y) \quad (2.4)$$

In this expression (2.4) the first term represents the internal imbalance and the second term represents the external imbalance. The only mechanism available to the country's economy to establish internal or external balance is the variable  $Y$  (level of incomes in the country's economy). Let us consider the representation in graph form of expression (2.4), having first separated each term. This is what is shown in figures 1 and 2.

Figure 1 illustrates in detail how the internal imbalance  $Y - Z(Y)$  comes about. The horizontal axis always holds the variable  $Y$  which is the central mechanism of this model. Part a) has the first component of the internal imbalance, i.e., the same variable  $Y$ ; part b) has the second component of the internal imbalance — domestic

<sup>4</sup>GGP = GNP + interest payments =  $C + I + G + X - M$ . If  $Y = \text{GGP}$ , the payment of interest is included, and then  $X - M \equiv B$  will be the trade balance.

But when:  $\text{GNP} = C + I + G + X - M$  - payment of interest, if  $Y = \text{GDP}$ , then  $B = X - M$  - payment of interest will be the current account balance.

<sup>5</sup>Note that this concept of internal balance is different from the concept defined in the previous section. The two concepts coincide only when  $Y$  represents a level of output close to full employment.

Figure 1  
INTERNAL IMBALANCE:  $Y - Z(Y)$

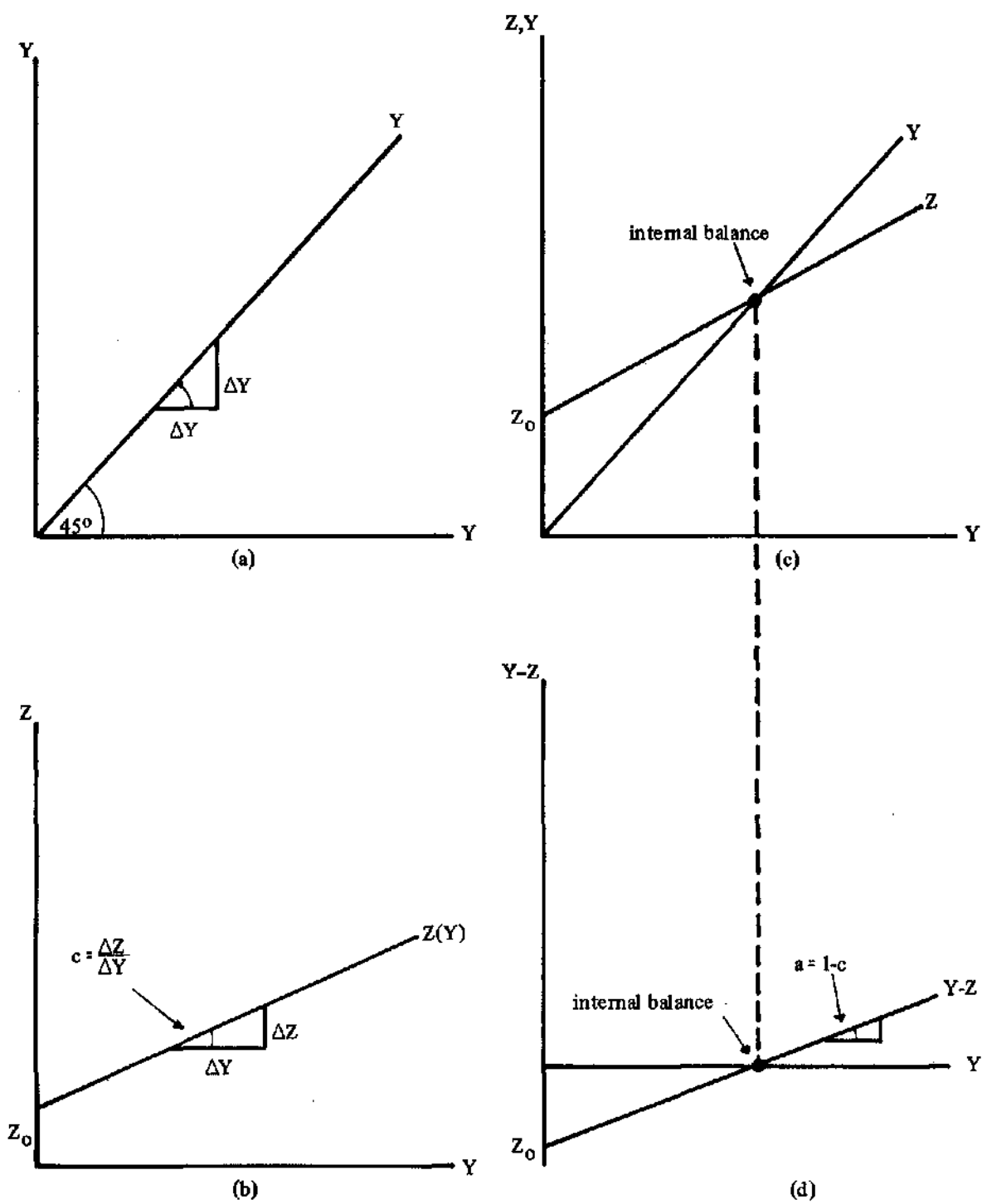
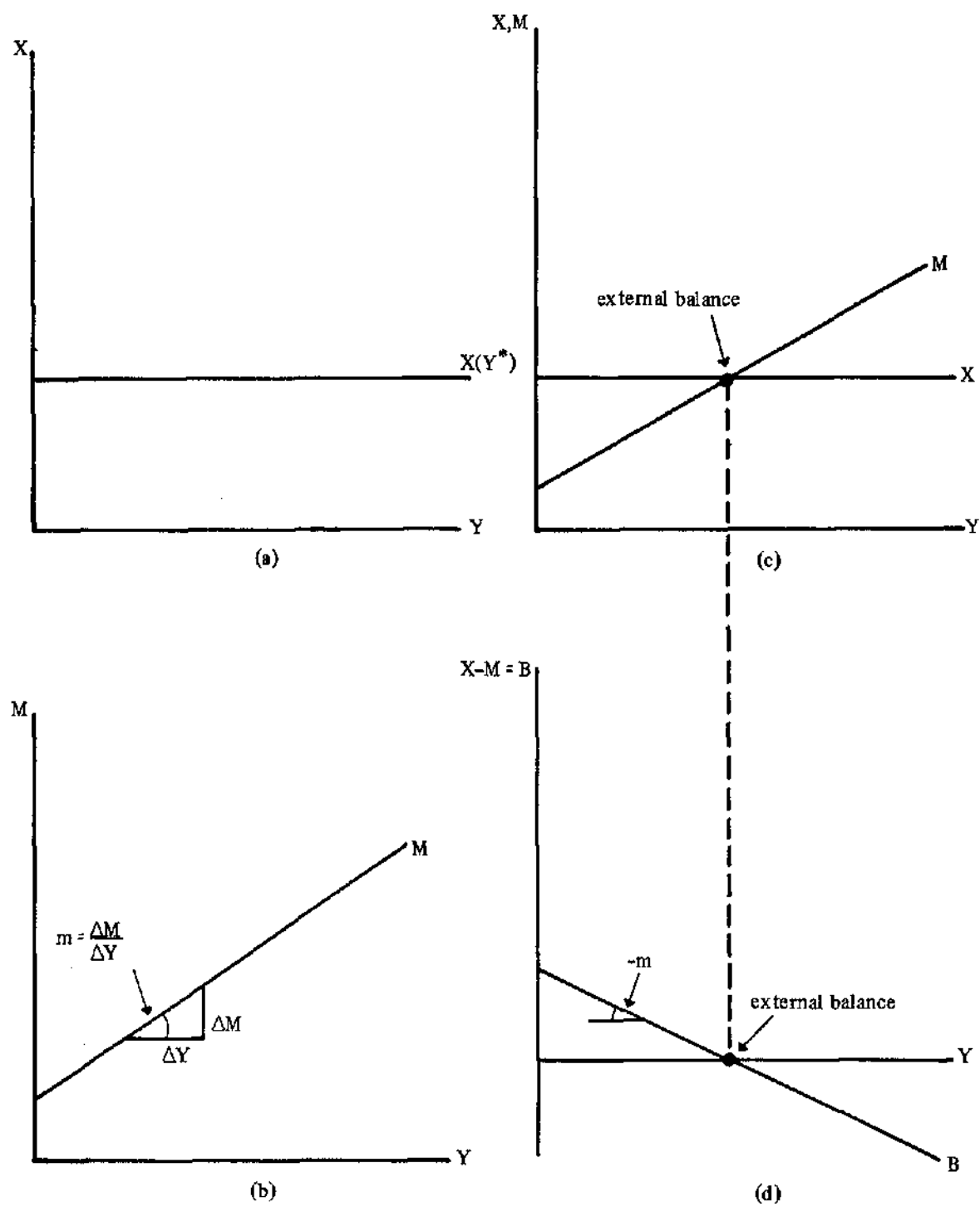


Figure 2  
EXTERNAL IMBALANCE:  $X(Y^*) - M(Y)$



expenditure  $Z(Y)$ ; this is a positive function of income and its slope is the marginal tendency to

consume,  $c = \frac{\Delta Z}{\Delta Y}$ ; part c) contains conjointly

the two earlier parts a) and b), and the point of intersection of  $Y$  and  $Z$ , at which  $Z = Y$ , corresponds to the internal balance. Lastly, part d) shows the ratio for the internal imbalance; this part d) is obtained from c) by simple (graphical) subtraction of  $Y$  and  $Z$ ; the  $Y - Z$  slope is the marginal tendency to save,  $a = 1 - c$ , which is positive.

In a way similar to that used in figure 1, figure 2 illustrates in detail how the external imbalance  $X(Y^*) - M(Y)$  is obtained. The variable  $Y$  is again in the horizontal axis. Part a) has the first component of the external imbalance  $X$ , which is independent of the country's income level  $Y$ ; part b) has the second component of the external imbalance, the level of imports  $M(Y)$ ; this is a positive function of income and its slope

is the marginal tendency to import,  $m = \frac{\Delta M}{\Delta Y}$ ; part

c) contains conjointly the two earlier parts a) and b), and the point of intersection of  $X$  and  $M$ , at which  $X = M$ , corresponds to the external imbalance. Lastly, part d) shows the ratio for the external balance; this part d) is obtained from c) by simple (graphical) subtraction of  $X$  and  $M$ ; the  $B$  slope is  $-m$ .

Figure 3 shows the ratios for the internal ( $Y - Z$ ) and external ( $B$ ) imbalance. The intersection of ( $Y - Z$ ) with ( $B$ ) (which corresponds to point  $Q$ ), gives the level of balance  $Y_1$  in the goods market of the country's economy. This level of balance  $Y_1$  in the goods market is achieved with a deficit  $Y_1Q$  in the trade balance; for this deficit  $Y_1Q$  it is necessary that  $Y - Z < 0$ , which means that  $Z > Y$ , i.e., that the level of domestic expenditure or absorption is greater than the income level.

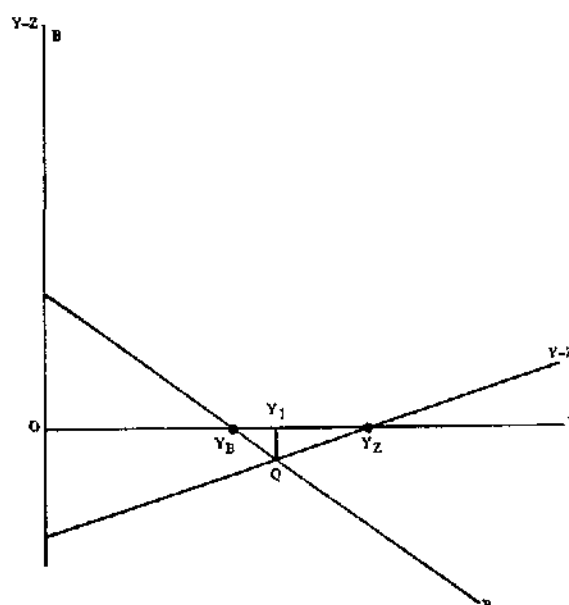
According to this absorption model, if the goal is to eliminate the external imbalance  $Y_1Q$ , it will be necessary to reduce the level of absorption  $Z$ ; in order to reduce this level of absorption, it will be necessary to reduce the income level  $Y$ . This would shift vertically upwards line  $Y - Z$  in figure 3. This process reduces (and eliminates)

the current account deficit by cutting back incomes, thereby reducing the level of imports.

Suppose that  $Y_Z$  in figure 3 is the level of economic activity under full employment; internal balance is obtained at output level  $Y_Z$ , for  $Y = Z$ . Thus, any attempt to eliminate the external imbalance and lift line  $Y - Z$  in figure 3 so that it cuts line  $B$  at output level  $Y_B$  would introduce a higher level of unemployment than originally existed in  $Y_1$ .

To sum up, this absorption model illustrates an inverse trade-off between the internal and external balances. In fact,  $Y_B$  represents the level of  $Y$  corresponding to the external balance and  $Y_Z$  corresponds to the internal balance; as can be seen from figure 3, the two points cannot be reached simultaneously. Any attempt to achieve external balance by reducing the level of economic activity exacerbates the internal imbalance, for the cutback in output increases the level of unemployment; in other words, increased unemployment is the cost which must be paid to eliminate the external imbalance. In short, according to the absorption model, external adjustment is achieved at the expense of internal

Figure 3  
INTERACTION BETWEEN INTERNAL AND  
EXTERNAL IMBALANCES



adjustment and vice-versa; any attempt to achieve the level of internal balance  $Y_2$  increases the level of trade deficit.

According to Tinbergen, when there are two objectives it is necessary to use at least an equal number of economic policy tools. In this case there are two objectives: internal balance and external balance. The two distinct economic policy tools would be fiscal and monetary policy. However, in the problem posed in figure 3 these two tools do not resolve the dilemma of internal and external balance, for they both have a similar effect on the level of domestic expenditure; in other words, in this absorption model there is no difference between the effects of fiscal policy and monetary policy.

With this absorption model it is possible to calculate the approximate effect of the cutback in domestic expenditure on the level of economic activity and the trade balance; these are the (Keynesian) multipliers of the open economy:<sup>6</sup>

$$\frac{dY}{dZ} = \frac{1}{a+m} \quad (2.5)$$

$$\frac{dB}{dZ} = -\frac{m}{a+m} \quad (2.6)$$

In these expressions  $a$  represents the marginal tendency to save and  $m$  the marginal tendency to import. Expression (2.5) is the Keynesian multiplier for the open economy, which is less than the multiplier for the closed economy ( $1/a$ ), for imports are filtrations of the country's economy and, therefore, expenditure on imports does not have any multiplier effects on the domestic production process. Let us suppose that an economic programme requires a 3% cutback in domestic expenditure; assuming that domestic expenditure represents 90% of the GGP, this would have the direct effect of a fall of 2.7% in the level of economic activity. Taking into account the Keynesian multiplier of expression (2.5) and using a value of 2.0,<sup>7</sup> the total decline in output would be 5.4%.

<sup>6</sup>For their analytical derivation see Dornbusch (1980a) or Williamson (1983a).

<sup>7</sup>It is assumed that the marginal tendency to save is 0.20 and the marginal tendency to import is 0.30. Thus,  $a+m = 0.5$  and the reciprocal value is 2.

The impact of the 3% cutback in domestic expenditure on the trade balance is obtained from expression (2.6); if it is assumed that the GDP fluctuates around US\$25 000 million, the reduction in gross domestic expenditure would be US\$675 million. Assuming that the coefficient  $m/a+m = 0.6$ , the improvement in the trade balance would amount to US\$405 million; if this improvement was achieved only at the expense of the cutback in imports, then for a volume of imports of US\$3 500 million there would be a drop of 11.5%.

It is also possible to perform this exercise in the opposite direction; if the non-financeable balance-of-payments deficit requires a reduction in the current level of imports of US\$500 million, this would mean (using the same values as in the previous paragraph) a cutback in domestic expenditure of US\$833.3 million, which would mean a fall of 6.7% in the GGP.

### 3. The elasticity model

The focus of attention of the absorption model is the relationship between the level of domestic consumption and the level of production; the elimination of an external imbalance requires adjustment of the amount of expenditure at the production level. In contrast, the elasticity model examines how a change in the composition of production can solve the problem of a trade balance deficit; in order to eliminate this deficit, exports will have to be increased or imports substituted, or both. This requires a change in relative prices, for which purpose exchange-rate or trade policy can be used (tariffs, exports subsidies, etc.); the elasticity model examines the role of exchange rate policy.

In other words, the elasticity model seeks to analyse the effect of a devaluation on the trade balance, i.e., the exchange rate is viewed as a policy tool for control of the external imbalance. Furthermore, it is assumed that the exchange rate policy is totally divorced from the macroeconomic domestic policy (i.e., that there is no connection between, for example, the exchange rate policy and the monetary policy).

In general terms the elasticity model focusses its attention exclusively on the external imbalance. It is assumed that the country's econ-

omy will have a surplus of demand for tradeable goods in relation to domestic output; this surplus demand is satisfied by means of a surplus of imports over exports, which generates the trade balance deficit. Accordingly, in order to resolve this problem a change is required in the relative prices of the tradeable and non-tradeable goods in the domestic economy. If the prices of tradeable goods are increased over those of non-tradeable goods in the economy, an expansion of the domestic production of tradeable goods is encouraged, i.e., the production of exports and import substitutes, and the trade balance deficit will thus be reduced.

In fact, a devaluation changes the ratio of internal prices to external prices and makes the national production of tradeable goods more competitive internationally; this is why it is possible to expand the production of exports and domestic goods which can compete with imports.

In order to simplify the discussion it will be assumed in this subsection that there are only two types of goods in the economy—exportable and importable—and that there is a degree of production specialization; in other words, only goods for export are produced in the country's economy. This will make it easier to understand the economic interpretation of the exchange rate as a relative price and to observe the relationship between the exchange rate and a country's terms of trade.

Let us suppose that a national economy produces only sugar and imports automobiles; the sugar is exported and its international price is  $P_X^*$  measured in dollars per ton; the import price of the automobiles is  $P_M^*$  in dollars per automobile. Let  $t_1$  be the terms of trade of the country in question and  $e$  the exchange rate expressed in pesos to the dollar. Thus, as  $t_1$  measures the ratio of the price of the imported goods to that of the exported goods, it is possible to obtain the ratio of  $t_1$  to  $e$ :

$$t_1 = \frac{P_M^*}{P_X^*} = \frac{\text{US\$/automobile}}{\text{US\$/ton sugar}} \quad (2.7)$$

Let  $P_X$  be the domestic price (in "pesos") of a ton of sugar; then,  $P_X = eP_X^*$ . If  $P_X^*$  is substituted (according to the previous expression) in ratio (2.7), the result is:

$$t_1 = \frac{eP_M^*}{P_X} = \frac{[\$/\text{US\$} \times \text{US\$/auto}]}{[\$/\text{ton sugar}]} = \left[ \frac{\text{ton sugar}}{\text{auto}} \right] \quad (2.8)$$

A country's terms of trade are a relative price indicating the number of tons of sugar (the exported item) which the country sells per unit of automobiles (the imported item). In expression (2.8) it can be seen that an increase in  $t_1$  would indicate a deterioration in the terms of trade, since the country has to trade a greater number of tons of sugar for the same unit of automobiles. This expression (2.8) also shows that, on the assumption that the prices  $P_M^*$  and  $P_X^*$  are constant, there is an exact correspondence between  $t_1$  and the exchange rate  $e$ ; this means that if  $e$  increases,  $t_1$  will increase in the same proportion.

A devaluation means an increase in  $e$ ; i.e., the number of pesos per dollar unit increases, and according to expression (2.8) this will cause a deterioration of the terms of trade; thus, the changes in the exchange rate are identical with the changes in relative prices and accordingly with alterations in the terms of trade.

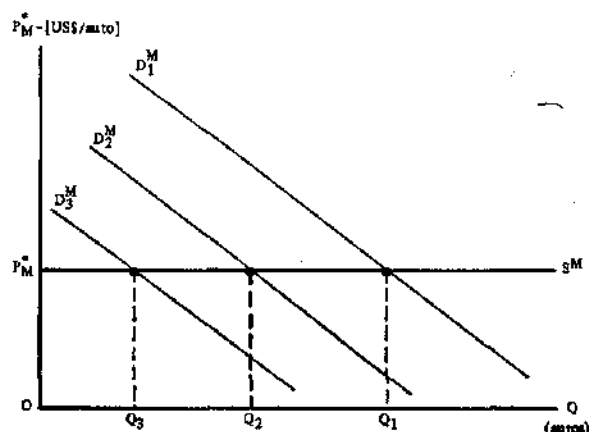
In other words, expression (2.8) illustrates in summary form how in this simple model the exchange rate constitutes the main instrument for changing a country's relative prices with a view to reducing an external imbalance; it also shows the cost of such an adjustment for the country.

We will now consider which, according to this model, are the factors influencing the exchange rate. We will use for this purpose a microeconomic analysis of partial balance, in which  $e$  is the price available in the foreign exchange market, i.e.,  $e$  represents the price resulting from the interaction of the supply and demand of foreign exchange. Within the foreign exchange demand curve is the market in imported goods, the imports supply and demand; also within the foreign exchange supply curve are the exports supply and demand. Let us consider this interaction briefly.

Suppose that the economy has an exchange rate  $e_1$ . In the imports market,  $P_M^*$  is the exogenous price of the imported item, which in this case is automobiles; then, the supply of automobiles is totally elastic to the price  $P_M^*$ . Now, let  $D_1^M$  be

Figure 4

## IMPORTS MARKET (AUTOMOBILES)



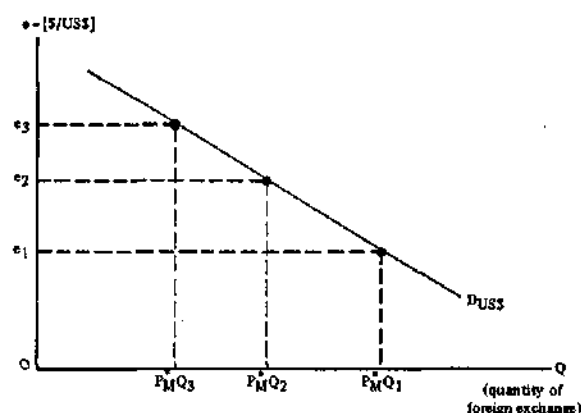
the demand for automobiles corresponding to this exchange rate  $e_1$ . The interaction between the supply and demand determines the number of automobiles  $Q_1$  which will be imported. This can be seen in figure 4. The amount of foreign exchange needed for the import of this quantity  $Q_1$  of automobiles will be  $P_M^* Q_1$ .

Suppose that there is a devaluation and the exchange rate reaches the value  $e_2$ . As the supply of automobiles is exogenous to the country, the curve  $S^M$  remains totally elastic to the price  $P_M^*$  (the country buys the automobiles in dollars and its international price is not affected by a devaluation in the national economy). But for the country's consumers a devaluation means that they will have to pay a large number of "pesos" for each dollar; the result is that there is a contraction in the demand for automobiles which shifts this demand towards the left,  $D_2^M$ , as a result of the devaluation from  $e_1$  to  $e_2$ . Now, the number of imported automobiles falls to  $Q_2$  and the amount of foreign exchange required for this level of imports of automobiles will be  $P_M^* Q_2$ . Something similar happens with a new devaluation from  $e_2$  to  $e_3$ , in which the number of imported automobiles falls to  $Q_3$  and the foreign exchange requirement to  $P_M^* Q_3$  (figure 4).

Figure 5 shows the foreign exchange demand curve corresponding to this automobile import market. Figure 4 shows that the number of automobiles imported declines in step with devaluation, i.e., as the exchange rate increases.

Figure 5

## FOREIGN EXCHANGE DEMAND CURVE



Since the dollar price of the automobiles is constant, the foreign exchange requirement will decline; the foreign exchange demand slope is then negative. In this case the demand for automobiles determines the demand for foreign exchange, but in more general terms the elasticity of the demand for imports determines the elasticity of the demand for foreign exchange.

Something similar could happen in the case of the interrelationship between the export market and the supply of foreign exchange. The general conclusion is that the elasticity in the supply and demand of foreign exchange depend on the supply and demand price elasticity of exports and imports.

The central purpose of the elasticity model is to examine the impact of a devaluation on the trade balance. Let  $\eta_X$  and  $\eta_M$  be the demand price elasticity of exports and imports;<sup>8</sup> let  $\xi_X$  and  $\xi_Y$  be the supply price elasticities of exports and imports. Then, the effect of a devaluation on the trade balance  $B$  will be given by the following general expression:<sup>9</sup>

$$\frac{dB}{de} = \frac{\xi_X (\eta_X - 1)}{\xi_X + \eta_X} + \frac{\eta_M (1 + \xi_M)}{\xi_M + \eta_M} \quad (2.9)$$

<sup>8</sup>These elasticities  $\eta_X$  and  $\eta_M$  are defined positively, i.e., they have an implicit negative value.

<sup>9</sup>For its analytical derivation see Williamson (1983a); it is implicitly assumed that there is initial equilibrium in the trade balance.

The theoretical analysis has focussed on examining the conditions required for expression (2.9) to be positive; i.e., the conditions required for a devaluation to improve the trade balance. This expression (2.9) becomes fairly simple when some specific cases are considered; for this purpose we will consider only those cases which are of interest for the Latin American countries. There are two specific cases (Branson, 1983; Williamson, 1983a): 1) the small open economy and 2) the semi-small open economy. Each of these cases will be considered separately.

For a small open economy the prices of its exports and imports,  $P_X^*$  and  $P_M^*$ , are exogenous; i.e., the economy cannot influence the prices of its exports and imports. From the technical standpoint this means that the small open economy has a totally elastic demand for exports,  $\eta_X = \infty$ , and a totally elastic supply of imports,  $\xi_M = \infty$ . Substituting these values of  $\eta_X$  and  $\xi_M$  in expression (2.9), it is concluded that the necessary condition for a devaluation to improve the trade balance is that  $\xi_X + \eta_M > 0$ .<sup>10</sup> As these elasticities are defined positively, in the case of a small open economy a devaluation necessarily improves the position of the trade balance (expressed in dollars).

In the case of a semi-small open economy, it is assumed that the country in question has a certain monopoly power to set the prices of its export product; this would be the case for the export of manufactured goods. In contrast, it has a totally elastic supply of imports,  $\xi_M = \infty$ . If it is further assumed that there are idle resources in the country's economy, then the supply of exports will be of the Keynesian type, i.e., totally elastic,  $\xi_X = \infty$ . By substituting these values of  $\xi_X$  and  $\xi_M$  in expression (2.9) the Marshall-Lerner condition is achieved:<sup>11</sup>  $\eta_X + \eta_M > 1$ . This Marshall-Lerner condition means that for a devaluation to improve the trade balance (measured in dollars) the sum of the demand price elasticity of imports and exports must be greater than 1; in other words, if the demands for exports and imports are inelastic, a devaluation could exacerbate the existing trade balance deficit.

At one time in Latin America there were economists who took a pessimistic view of imports and exports elasticity. In the case of exports it was said that, since the Latin American countries basically exported commodities, the demand for these exports was a derived demand and therefore fairly inelastic with respect to price; thus, a devaluation would not generate greater demand for the product exported by Latin America. It was further argued that the demand for imports consisted mainly of essential foodstuffs and non-competitive inputs for which it was difficult to find substitutes in the production process; this meant that the demand was inelastic with respect to price. This argument rejected the effectiveness of devaluation, on the ground that it could not improve the trade balance deficit. However, the empirical evidence shows that the sum of the demand elasticity of exports and imports is greater than 1; plausible values for  $\eta_M$  oscillate around 0.5 and for  $\eta_X$  around 1.0. Furthermore, it has been demonstrated empirically that a (real) devaluation improves the trade balance in the long term.<sup>12</sup>

To sum up, the elasticity model indicates that the effect of a (real) devaluation on the trade balance depends decisively on the elasticity of exports and imports.

#### 4. Tradeable and non-tradeable goods

The traditional elasticity model uses the dichotomy between exportable and importable goods, and the exchange rate becomes the mechanism for altering their price ratios; in this case there is a correspondence between variations in the exchange rate and variations in the terms of trade. However, a country may experience a deterioration in its  $t_1$  despite maintaining a fixed exchange rate. This points to the importance of distinguishing between the two concepts  $t_1$  and  $e$ .

An alternative dichotomy is that between tradeable and non-tradeable goods. Tradeable goods are those which cross frontiers. If the prices of exports and imports are exogenous to

<sup>10</sup>To obtain this condition the l'Hopital Rule must be applied to expression (2.9) in which  $\eta_X = \eta_M = \infty$ .

<sup>11</sup>To obtain this condition the l'Hopital Rule must be applied to expression (2.9) in which  $\xi_M = \xi_X = \infty$ .

<sup>12</sup>In this discussion of empirical values and the effect of a devaluation it is important to distinguish between the short and long terms; the demand curves are more inelastic in the short term and more elastic in the long term.



the country's economy and moreover constant, it is possible to aggregate these goods and obtain a composite good called a tradeable good. In this case  $t_1$  becomes exogenous and independent of the exchange rate. Non-tradeable goods are those which are sold and distributed only in the country's economy; this is because the transport costs are relatively very high in relation to the price of the product.<sup>13</sup>

In an economy with tradeable and non-tradeable goods a devaluation causes an increase in the domestic "peso" value of exports and imports (or of imports substitutes); thus, a devaluation produces increases in the prices of the tradeable goods,  $P_T$ . If it is assumed that the non-tradeable goods do not use imported inputs and that (nominal) wages remain constant, then it might be supposed that the price of the non-tradeable goods,  $P_N$ , would remain constant. Accordingly, a devaluation would increase the relative price of tradeable/non-tradeable goods,  $P_T/P_N$ . In short, the exchange rate would become the relative price  $P_T/P_N$ .

In other words, in the exports/imports dichotomy the exchange rate is associated with the country's  $t_1$ . In the tradeable/non-tradeable dichotomy the exchange rate is associated with the domestic terms of trade of the national economy.

In the model of exportable/importable goods, the devaluation operates basically through the mechanism of substituting the country's goods with foreign goods. In the model of tradeable/non-tradeable goods, the devaluation operates through three different mechanisms (Bruce and Purvis, 1985): 1) the substitution of tradeable and non-tradeable goods in the demand; 2) the substitution of tradeable and non-tradeable goods in production; and 3) the degree of "openness" of the economy (i.e., the relative ratio of the production of tradeable and non-tradeable goods is a component which measures the flexibility of a country's economy in adapting to changes in relative prices).

A balance-of-payments deficit occurs when there is excess demand for tradeable goods in the

economy. Then, a devaluation will increase the relative price  $P_T/P_N$  (tradeable/non-tradeable goods). An increase in the relative price of tradeable goods  $P_T$  will stimulate the domestic production of these goods (exportable goods and imports substitutes) and will discourage their consumption; this will cut back the excess demand for tradeable goods and thus reduce the balance-of-payments deficit. On the other hand, a reduction in the relative price of non-tradeable goods  $P_N$  will discourage the production of these goods and free resources for the tradeable sector. In short, the devaluation is a crucial mechanism for changing relative domestic prices and directing output towards production of tradeable goods; this is essential for the reduction and eventual elimination of the external deficit.

An important factor is the speed at which the output of the tradeable sector responds to changes in relative prices. There are various kinds of rigidity which can influence this. Firstly, there is the possibility of mobilizing productive resources towards the tradeable sector. Secondly, it must be remembered that a devaluation has an inflationary effect; this means that a distinction must be made between a real devaluation and a nominal devaluation. A nominal devaluation of 15%, accompanied by domestic inflation of 10%, means a real devaluation of 5%. Taking the previous example, if an economy has 100% indexing of all goods, there is an institutional rigidity in the system which prevents changes in relative prices; i.e., whatever the nominal devaluation, the real devaluation will be zero.

In general terms the inflationary effect of a devaluation impairs the effectiveness of the exchange rate as a mechanism for changing relative prices; when there is universal 100% indexing, it is practically impossible to alter these prices.

In the model of exportable/importable goods a devaluation is an instrument which can change the country's relative prices and thus "export" its unemployment. This would seem to mean that a devaluation increases the country's real production. However, the other side of the coin is that this domestic production increase generates higher incomes, measured in terms of the item produced in the country, but this does not mean at all that it has generated an improve-

<sup>13</sup>Another reason for the existence of non-tradeable goods is a prohibition on the free entry or exit of this type of goods; very high tariffs can make an item non-tradeable.

ment in the position of the devaluing country. What is more, a devaluation can be "impoverishing" if it causes a large deterioration in the country's  $t_1$  (Kenen, 1985a).

Improvement of the trade balance by means of a devaluation therefore has real costs for the devaluing country. A devaluation means a loss of *real* purchasing power by the country's population; it is necessary to export a larger number of tons of sugar for the same number of imported automobiles. In other words, in the model of exportable/importable goods the use of a devaluation to solve the problem of external imbalance entails a real domestic cost in terms of loss of purchasing power.

In the model of tradeable/non-tradeable goods a devaluation would seem not to produce a change in the  $t_1$ , as in the model of exportable/importable goods, and accordingly it would supposedly not have a real cost. However, this assertion requires deeper analysis.

Let us suppose that there is unemployment in a country's economy and that capital is a fixed factor which cannot be reallocated among the productive sectors. A devaluation increases the relative price  $P_T/P_N$ . From the standpoint of production, there is thus an increase in profits in the tradeable sector and a fall in profits in the non-tradeable sector. Thus, a devaluation produces a redistribution of income in sectoral terms. As there is unemployment (and assuming that wages are not indexed), nominal wages remain constant in both the tradeable and the non-tradeable sector. As the devaluation generates pressure for an increase in the price of the tradeable goods, there is an increase in the real profits of the tradeable sector but a general fall in real wages. From the standpoint of demand too there is a redistributive effect: those persons whose consumption includes a greater proportion of tradeable goods are more adversely affected. In short, in this case as well as the devaluation necessarily generates, at least in the short term, a decline in the purchasing power of real wages.

Lastly, if the country has a large external debt, a devaluation means an increase in the amount of domestic resources which have to be used to service the debt, and this implies a cut-back in the country's consumption (or investment).

### 5. Summary of the current account approaches

The absorption model suggests the use of the incomes mechanism to cut back the level of domestic expenditure, thus reducing the external imbalance; the elasticity model uses the exchange rate as a mechanism for changing relative prices with a view to increasing the country's international competitiveness and thus correcting the trade imbalance.

In order to reduce the external imbalance, both models emphasize different elements of the cost of internal adjustment. On the one hand, the absorption model indicates that there is a conflict between internal and external balance and that a reduction in the external imbalance causes increased unemployment. On the other hand, the elasticity model states implicitly that a fall in the country's real wages is necessary if it is to increase its international competitiveness.

In fact, the two models are complementary.<sup>14</sup> Conceptually, this complementarity may be viewed from different angles, using the accounting framework of the national accounts. As was stated above, the relationship between internal and external imbalance can be seen in expression (2.2):  $Y - Z = X - M$ . In an earlier section it was argued that while the absorption model concentrates on how to reduce the inequality between domestic expenditure  $Z$  and income level  $Y$ , the elasticity model concentrates on the reduction of the imbalance between exports  $X$  and imports  $M$ .

However, a more usual interpretation seems to focus on the first term of expression (2.2). In this case the absorption model states the need to reduce the level of domestic expenditure, while the elasticity model suggests changing the composition of domestic expenditure (and of production).<sup>15</sup> However, it is also possible to

<sup>14</sup>For almost two decades (the 1940s and 1950s) it was thought that these two models were antagonistic, and there was a very sharp dispute between the advocates of each model. The elasticity model was criticized for not explaining the mechanism by means of which the discrepancy between expenditure and income is eliminated. The absorption model was criticized because it did not show how a country with trade-balance problems could improve its international competitiveness.

<sup>15</sup>This is what is called "expenditure-reducing" and "expenditure-switching" in the specialized publications (Johnson, 1961).

observe this complementarity by considering the second term in expression (2.2). In this case the incomes mechanism of the absorption model helps to reduce the level of imports; for its part, the change in relative prices suggested by the elasticity model (by means of devaluation) encourages an increase in exports and the goods which substitute for them.

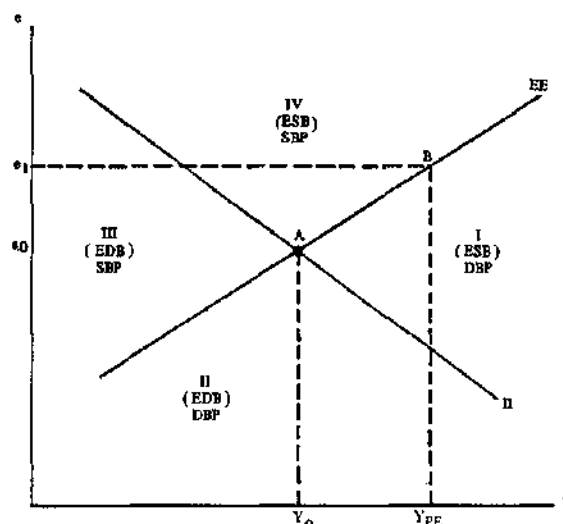
Accordingly, the synthesis of the current account approaches, the "absorption-elasticity" model or Keynesian synthesis of the open economy, states the following: if two goals are to be attained—external and internal balance—two different instruments must be used; one of them (which acts on the incomes mechanism) will have to be used to reduce the level of domestic expenditure and the other (which acts on the relative prices mechanism) will be used to change the composition of production and domestic expenditure. Thus, the two policies (reduction of domestic expenditure and modification of relative prices) complement each other in eliminating the external imbalance, and each of them neutralizes the negative effect of the other. The increased unemployment generated by the cutback in domestic expenditure is neutralized by the expanded production of tradeable goods, which is stimulated by the increased international competitiveness resulting from the devaluation.

In this Keynesian synthesis of the open economy, when there is an external imbalance which must be reduced, a conflict arises between unemployment and (real) wages. In fact, the increased unemployment generated by the cutback in domestic expenditure can be offset by the increased international competitiveness obtainable by means of a fall in real wages.<sup>16</sup>

The Swan-Meade graph illustrates the synthesis of the "absorption-elasticity" model (figure 6). In this model the incomes mechanism  $Y$  is in the horizontal axis and the relative prices mechanism, represented by the exchange rate  $e$ , is in the vertical axis.

Curve II represents the internal balance, or geometric location of the points of equilibrium of the domestic goods market; in this Keynesian

Figure 6  
SWAN-MEADE FIGURE OF INTERNAL  
AND EXTERNAL BALANCE



model of the open economy the production level is determined by the expenditure level. Suppose that initially there is a combination of  $Y$  and  $e$  which supplies one of the points of equilibrium on curve II. Suppose further that a devaluation takes place; this causes a fall in real wages and as a result an excess supply of goods; this in turn causes a cutback in production level  $Y$  in order to reestablish the balance of the domestic goods market. Accordingly, curve II has a negative slope.

Curve EE represents the external balance, or geometric location of the points of external equilibrium. Suppose that initially there is a combination of  $Y$  and  $e$  which supplies one of the points of equilibrium on curve EE. Suppose further that there is an exogenous increase in the level of expenditure which leads to an increase in the production level  $Y$  which in turn generates a balance-of-payments deficit; a devaluation is necessary in order to reestablish the external balance.<sup>17</sup> As a result, curve EE has a positive slope.

Figure 6 gives the internal balance II (the points of equilibrium of the domestic goods market) and the external balance EE (the points

<sup>16</sup>The possible relationships between devaluation, variation of real wages and unemployment require more extensive and detailed analysis than is possible in this article.

<sup>17</sup>It is apparent that this assumes implicitly that a devaluation improves the balance of payments.

of equilibrium of the balance of payments) in the plane of incomes  $Y$  and exchange rate  $e$ . The points located above and to the right of the domestic balance of goods  $II$  are points at which there is a surplus supply of goods (ESB), and at the points located below  $II$  there is an excess demand for goods (EDB). The points located above and to the left of the external equilibrium of the balance of payments  $EE$  are points at which there is a balance-of-payments surplus (SBP) and at the points which lie below there is a balance-of-payments deficit (DBP). This gives four areas with different characteristics in which the internal balance  $II$  and the external balance  $EE$  divide the positive quadrant of the plane ( $Y, e$ ).

It must be pointed out that the points of internal balance  $II$  coexist with unemployment in the labour market. If it is assumed that employment depends only on the production level, then the situation of full employment (PE) could be represented in figure 6 by the product level  $Y_{PE}$  which could be to the right of the level of  $Y_0$  corresponding to the intersections of curves  $II$  and  $EE$ .

Suppose that the economy is at point A, the intersection between internal and external balance; suppose further that the economy encounters severe external restriction. At A production level  $Y_0$  implies that there is unemployment. Suppose that the aim is to eliminate this unemployment and lift the economy to the production level of full employment  $Y_{PE}$ . As there is severe external restriction, this means that the economy has to move all the way along curve  $EE$ , for there will thus be no variation in the level of reserves of the Central Bank. Thus, in order to achieve full employment the economy must move from A to B, and this requires a devaluation of the exchange rate from  $e_0$  to  $e_1$ . This illustrates the conflict described above between the levels of unemployment and real wages for an economy subject to external restriction.

### 6. The two-gap model<sup>18</sup>

External restriction or a serious shortage of foreign exchange and their impact on the economic

growth rate are the focus of attention of the two-gap model. This model was devised in the 1950s by H. Chenery as illustrative of the situation affecting the Latin American economies.

The two-gap model holds that there are two elements which determine the rate of economic growth of a Latin American economy (or of any developing country): a) The machinery used for investment is almost all imported; furthermore, the production process also requires imported inputs which are very difficult to substitute in the country. A foreign exchange bottleneck therefore impedes growth; this is the external gap. b) The level of investment is determined and restricted by the level of savings. Thus, a shortage of domestic savings limits the expansion of investment and restricts growth; this is the internal gap.

Basically, the model states that the flow of external credit automatically helps to reduce both gaps; the greater availability of foreign exchange finances imports of machinery and at the same time the increased external savings supplements the level of domestic savings and thus facilitates the expansion of investment.

Suppose that a Latin American economy imports all the machinery used in its production process; suppose further that there is full use of installed capacity in this economy but unemployment in the labour force. Let  $\Delta Y$  be the increase in the production level,  $\Delta K$  the increase in machinery, and  $k$  the technical coefficient of the marginal capital-product increase. Then, any expansion of output will require an additional increase of capital which will be:  $\Delta K = k\Delta Y$ .

Let  $A$  be the level of (total) savings needed to finance the expansion of output. Then,  $A = k\Delta Y$ . This (total) savings  $A$  has two components: internal savings,  $A_I$ , and external savings,  $A_E$ . Then  $A = A_I + A_E$ .

In order to simplify the analysis it will be assumed that internal savings  $A_I$  is a fixed proportion ( $\bar{a}$ ) of the total income of the economy  $Y_n$ ; let  $\bar{m}$  be the content of imported inputs in product level  $Y$ . Then,

$$Y_n = (1-\bar{m}) Y, \text{ y, } A_I = \bar{a} Y_n = \bar{a} (1-\bar{m}) Y.$$

It will also be assumed that external savings  $A_E$  is a constant proportion  $\lambda$  of product level  $Y$ ; i.e., the flow of external credit is a constant fraction of the GGP. Thus,  $A_E = \lambda Y$ .

<sup>18</sup>For a more extensive and detailed treatment of this topic see Bacha (1982).

The expansion of the product  $\Delta Y$  is limited by the amount of total savings. Thus:

$$\begin{aligned}\Delta Y &\leq \frac{A}{k} = \frac{A_I + A_E}{k} \\ &\leq \frac{1}{k} [\bar{a} (1 - \bar{m}) Y + \lambda Y]\end{aligned}$$

Let  $g$  be the rate of economic growth; i.e.,  $g = \Delta Y/Y$ . Then, the rate of economic growth will be restricted by the internal savings gap:

$$g \leq \frac{1}{k} [\bar{a} (1 - \bar{m}) + \lambda] \quad (2.10)$$

This expression (2.10) shows that if the coefficient of internal savings  $\bar{a}$  increases or if the external saving coefficient  $\lambda$  increases, it is then possible to increase the growth rate  $g$ . The external savings equation will be:  $A_E = M_K + M_I - X$ . If it is assumed that exports are a constant proportion of the GGP level  $\bar{x}$ , where  $\bar{x} = X/Y$ , then we have:

$$\begin{aligned}A_E + X &= M_K + M_I = \Delta K + \bar{m}Y \\ \lambda Y + \bar{x}Y &= k\Delta Y + \bar{m}Y\end{aligned}$$

The fact that the growth rate is  $g = \Delta Y/Y$  means that  $g$  will be restricted by the external foreign exchange gap:

$$g \leq \frac{1}{k} [(\bar{x} - \bar{m}) + \lambda] \quad (2.11)$$

This expression (2.11) shows that the differential between the exports and imports coefficients does increase, i.e., the greater the trade balance surplus, the greater the possibility of economic growth; something similar happens for higher  $\lambda$  coefficients, for this implies an increase in the flow of external credit. Expression (2.11) also shows how negative  $\lambda$  coefficients, i.e., negative external savings or transfer of resources abroad, automatically reduce the growth level  $g$ . When the external gap is dominant, an increased supply of foreign exchange is very important for the country, for it eases the external restrictions; in this case the profitability of an extra unit is relatively very high, for it makes it possible to increase imports of machinery, which is the factor limiting growth, and at the same time to finance the expansion of investment.

### III

#### The monetarist approach of the balance of payments<sup>19</sup>

The analysis carried out by means of this approach is very different from the previous ones. The monetarist approach of the balance of payments (MABP) holds that to analyse a problem of external imbalance it is necessary to know what is happening in the balance of payments as a whole and not only in the trade balance or the current account balance (as in the previous approaches): it is necessary to view the whole and not just one part. In fact, in the MABP the capital account implicitly plays a central role as a mechanism for resolving external imbalances. Throughout the analysis the exchange rate is assumed to be fixed.

Furthermore, the MABP states that a balance-of-payments problem is a monetary phenomenon and not a real phenomenon of relative prices. Accordingly, what is required is the kind of analysis and instruments provided by monetary theory; to analyse an external imbalance problem it is necessary to study the variations in the money supply. The money supply can be altered in two different ways: i) by the loosening and tightening of domestic credit; ii) by variations in the movement of international reserves. The kind of monetary policy applied in this respect is crucial for the analysis of the balance of payments.

In other words, in the MABP a central role is played by the effects of the money supply in conjunction with the financing of the external imbalance. Accordingly, we will first examine by

<sup>19</sup>Bibliography for this section: Johnson (1976a, b), Hahn (1977), Dornbusch (1980a), Williamson (1983a), Niehaus (1984), Frenkel and Mussa (1985).

means of a simple accounting framework the interrelationship between the external and the monetary accounts; then we will consider the analytical framework and implications of the MABP.

### 1. A simple monetary accounting framework

Let  $H$  be the money base or high-powered money;  $R$  the level of international reserves;  $C_1$  the amount of credit furnished by the Central Bank to the public sector; and  $e$  the exchange rate. Then, the balance sheet  $T$  of the Central Bank will be:

<i>Central Bank</i>	
<i>Assets</i>	<i>Liabilities</i>
International reserves: $R$	High-powered money: $H$
Loans to public sector: $C_1$	

The formula (in "pesos") for the Central Bank's balance sheet will be:

$$H \equiv eR + C_1 \quad (3.1)$$

This simple accounts formula illustrates the following:

i) If the Central Bank intervenes in the exchange market by selling or buying foreign exchange (for example, dollars), a change occurs in the bank's international reserves and therefore a change in the money base  $H$ . When the Central Bank buys dollars it pays with pesos; the purchase of dollars increases the Central Bank's international reserves  $R$ , and the payment in pesos increases high-powered money  $H$ .

ii) When there is a surplus in the trade balance of the balance of payments which is not (exactly) offset by an outflow of money from the capital account, there is a net increase in reserves  $R$ . This increase in  $R$  means that the Central Bank has made a peso payment to exporters, thus increasing the bank's liabilities. Accordingly, a trade balance surplus produces an increase in the money base.

Countries with a balance-of-payments deficit, unless they apply neutralization policies, usually experience a contraction of their money

base  $H$ ; countries with a balance-of-payments surplus experience an expansion of  $H$ .

Let  $M_1$  be the total amount of deposits (on current account) of the commercial banks, and  $C_2$  the amount of loans granted by the commercial banks to the public and private sectors. Then, the accounts formula of the commercial banks will be:

<i>Commercial banks</i>	
<i>Assets</i>	<i>Liabilities</i>
High-powered money: $H$	Deposits: $M_1$
Loans to public and private sectors: $C_2$	

Two simplifying assumptions have been made in this formula: i) all the high-powered money is held by the commercial banks; ii) the money supply  $M_1$  is exactly equal to the total of deposits, i.e., notes and coins have been omitted in order to simplify the analysis.

It is assumed that there is a simple relationship between the money supply  $M_1$  and the money base  $H$ :  $M_1 = \alpha H$ , where  $\alpha$  is the monetary multiplier ( $\alpha \geq 1$ ).

The accounts formula of the commercial banks will then be:

$$H + C_2 \equiv M_1 \quad (3.2)$$

Then, when there is an increase in reserves  $R$  which is not neutralized, there will be an increase of  $\Delta H$  in the money base. This increase of  $\Delta H$  in high-powered money produces an increase of  $\Delta M_1$  in the money supply; as the monetary multiplier is greater than 1,  $\Delta M_1 > \Delta H$ . In order to reestablish the accounts formula (3.2), an increase is required in the loans granted by the commercial banks. In fact, the increase in this lending will be:  $\Delta C_2 = (\alpha - 1) \Delta H$ .

If the total domestic credit  $C_t = C_1 + C_2$ , corresponding to the total loans provided by the Central Bank and the commercial banks to the public and private sectors, then the accounting balance for the entire consolidated banking system (Central Bank and commercial banks) will be:

*Consolidated banking system*

<i>Assets</i>	<i>Liabilities</i>
International reserves: R	Deposits: $M_1$
Domestic credit: $C_r$	

The accounts formula (in pesos) for the consolidated banking system will be:

$$eR + C_r \equiv M_1 \quad (3.3)$$

By introducing the money base into expression (3.3) by means of the equation  $M_1 = \alpha H$ , by using incremental variations  $\Delta$  of R,  $C_r$  and H, and by keeping the exchange rate fixed, expression (3.3) becomes:

$$e\Delta R + \Delta C_r \equiv \alpha \Delta H \quad (3.4)$$

In order to simplify the analysis for a moment, let us assume that  $\Delta C_r = 0$ ; then, any increase in the international reserves R will *expand* the money base H (see expression 3.4). On this point the IMF holds that the accumulation of international reserves, unless there is a neutralization policy, will increase the money supply and therefore speed up inflation.

If we now assume, in order to simplify the analysis for a moment, that  $\Delta H = 0$ , then expression (3.4) shows that any increase in the international reserves R will *cut back* domestic credit; on the other hand, any expansion of domestic credit will reduce the international reserves. This relationship between international reserves and domestic credit is the central relationship of the monetarist approach of the balance of payments.

The monetary effects of variations in international reserves on the money base can be offset by means of neutralization policies. An economy with a balance-of-payments deficit, or which has to transfer foreign exchange abroad, can offset the contraction of the money base by means of two different mechanisms: i) domestic transactions in financial assets, i.e., the purchase by the Central Bank of bonds and other instruments of the public or private sector, thereby increasing the money supply at its initial level; ii) reduction of imports.

## 2. The analytical model of the monetarist approach of the balance of payments

As stated earlier, according to the MABP a problem of external imbalance is fundamentally a monetary phenomenon and *not* a real phenomenon (it is not a problem of relative prices). Thus, the appropriate type of analysis is the monetary analysis; in other words, in order to study a problem of external imbalance, it is necessary to analyse changes in the money supply. As can be seen from expression (3.4), this money supply can be altered by variations in international reserves or in the level of domestic credit. Accordingly, the economic policy decision is crucial for the analysis of the balance of payments.

The balance of payments of a given country is the difference between earnings and payments in foreign currency received and made by the country's economic agents. A deficit in this balance means that the payments which have to be made in foreign currency are greater than the earnings. Then, the crucial question is, how to finance the deficit?

Suppose that it is importers who require foreign exchange to make payments in foreign currency. These importers will obtain this foreign exchange from the Central Bank. This process has two distinct effects: i) a reduction of the Central Bank's international reserves, the amount of which is finite; ii) a decline in the money supply, which will produce a cut back in aggregate demand and therefore a drop in the level of economic activity.

Thus, if the level of economic activity falls, there is also a reduction in the level of domestic expenditure by economic agents, to below their incomes; this eventually generates a surplus which helps to eliminate the balance-of-payments problem. Therefore, a simple and automatic mechanism is available to solve a problem of external imbalance.

However, if this imbalance persists, it means that the mechanism described above is not working. Therefore, according to the MABP there will have to be a separate and special mechanism for financing and carrying the persistent balance-of-payments deficit; the existence and operation of

this special mechanism is the main cause of the persistent external imbalance.

According to the MABP, the special mechanism which finances and maintains the balance-of-payments deficit is the neutralization policy of the Central Bank. Since the shortage of foreign exchange reduces the amount of money in the economy, thus generating an economic cut back, the Central Bank tries to neutralize the monetary impact of the fall in international reserves to prevent any reduction in the level of economic activity. To this end it uses internal transactions in financial assets to increase the level of domestic credit and thus to prevent the fall in the level of economic activity.

Then, according to the MABP, when the Central Bank uses a neutralization policy to absorb the monetary impact of the fall in international reserves, it is financing and maintaining the balance-of-payments deficit and preventing its reduction. Therefore, the expansion of domestic credit is the special mechanism which generates the persistent external imbalance. The balance-of-payments deficit can be eliminated only if there is a change of monetary policy to prevent the neutralization of the monetary impact of a decline in the level of international reserves.

A simple analytical model will now be used to illustrate the main assumptions and effects of the MABP.

It is assumed that the economy has a single composite product which is internationally tradeable. This implies the assumption that the system of relative prices of the various goods remains constant. It is further assumed that the single price law rules in this economy; i.e., that the country's economy is totally integrated in the world economy and that there is perfect arbitrage of the prices of the goods. Let  $P$  be the domestic price of the (tradeable) composite product expressed in pesos and  $P^*$  the international price expressed in dollars. Thus, the single price law is expressed as:

$$P = eP^* \quad (3.5)$$

Let us now assume that the economy is operating at a level of output of full employment, i.e., that  $Y = \bar{Y}$ . The implicit assumption in this case is that there is complete flexibility in the prices and wages mechanism.

The demand for real money,  $\frac{M^D}{P}$  is a trans-

actional demand, i.e., it is only a function of the level of real income  $Y$ .

$$\frac{M^D}{P} = L(Y) \quad (3.6)$$

The (peso) money supply  $M^S$  is determined by the accounts formula described earlier:

$$M^S = C_r + eR \quad (3.7)$$

Balance in the money market requires that  $M^D = M^S$ ; then:

$$C_r + eR = PL(Y) \quad (3.8)$$

By substituting in (3.8) the expression (3.5) of the single price law and assuming a level of output of full employment, we have:

$$C_r + eR = eP^* L(\bar{Y}) \quad (3.9)$$

In a fixed exchange rate system the second term of expression (3.9) is constant, since  $P^*$  is exogenous and  $\bar{Y}$  is the level of output of full employment. Then, using the notation  $\dot{\cdot}$  for the rate of change of one variable,<sup>20</sup> expression (3.9) becomes:<sup>21</sup>

$$-\dot{R} = \frac{\dot{C}_r}{e} \quad (3.10)$$

The meaning of expression (3.10) is very direct: the expansion of domestic credit  $C_r$  produces a fall in the level of international reserves; in other words, the increased domestic credit generates a balance-of-payments problem. In short, the central message of the MABP is that domestic credit is the factor determining the external imbalance.

In other words, the MABP holds that if the Central Bank does not use neutralization policies, an automatic mechanism in the economy will eliminate any external imbalance. This automatic mechanism operates in a similar way to the gold standard.

<sup>20</sup>This notation means that, for example  $\dot{R} = \frac{\Delta R}{R}$

<sup>21</sup>The rate of variation of a constant is zero and therefore the second term of expression (3.9) equals 0.



As we saw in the first section, the automatic mechanism of the gold standard functioned in the following manner: a balance-of-payments deficit meant an outflow of gold; this reduced the money base in the country's economy. The contraction of the money base through application of the quantitative theory of money produced a fall in domestic prices which made it possible to expand exports and reduce imports, thereby eliminating the initial balance-of-payments deficit.

We shall now observe the functioning of the automatic MABP mechanism in the case when there is no mobility of financial capital. To simplify the analysis, let us suppose that there is a fixed exchange rate and that the money base changes only in response to variations in the international reserves (this would be equivalent to a dollar standard). In this case a balance-of-payments deficit will mean a fall in the Central Bank's international reserves which will reduce the money base; as a result, the amount of money in the economy will decline. In the MABP, since the single price law is operating, domestic prices cannot vary, as they are determined exogenously in the international market. Thus, the decline in the quantity of money means a drop in the real money wages in the economy, which generates an excess demand for real wages. Economic agents try to adjust their money wages to restore the desired levels of reserves; to do this, they must cut back their expenditure as a proportion of their income and this means a reduction in the balance-of-payments deficit. This phenomenon is repeated until the deficit is eliminated.

In the case when there is mobility of financial capital the automatic MABP mechanism operates as follows: a balance-of-payments deficit means a fall in reserves which reduces the money base and the amount of money in the economy. The reduction in the quantity of money pushes the interest rate up above the level of the international interest rate; this interest rate differential attracts loans and financial capital into the country, and this makes it possible to reduce and eventually eliminate the balance-of-payments deficit.

As can be seen in this latter case, the interest rate (and not the exchange rate) becomes the mechanism which balances the balance of payments. In the MABP the capital account has a

central role in solving the problem of external imbalance; in order to generate a flow of financial capital into the country, the interest rate must be left free to rise.

Thus, an implicit assumption of the MABP is that there is an unlimited supply of external credit, so that only a small differential between the domestic and the international interest rate is sufficient to produce an influx of financial capital. However, the reality of the Latin American economies is somewhat different, and today we are seeing that when the amount of foreign debt as a proportion of GGP reaches a given level (or when the foreign debt service reaches a given percentage of the value of exports), the supply of external credit becomes extremely inelastic.

The following are the main conclusions of the MABP:

a) A devaluation has no effect on the relative prices in the economy; this is diametrically opposed to what is suggested by the elasticity model. According to the MABP, a nominal devaluation does not change relative prices, as it generates an inflationary effect of the same magnitude; i.e., the devaluation is transferred totally to the final prices of goods. The initial assumptions of the MABP lead inevitably to this result; all the goods are tradeable, and the single price law prevails.

In the MABP model devaluation is not an instrument for correcting an imbalance in the current account; however, it might be thought that a devaluation would have a temporary effect on the balance of payments by altering the level of real wages in the economy and thus the level of domestic expenditure. In other words, given the assumption of perfect substitution among goods (constant relative prices), in the MABP a devaluation could affect the balance of payments only by reducing domestic expenditure through the mechanism of real wages.

In fact, the MABP views the interest rate and not the exchange rate as the instrument which has relative advantages in solving an external imbalance problem. According to the MABP, as the system of relative prices is constant, it will be necessary to influence the capital account and not the current account in order to correct a balance-of-payments deficit; the interest rate will be the instrument of greatest impact on the behaviour of the capital account.

b) In Latin American countries with inflation the MABP and, in particular, the single price law have a simple effect of controlling inflation. The single price law (expression 3.5) becomes, in terms of rate of change:

$$\dot{P} = \dot{\epsilon} + \dot{P}^* \quad (3.11)$$

where  $\dot{P}$  is the domestic inflation,  $\dot{P}^*$  is the external (or international) inflation, and  $\dot{\epsilon}$  is the variation in the exchange rate. Then, if the exchange rate is fixed, we have  $\dot{\epsilon} = 0$ , and therefore  $\dot{P} = \dot{P}^*$ ; i.e., the domestic inflation is equal to the international inflation. Furthermore, if a rule of active mini-devaluation is used, in which the exchange rate is modified at a rate lower than the differential between domestic and external inflation, the increase in domestic prices is checked.

It should be noted that in these two cases the exchange rate is used as an economic tool to control domestic inflation.

c) The Central Bank should not use a neutralization policy to absorb the monetary impact of variations in international reserves. This is because under a fixed exchange rate system, according to the MABP, the Central Bank loses control of monetary policy; i.e., monetary policy becomes totally endogenous.

d) In order to correct a balance-of-payments deficit it is essential to control the expansion of domestic credit. It is necessary to study the causes of the expansion of domestic credit; in general terms, according to monetarist economists, these causes are associated with the existence of a fiscal deficit. As will be seen below, this is why the IMF sets a limit on the fiscal deficit as one of the quantitative targets of an external adjustment programme.

e) In its extreme version the MABP holds that balance-of-payments imbalances are symptoms of monetary imbalances which can only be resolved through the operation of the automatic mechanism of "variations in international reserves-changes in the nominal money supply", which functions through the interest rate or real wages or both; accordingly, no specific policies are required to cope with an external imbalance, except perhaps to stop doing certain things which were being done, such as the application of neutralization policies or limitation of interest rate increases. A devaluation or import restrictions are merely substitutes for monetary contraction which act by reducing the level of real wages instead of reducing the nominal money supply; therefore, their effect is only transitory (Kenen, 1985a).

## IV

### Current account approaches<sup>22</sup>

In economic publications prior to 1970 movements of capital were associated mainly with direct investment by transnational corporations. In the 1970s however, the financial flows associated with external borrowing acquired greater quantitative importance than commercial flows.

This dichotomy also has a theoretical counterpart. The capital account approaches of the period before 1970 corresponded to flow models; as the financial flows were not very large, the theoretical analysis consisted simply in adding

extra equations to the existing current account models. In the 1970s the developed countries introduced the floating exchange rate system, and there was increasing integration of the short- and long-term capital markets. It can thus be seen that the position of the current account (deficit or surplus) is not a good measure of the external imbalance and therefore not an indication of what must be done with the exchange rate. On the other hand, the frequent and continual changes in the exchange rate parities of the currencies of the developed countries suggest that the exchange rate is rather the relative price of different assets (the currencies of each country) than the relative price of the tradeable goods

<sup>22</sup>Bibliography for this section: Dornbush (1980a, b), McKinnon (1981), Williamson (1983a), Frenkel and Mussa (1985), Marston (1985), Kenen (1985a).

in the current account. It is impossible to believe that the relative prices of tradeable goods can vary at the same speed as the exchange market. Hence the models of capital account assets, which are in fact an extension of the MABP; in these assets models attention is focussed on the very short term, i.e., on the dynamic inter-reaction between variations in international reserves and the money supply and the effect of this on the exchange rate. Assets models are basically designed to explain the exchange rate instability in the developed countries under the floating system.

### 1. Flow models

In publications prior to 1970 one of the following alternatives was adopted with respect to capital movements (Dornbusch, 1980b; Williamson, 1983a): a) It was assumed that these financial flows are exogenous. b) It was believed that variations in the capital account reinforce what happens in the current account. When the current account is in a poor condition, the capital account suffers an even greater deterioration: for example, if there is a current account deficit, the possibility of devaluation prompts a flight of capital. In other words, the mobility of capital is proportional to what happens in the current account; what is more, the proportionality factor could be greater than 1 (something of this kind occurred in Latin America in the 1970s and 1980s: more was lent to those who had more, and less was lent to those who needed it most). c) The influx of capital into a country was made to depend on the differential between the domestic interest rate  $i$  and the international interest rate  $i^*$ . This latter alternative will now be considered in greater detail.

The simplest models of the open economy were obtained by adding the trade balance equation to the simplest model of the current account. Similarly, the simplest model which incorporates the capital account is obtained by adding two equations to the current account models: a) An equation representing the influx of capital  $F$ , where  $F$  is a function of the interest rates  $i$  and  $i^*$ ; i.e.,  $F = F(i, i^*)$ . This assumes a fixed exchange rate system. Then, if  $F > 0$ , it means that the country has obtained external

credit, or that foreign agents are acquiring the country's debt. b) An equation representing variations in international reserves  $\hat{R}$ , where  $\hat{R} = B_C + F$  (in this case,  $B_C$  is the trade balance). We thus have a new definition of external imbalance:  $\hat{R} = 0$  (instead of  $B = 0$ ), which means that external balance occurs when there are no changes in the Central Bank's supply of international reserves.

The incorporation of the capital account in the open economy models is achieved by means of adding extra equations to a global model of the current account, and there are two important consequences: a) The interest rate emerges explicitly as a mechanism for achieving the external adjustment. b) In the current account models in which there is no capital mobility, fiscal and monetary policies are totally interchangeable with respect to their impact on the external imbalance, and it is therefore usual to talk about policies to control domestic expenditure  $Z$ . But when the current account is incorporated it is necessary to distinguish between fiscal and monetary policy, for monetary policy has an effect on financial flows and vice-versa.

Suppose that there is a small open economy with a fixed exchange rate in which the Central Bank does not neutralize the monetary impact of variations in international reserves. The same mechanism of the IS/IM model of the closed economy<sup>23</sup> can be used to analyse the effect of financial flows in this economy. We will now consider briefly the relative effectiveness of fiscal and monetary policy with respect to financial flows.

In the initial stage the economy is at point  $E_0$  (figure 7) with a level of economic activity  $Y_0$ , interest rate  $i_0$ , and external balance. Suppose that there is an exogenous increase in government expenditure which shifts  $IS_0$  to  $IS_1$ ; the new balance will be  $E_1$  with a bigger product  $Y_1$  and a higher interest rate  $i_1$ . This is all that would happen in a closed economy. Suppose that initially there is no capital mobility. Then, the increase in the level of economic activity from  $Y_0$  to  $Y_1$  will produce a balance-of-payments deficit

<sup>23</sup>The terms IS and IM are, respectively, the abbreviations of investment (I) equal to savings (S) (balance in the goods market) and money demand (L) equal to money supply (M) (balance in the money market).

(BPD) which in turn will cause a fall in international reserves; as the Central Bank does not neutralize the monetary impact of variations in reserves, there is a contraction in the amount of money and therefore a movement of IM;  $IM_0$  shifts towards  $IM_1$  until the BPD is eliminated, i.e., until level of activity  $Y_0$  is restored. This means that the point of balance will be  $E_1$  with an interest rate of  $i_2$ . The expansionary stimulus of fiscal policy is totally neutralized by the recessionary effect of monetary policy which is necessary to eliminate the balance-of-payments deficit generated by the higher level of economic activity (it must be remembered that there is a fixed exchange rate).

But if there is capital mobility in this economy, a fall in international reserves does not have to occur. In fact, when the economy shifts from  $E_0$  to  $E_1$ , the increase in the interest rate from  $i_0$  to  $i_1$  attracts an influx of capital which helps to finance the balance-of-payments deficit generated by the new level of economic activity  $Y_1$ ; the movement of IM does not then occur and, as a result, the new level of  $Y$  can be maintained as long as the financial flow attracted by the relative higher interest rates lasts. (It is implicitly assumed that  $i_0$  corresponds to the international interest rate  $i^*$ .)

Using the IS/IM framework we can now see the interaction between monetary policy and capital mobility. Suppose that the economy is at position  $E_0$  with a product level  $Y_0$  and interna-

tional interest rate  $i^*$  (figure 8); suppose further that initially there is balance-of-payments equilibrium and a fixed exchange rate. Let us now consider the impact of an expansionary monetary policy in increasing the level of activity  $Y_0$ ; monetary expansion would shift  $IM_0$  towards  $IM_1$ , producing a new position of  $E_1$  with a product  $Y_1$  and a lower interest rate  $i_1$ . This would be the result in the case of a closed economy. But in an open economy, unless there is capital mobility, the expansion of economic activity from  $Y_0$  to  $Y_1$  will cause a balance-of-payments deficit (in the current account); there will then be external imbalance at  $E_1$  which is financed by a fall in international reserves, and as the Central Bank does not neutralize the monetary impact of this fall, there is a monetary contraction which shifts  $IM_1$  until it recovers its original position  $IM_0$ , thus eliminating the balance-of-payments deficit. Thus, in an open economy with a fixed exchange rate monetary policy is ineffective in generating an increase of economic activity, since the expansionary monetary effect is totally offset by the recessionary monetary effect produced by the fall in international reserves. Furthermore, if there is capital mobility, the fact that the interest rate  $i_1$  (at  $E_1$ ) is lower than  $i^*$  makes the monetary policy even less effective, for capital will be caused to flow out of the country in response to the interest rate differential; this flow will cease only when the interest rate returns to  $i^*$ .

Figure 7

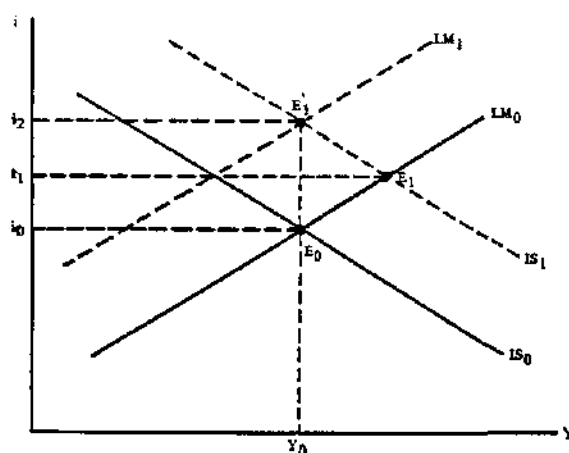


Figure 8

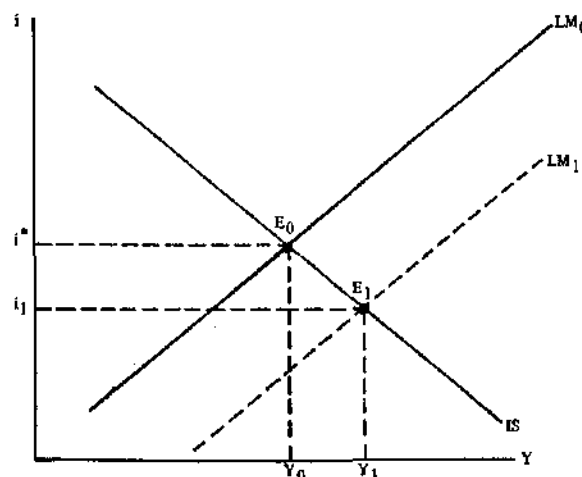


Figure 9

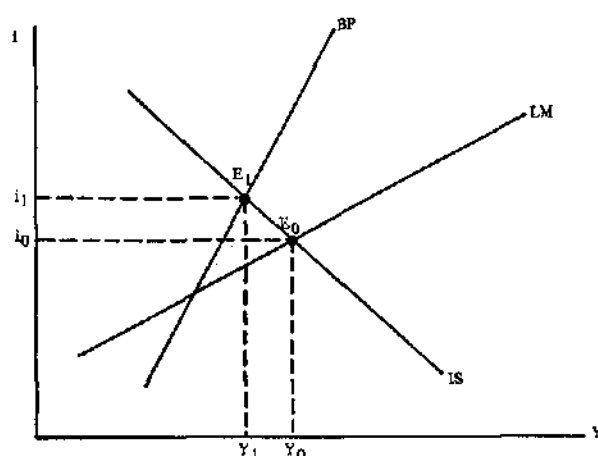
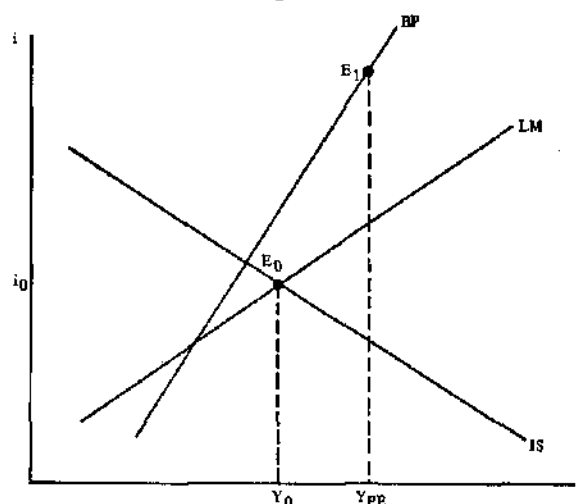


Figure 10



For a small open economy with a fixed exchange rate and capital mobility it is helpful to use the graph of the IS/IM (of the closed economy) with the addition of the equilibrium ratio corresponding to the balance of payments. The external equilibrium of this balance occurs when there are no variations in the Central Bank's international reserves; let this be line BP (figures 9 and 10). Then, let us assume that there is a point of equilibrium of BP in the plane  $(Y, i)$  of the IS/IM; an expansion of the level for economic activity  $Y$  will cause a balance-of-payments deficit requiring, for the restoration of external balance, an increase in the interest rate to attract an influx of capital to finance and eliminate the deficit; this means that the geometric position of the points of external balance has a positive slope in the plane  $(Y, i)$ , and this is what is shown by line BP in figures 9 and 10. At the points to the right of BP there is a balance-of-payments deficit; at the points to the left, a surplus.

Suppose that the small open economy is at point  $E_0$  of intersection of IS and IM (figure 9), with a product level  $Y_0$  and interest rate  $i_0$ . This position  $E_0$  is beyond line BP; this means that there is disequilibrium in the balance of payments, and in this case there is a deficit. In order to achieve external and internal equilibrium simultaneously in the goods market, the economy has to shift from  $E_0$  to  $E_1$ , which is the point of intersection of IS and BP. In this case, if there

is no neutralization policy on the part of the Central Bank, the balance-of-payments deficit causes a fall in international reserves which reduces the money supply and shifts IM towards the left; this forces the interest rate up, attracting an influx of financial capital. All this means that eventually IM will cut IS at the same point  $E_1$ , which is where the deficit which activates this mechanism is eliminated. In this case the elimination of the external imbalance is achieved at the cost of a fall in the level of economic activity ( $Y_0$  falls to  $Y_1$ ); this is similar to what was observed in the absorption and MABP models; the main difference is in the mechanism which eliminates the external imbalance, which in this case is solely the interest rate.

Let us now assume that the small open economy is at point  $E_0$  of intersection of IS and IM with  $Y_0$  and  $i_0$  (figure 10) and that the aim is to reach position  $E_1$  at which there is a level of economic activity of full employment  $Y_{PE}$  and external balance ( $E_1$  is above BP). For the economy to move from  $E_0$  towards  $E_1$ , IS and IM must be shifted simultaneously so that they intersect above BP at  $E_1$ . In this case it is possible to observe the role of capital mobility in eliminating the conflict between internal and external balance which exists in the absorption model. As was seen earlier in the discussion of this absorption model, although two tools were available—fiscal and monetary policy—it was not possi-

ble to achieve two objectives at once, i.e., to achieve internal and external balance simultaneously. But this is now possible and there is even a distinctive element in the role of the tools. The fiscal policy shifts IS until it cuts BP at point  $E_1$  (figure 10), thus achieving the product level of full employment  $Y_{PE}$ ; the monetary policy is designed to increase the interest rate and thus attract external credit to finance the expansion of economic activity.

All this is achieved under a fixed exchange rate system, i.e., without any change in relative prices. In this case the fiscal policy is designed to achieve the domestic goal of full employment, and the monetary policy, acting through the interest rate, becomes the mechanism for securing external balance.

This analysis is based on the traditional Mundell-Fleming model; the simplest version of this model assumes the existence of *absolute* capital mobility. The basic assumptions of this model are: a) A small open economy with a fixed exchange rate and no likelihood of devaluation. b) Absolute capital mobility. The first assumption produces an exogenous interest rate equal to  $i^*$ . The assumption of absolute capital mobility means that there is perfect substitution among internal and external financial assets. Then, if the domestic interest rate is higher than  $i^*$ , foreign investors will acquire domestic assets (debt); if the domestic interest rate is below  $i^*$ , the country's investors will acquire foreign assets, and foreign investors will sell their domestic assets. This means that the economy has a totally elastic supply of capital; line BP in figures 9 and 10 then becomes totally elastic with respect to the interest rate  $i^*$ . c) The level of economic activity is determined by aggregate demand.

The Mundell-Fleming model with absolute capital mobility and instantaneous adjustment in the assets market suggests that the adjustment of the balance of payments in response to an external imbalance is *not* a gradual process in which the money supply in the country's economy adjusts gradually to the losses and gains in international reserves caused by shifts in the balance of payments; there is in fact an almost instantaneous adjustment in which the level of reserves responds rapidly to the capital movements. In this model any expansion of the

money supply is immediately neutralized by the capital flows. Let us suppose that the Central Bank wishes to expand the product level by increasing the amount of money. This monetary expansion pushes the interest rate down below  $i^*$ ; this leads to a "battle" between the country's money and assets, i.e., economic agents buy foreign assets (for example, dollars and foreign bonds) from the Central Bank, thus causing a contraction of the money supply which ceases only when the interest rate returns to the level of  $i^*$ . Therefore, given absolute capital mobility, monetary policy is a completely ineffective means of altering the level of economic activity; however, this policy is a useful tool for regulating and controlling the level of international reserves of the Central Bank.

Furthermore, the Mundell-Fleming model shows that an expansionary fiscal policy is an effective means of increasing the level of economic activity; owing to the absolute mobility of capital, the increase in fiscal expenditure (or reduction of taxes) is financed by foreign borrowing.

To sum up, the Mundell-Fleming model shows that in a small open economy with a fixed exchange rate fiscal policy is very effective and monetary policy totally ineffective as a means of altering the level of economic activity.<sup>24</sup>

Now, if the exchange rate begins to change in response to the overall balance of payments, an expansionary policy which pushes the domestic interest rate up can cause the country's currency to be revalued. Let us suppose that an expansionary fiscal policy is in force and it increases the aggregate demand or domestic expenditure; this increases the levels of product and income and, therefore, the money demand. Then, even when the Central Bank keeps the money supply constant, the increased money demand forces the interest rate up above the value  $i^*$ ; this positive interest rate differential attracts capital into the country and, if there are no restrictions on its entry, a balance-of-payments surplus can occur. This generates pressures for revaluation of the exchange rate; the revaluation causes the country to lose international competitiveness and the trade balance

<sup>24</sup>This kind of conclusion is totally reversed when there is a free exchange rate.

worsens; this eventually affects the initial expansion of output. In this case the increase in the domestic interest rate which causes the influx of capital leads to a revaluation of the exchange rate; accordingly, the capital account surplus (or the balance in general) eventually determines what happens to the current account.

## 2. Reserves models

The main problem of the flow models just described is that only a small interest rate differential causes a permanent flow of capital, independently of what happens to the assets portfolios of economic agents or countries. This theoretical problem is solved in the models of current account assets; in this case it is held that financial flows are the result of more general adjustments in the whole portfolio of the economic agents; this portfolio contains different kinds of asset, including the country's money and foreign money, the country's bonds and foreign bonds, etc.

From the analytical standpoint, the transformation of a flow model into a model of capital account reserves could be reduced to the substitution of the expression  $F = F(i, i^*)$  by an expression of assets reserves  $K$ , in which  $K = K(i, i^*)$ . However, the analytical change is rather more profound. The exchange market becomes just another of the various assets markets, and the exchange rate becomes the price of just another asset.

As was pointed out earlier, assets models are basically designed to explain the great exchange rate instability in the developed countries during the 1970s and 1980s under the floating exchange rate system. In view of the variety and frequency of exchange rate fluctuations, it was inferred that they could not be reflecting what was happening in the real part of the economy, for the goods market and the relative prices of the goods did not have such an unstable structure. It was concluded by analogy that the exchange market behaves in the same sort of way as the stock and financial assets markets; the various currencies were thus assimilated to different types of asset, with perfect or imperfect substitution among them. Finally it was concluded that each currency was just another asset in investors' portfolios and that the price of this asset or the fluctuations

in this price depended on interest rate differentials and risk factors (Dornbusch, 1980b). Given the existence of highly integrated capital markets, there must be interest rate arbitrage;<sup>25</sup> as the currency of every country is an asset whose price fluctuates, then:

$$i = i^* + E(\hat{e}) \quad (4.1)$$

where  $\hat{e}$  is the rate of variation of  $e$ , and  $E(\hat{e})$  is the expected value of the rate of variation of the exchange rate.

Expression (4.1) can be expressed in another way:

$$E(\hat{e}) = i - i^* \quad (4.2)$$

In this expression (4.2) the differential between the domestic and international interest rates measures the expectation of devaluation on the part of economic agents. This was the meaning attributed in some Latin American economies (Argentina, Chile, etc.) to the enormous relative value achieved by the domestic interest rate at the end of the 1970s.

In general terms, expression (4.2) establishes the relationship between monetary policy and exchange rate fluctuations; i.e., exchange policy is *not* independent of monetary policy. Under a free exchange rate system the prevailing exchange rate and fluctuations in it are very sensitive to the expectations of economic agents with respect to what will happen with monetary policy; the Central Bank can diminish the effect of these expectations by demonstrating its determination to manage the money supply so as to permit only small variations in the exchange rate. To sum up, the turbulence in the exchange markets, according to expression (4.2), was the result of erratic monetary policies applied by some central banks (McKinnon, 1981).

## 3. Implications of the capital account approaches

a) The capital account approaches illustrate the role which the capital account can play in a situation of external imbalance. On the one hand, financial flows can circumvent the

<sup>25</sup>If the exchange rate is fixed and there is no likelihood of fluctuation, interest rate parity is achieved:  $i = i^*$ .

dilemma of internal and external imbalance in the absorption model. On the other hand, exchange policies determined exclusively by what happens in the current account can have a negative impact on the assets market; in this connection, the higher price of foreign currency in the parallel exchange markets and the flight of capital are recurrent phenomena in the Latin American economies.

b) Nevertheless, exclusive concentration on the capital account as the central element in the balance of payments and determination of the exchange rate can lead to total disregard of the imbalance in the current account and revaluation of the exchange rate, which causes increasing deterioration in the current account. The country's economy loses international competitiveness and the production of tradeable goods is cut back. If foreign borrowing is used for a prolonged period to finance the current account deficit, the foreign debt can reach relatively high levels, as has happened recently in the Latin American economies.

c) An extreme version of the capital account approach holds that the external imbalance is caused exclusively by the imbalance in this account; i.e., what happens in the current account depends on what happens in the capital account. Let us consider this in greater detail.

Using the basic accounts formula of national accounts for the open economy:  $Y \equiv C + I + G + X - M$ , it is possible to substitute  $Y - C \equiv A + T$ , where  $A$  is private savings and  $T$  taxes; i.e., the difference between income and consumption corresponding to savings and taxes. Thus:

$$(A - I) + (T - G) = X - M \quad (4.3)$$

In this expression (4.3)  $(T - G)$  represents the government's fiscal deficit and  $(A - I)$  represents the deficit of the private sector in its saving-investment decisions (it is implicitly assumed that all investment is private).

The second term of expression (4.3) represents the trade balance (or current account). Disequilibrium in the trade balance means disequilibrium in the first term of (4.3), i.e., in the saving-investment decisions of the country's economy. The capital account approach suggests that it is the imbalance in the saving-investment decisions which generates the imbalance in the

current account; ultimately, moreover, the problem lies in the fiscal deficit.

On the assumption of a perfectly integrated capital market, the private sector uses  $i^*$  as the central variable in decision-making; savers use  $i^*$  in their decisions to buy assets, while investors compare the rate of return of various projects with the value of  $i^*$ . If there is an appreciable difference between private saving and private investment, there will be purchase or sale of foreign financial assets by the private agents in the country's economy, and it is this phenomenon which determines the deficit in the trade balance. In other words, it is the shortage of (domestic) savings in the country's economy which generates the requirement for external savings or imbalance in the current account; i.e., the capital account imbalance is the factor which determines the current account deficit.

In general terms, an increase in the trade balance deficit can be due to an increase in the deficit either of the private sector or of the government. Assuming that the private sector's deficit is very small in relation to the government's deficit (or that there is balance in the saving-investment decisions of the private sector), then the fiscal deficit is the factor which determines the external imbalance.

Using this kind of argument, McKinnon (1981) and to some extent the IMF conclude that the basic cause of an external balance is a fiscal deficit. Thus, what has to be done to solve a problem of imbalance in the current account is to eliminate the fiscal deficit; it will not even be necessary to change the exchange rate, for this rate is a price determined in the assets market. From this standpoint, the exchange rate is not the most suitable tool for determining the balance between the saving-investment decisions of the country's economy (McKinnon, 1981).

However, this assertion is questionable: it is possible to have an economy, even with a fiscal surplus, in which external imbalance originates in a sudden worsening of the terms of trade; in this case it will be the deterioration in the trade balance which could transform a fiscal surplus into a fiscal deficit through a decline in tax collection generated by a loss of earnings in the exports sector.

d) One of the main conclusions of the capital account approaches is that monetary policy and



exchange policy are not independent. Free movement of capital and free convertibility of various currencies mean that the central banks have serious problems in controlling the exchange rate and adjusting the money supply by official intervention. Changes made by economic agents (transnational corporations, commercial banks, private investors, etc.) in their portfolios can impede and even neutralize the (independent) monetary policy which the central bank of a small open economy with a fixed exchange rate wishes to apply.

Free movement of capital means that the domestic interest rate will eventually equal the international interest rate; the central bank cannot then regulate the interest rate, for it has

become exogenous to the country's economy. If there is a fixed exchange rate, the monetary policy becomes endogenous. In short, the central bank of a small open economy, with free movement of capital and a fixed exchange rate, loses economic policy instruments.

e) In a small open economy with a fixed exchange rate and free movement of capital, monetary policy is a completely ineffective means of altering the level of economic activity, for the flows of capital offset any monetary contraction or expansion. In contrast, fiscal policy is a very effective means of increasing the level of domestic output, for the flows of capital finance the domestic expansion.

## V

### The IMF adjustment programme<sup>26</sup>

In this section we consider the justification and economic logic of the adjustment programme of the International Monetary Fund (IMF) and indicate the objections raised against it in specialized Latin American publications.

Although in general terms the IMF programme has enabled the Latin American economies to attain the goal of reducing the external imbalance, the consequent internal cost has been high in terms of reduced employment and product, lower real incomes and lower real wages. At the same time the distribution of this cost has been unfair, for it has been particularly hard on lower-income workers and social groups.

This gives rise to a number of questions. Is it really necessary to have to pay such a high domestic cost to achieve the external adjustment? What kind of changes would have to be made in the IMF programme to reduce the costs of the adjustment? Would these be changes in the kind of policy or only in the level at which the policy is applied?

#### 1. *Conceptual framework of the IMF programme*

The IMF's main premise is that external imbalance is caused by internal imbalance. If a country has a balance-of-payments deficit, it is because it is spending more than it produces, i.e., it is living beyond its means. Thus, the IMF programme is designed to bring the level of expenditure into line with the level of income.

There are two kinds of balance-of-payments imbalance: transitory or temporary, and fundamental or permanent. Temporary imbalances are usually caused by factors of a monetary kind; they may be due to "mistaken policies" pursued by the countries which turn to the IMF. If the country changes the policy in question, it puts an end to the balance-of-payments deficit; this means that transitory imbalances are reversible and therefore, for considerations of efficiency, should be corrected basically by financing. The possibility of doing this will depend on the amount of resources available to the country in question. A fundamental imbalance, in contrast, is of a more permanent kind and is usually caused by real factors. In this case, considerations of efficiency suggest that the adjustment compo-

<sup>26</sup>Bibliography for this section: Bacha (1983), Buira (1983), Massad and Zahler (1984), Ground (1984), Dornbusch (1982), Williamson (1983b), Killick (1984).

ment should be given more weight than the financing component. Notwithstanding this classification, it is not always easy to identify an imbalance as transitory or permanent.

The principal function of the IMF was originally to furnish short-term liquidity or financing to (member) countries with transitory external imbalances; the IMF was also supposed to supply some financing to countries with fundamental imbalances to facilitate the subsequent adjustment. Two types of IMF programme can be distinguished from the conceptual standpoint (Buirra, 1983; Ground, 1984): i) The stand-by agreement and financial programming, which were intended to ensure that a country changed its "mistaken policy" to eliminate the transitory balance-of-payments deficit. This analytical framework excludes devaluation, which is totally consistent with one of the main functions originally assigned to the IMF (to ensure that countries did not change their exchange rate parity). In this context the external imbalance is caused by a monetary imbalance. There is an excess of money which must be eliminated to reduce the level of expenditure in the economy. ii) Devaluation, the main tool for correcting a fundamental balance-of-payments deficit. In this sense, the IMF's financial programmes and devaluation were viewed conceptually as "mutually exclusive policies" (Buirra, 1983). However, from 1947 (inaugural year of the IMF) to 1971-1973 (end of Bretton Woods) countries members of the IMF made more than 200 devaluations, most of which were central components in IMF adjustment programmes, particularly in the Latin American countries.

In order to simplify the discussion of the conceptual framework of the IMF adjustment programme, we will continue to use the classification described in the previous paragraph. We will thus be considering an exclusively monetarist theoretical framework based on the monetarist approach of the balance of payments and excluding the use of devaluation; we will then consider a Keynesian theoretical framework, which is a synthesis of the absorption and elasticity approaches. The IMF adjustment programmes are usually a hybrid version of the two.

As was pointed out earlier, according to the IMF the basic cause of a balance-of-payments deficit is that a country spends more than it

produces; accordingly, the level of domestic expenditure must be cut back. In the monetarist approach, monetary policy is the main tool for controlling aggregate domestic demand; if the amount of money is controlled, it will be possible to reduce the level of domestic expenditure. The so-called financial programme, designed to control the expansion of domestic credit, is thus the main mechanism used by the IMF to control the development of a country's policy. As was seen earlier in the analysis of the monetarist approach of the balance of payments, an expansion of domestic credit causes a fall in international reserves. This is why the IMF assigns such a weighty role in its financial programme to control the growth of internal credit. If there is no neutralization policy, the fall in reserves will cause the amount of money to decline; this will set in motion an automatic mechanism similar to the gold standard, which will eventually eliminate the balance-of-payments deficit. The IMF's financial programme is implemented in the following stages:

a) The balance-of-payments forecast provides the limit for the current account deficit. This forecast estimates the amount of exports, interest payments, net influx of financial capital and foreign investments. The level of imports (or capacity to import) is obtained as the residuum. This level of imports then determines (by means of the income elasticity of imports) the level of the GGP and thus the economic growth rate; adjustments can be made in this economic growth rate which will affect the required level of imports. This type of adjustment will be restricted by variations in international reserves  $\Delta R$ . The variations in reserves  $\Delta R$  will be one of the indicators monitored by the IMF.

b) Expansion of the money supply is achieved by means of the money demand. In this connection great importance attaches to the basic monetarist assumption that the money demand is a stable function. Thus, on the basis of the nominal money demand of the previous year ( $t-1$ ), in conjunction with the expected rates of inflation and economic growth, it is possible to forecast the nominal money demand in year  $t$ . As the money market has to be balanced, this gives the variation in the economy's money supply  $\Delta M_t$ . It will be seen that the expected inflation rate has been used in this calculation of  $\Delta M_t$ ; this

forecast can be a goal of economic policy. Bacha (1983) criticizes the IMF on the ground that it tends to underestimate the expected inflation for the current year, thus making the monetary expansion more restrictive.

c) As the variation in reserves  $\Delta R$  and the variation in the money supply  $\Delta M_1$  have already been established, the variation in domestic credit is then determined residually, since  $\Delta C_r = \Delta M_1 - \Delta R$ . The expansion of domestic credit will be another of the key indicators monitored by the IMF; the expansion of domestic credit is thus a restriction on the development of the economy which is consistent with the goal of balanced payments (and of price stability).

d) Another supplementary mechanism used by the IMF to control the expansion of domestic credit relates to the fiscal deficit. Reduction of this deficit eases a major pressure on the expansion of domestic credit. Furthermore, the weaker pressure from the fiscal (and public) sector on domestic credit means that a bigger percentage of this credit can be used by the private sector, and this supposedly encourages a greater relative expansion of the production of tradeable goods; this will help to reduce and eliminate the external imbalance.<sup>27</sup> The level of the fiscal deficit is thus another indicator used by the IMF to monitor the country's progress.

To sum up, in order to ensure that a (Latin American) country carries out the IMF programme and will thus supposedly be able to solve its external imbalance problem, the IMF monitors the following four indicators: the level of international reserves, domestic inflation, the expansion of domestic credit, and the fiscal deficit.

Let us now consider another conceptual framework. Using the synthesis of the current account approaches and introducing a specific causality in the basic national accounts formula:  $Y - Z = X - M$ , the following assertion can be made: if a country spends more than it produces, i.e., "lives on borrowed money", there will be a trade balance deficit; the external imbalance will thus be generated by the internal imbalance. If it is further assumed that the private sector per-

forms in a balanced manner (i.e., spends in accordance with its income), it will be concluded that the internal imbalance is concentrated in the public sector. In short, the fiscal deficit will be the main cause of the external imbalance.

On the other hand, the main means of financing a fiscal deficit in Latin America is the issue of money, which causes inflation and therefore internal imbalance. This domestic inflation causes the country's currency to be overvalued and international competitiveness to be lost; this exacerbates the external imbalance and transforms it into a fundamental (or permanent) imbalance. Within this conceptual framework the IMF programme has two basic goals: to establish fiscal discipline and the real level of equilibrium of the exchange rate. Although the IMF's role is to help countries to resolve an external imbalance, in the Fund's view an external imbalance originates in the internal imbalance; this is the reason for the IMF's intervention in the management of the country's domestic economy.

The economic policy programme applied by the IMF in this case is as follows:

a) Reduction of the fiscal deficit. This usually means a cutback in public expenditure which adjusts domestic absorption to the level of domestic income.

b) An increase in the country's international competitiveness. This requires: i) devaluation of the country's currency; ii) control of domestic inflation to ensure the success of the devaluation. Monetary contraction is used to attain this goal, with a view to eliminating the inflationary pressures caused by excess demand, and wages control is also used to avoid cost-inflation pressures. According to the IMF, if this programme is to attain its goals and resolve the external and internal imbalances, it must be carried out in its totality, for its various components are complementary; this means that the IMF programme is supposedly "an indivisible package". In fact, part of the inflationary effect of the devaluation is offset by the deflationary effect of the reduction of the fiscal deficit and of the money supply; this ensures the success of the devaluation and makes the nominal devaluation into a real one. On the other hand, the recessionary effect of the reduction of the fiscal deficit and of the money supply is offset by the expansionary effect of the devaluation.

<sup>27</sup>However, this reasoning does not hold good in the case of State enterprises producing exportable goods; e.g., copper in Chile, oil in Mexico and Venezuela, etc.

uation which encourages increased production of tradeable goods (exportable and competitive with imports).

## 2. *Criticism of the IMF programme*

### a) *Theoretical criticism*

There are three theoretical objections:

i) The IMF's method of evaluating a situation of external imbalance is always the same: there is an excess of domestic expenditure in the country's economy generated by the fiscal deficit, and this produces the imbalance. However, how can there be excess aggregate demand in an economy in which there is unemployment and idle capacity? Furthermore, in the event of a fiscal deficit, it is necessary to determine what part of it is due to the economy's recession and what part to structural factors. It is therefore questionable that the IMF should always impose basically the same economic programme for all kinds of balance-of-payments difficulties, regardless of the cause of the problem.

ii) There is a theoretical criticism with respect to the short-term impact of the specific measures suggested by the IMF. It has been argued on the one hand that a devaluation can have recessionary instead of expansionary effects and worsen the balance-of-payments deficit; on the other hand, it is said that monetary contraction, by increasing the cost of borrowing, causes an increase in the financial costs of the productive sectors, and this generates even greater inflationary pressures. This type of criticism questions the effectiveness of the IMF's economic programme and suggests that it would tend to aggravate the external and internal imbalances.

iii) Criticism has been offered of the asymmetry of the correction of an external imbalance. If there are countries with a current account deficit, there must be other countries with a current account surplus. Why must the adjustment to the current account imbalance be made exclusively by the countries with deficits? Why should not the countries with surpluses share the cost of correcting the imbalance? This is a long-standing criticism in specialized Latin American publications. Today it can be seen that when the United States has deficit problems in its current

account, pressure is brought to bear on surplus countries (such as Japan) for them to help to solve the problem of external imbalance. In other words, if the countries with current account surpluses gave greater access to Latin American exports, the economies of Latin America could resolve their external imbalances without incurring high adjustment costs. Furthermore, the more asymmetrical the adjustment process, the greater will be the reduction of imports and the cost of the adjustment which the countries with balance-of-payments deficits must make (Massad, 1985).

### b) *The short- and long-term problem*

The time horizon fixed by the IMF for complete adjustment of the external imbalance ranges from 12 to 24 months; as a rule, the country's economy has to make most of the adjustment virtually within one year. Since the imbalances are sometimes of considerable size, why does the economic adjustment have to be made in such a short period? It is not clear why the length of the adjustment period has to be the same as the period of the IMF programme.

The IMF has a system for quarterly monitoring of the economy. This means that the country has to attain quarterly targets with respect to the key indicators of the IMF programme (international reserves, domestic credit, etc.). If it fails, it does not receive the quarterly installments of the loans from the IMF and international banks which enable it to cover the external sector deficit. It then becomes the central concern of finance and economic ministers to meet the quarterly IMF targets, and their management is considered successful only if those targets are met. In short, the whole economy begins to function on a quarterly basis.

### c) *The distributive impact of the adjustment cost*

The domestic cost of the IMF adjustment programme usually has a regressive effect from the redistributive standpoint; i.e., most of the adjustment is absorbed by relatively lower-income groups. Devaluation linked to wage controls means a fall in the real wages of workers. The cutback in public expenditure causes an increase in unemployment as public investment

declines. Moreover, the removal of subsidies for essential goods (foodstuffs, mass transport, etc.) and the reduction of social spending (health, housing, etc.) means an erosion of the welfare programmes for the lowest income groups.

d) *IMF intervention in domestic problems*

The IMF's economic priorities do not necessarily coincide with those of the country's economy. However, the IMF imposes its own priorities which consist basically of the elimination of the balance-of-payments deficit and reduction of inflation. Moreover, the IMF programme tends to reduce the level of State intervention in the country's economy; in fact, a large part of the internal adjustment is designed to be absorbed by the public sector. This can be seen in the limits imposed on domestic borrowing by the public sector which are designed to enable the private sector to use the reduced supply of domestic credit.

For example, if Chile or Brazil has to prepare a domestic austerity programme, why should the IMF interfere in the process? Bread and milk prices and the whole of farm policy in general "are domestic issues and the exclusive domestic concern of the country" (...) "how is the removal of the wheat subsidy going to solve Brazil's external imbalance problem? Where is the macroeconomic analysis which proves this?" (Díaz-Alejandro, 1983). And why does the reduction of the real salaries of public school teachers help to increase the country's international competitiveness?

Moreover, in order to ensure that the limits on the expansion of domestic credit are not exceeded, the IMF establishes specific controls on lending to the public sector; in indicating how domestic credit is to be allocated the IMF is clearly intervening in an area outside its competence and introducing an ideological element into its programme, for it is trying to "isolate the public sector of the domestic market from access to credit" (Bacha, 1983).

e) *Consistency of the IMF programme*

The forecasts of certain economic targets used by the IMF in the preparation of its programme have been criticized for lack of realism.

What happened in Brazil in 1983 is a good example of this. The 50% monetary expansion was based on the forecast of an inflation rate of 87% for 1983; in fact, the 1983 inflation was 211%. This was double the level of the previous year, in response to which the IMF economic programme had been introduced. Furthermore, in 1983 Brazil comfortably met the external target set by the IMF, but at the same time serious domestic imbalances were generated. The following doubt therefore arises: where was the coherence of the IMF programme for that year? For it was possible to meet the external target but miss the internal target by a mile.

f) *Recessionary bias of the IMF programme*

There is general agreement on the need to modify the over-kill of the Fund's programme. Some of the elements contributing to the recessionary impact of the programme are: i) the difficulty of maintaining total control over the economic tools by means of which the programme is carried out in practice (the money supply, for example, is largely endogenous), which leads to the application of even more restrictive policies against the danger of losing the financing if the IMF's quarterly targets are not met; and ii) the assignation of absolute values to the targets, and for quarterly periods into the bargain (this means conceding to economics a degree of accuracy and control of economic phenomena which is far from its grasp), instead of establishing plausible ranges for the attainment of the various objectives and thus reducing the pressure on the economy.

### 3. *The IMF's role*

Despite the severe criticism of the IMF's role, it should be made clear that the Fund is not the cause of the present economic problems; the imbalances in the Latin American economies existed before its intervention. In fact, the Latin American countries only turn to the IMF as a last resort, when there seems to be nothing else that they can do. Adjustment to correct external imbalance necessarily incurs costs, with or without the IMF. When a country has an external imbalance, it apparently has two options, adjust-

ment or financing. However, these two alternatives are interrelated. Although the option of financing implies deferring the adjustment to the future, the creditors who provide the resources to finance the external imbalance will do so only if they see that the country in question is taking certain steps which suggest that this future adjustment will in fact be carried out. The IMF, for example, makes its loans for a fixed period, but subject to acceptance by the country of the IMF's terms, which are designed to eliminate the external imbalance.

The IMF plays two different roles. On the one hand, it is an institution created to furnish financial resources to countries with external liquidity problems. On the other hand, it can be viewed as a "lending club" which applies certain rules to safeguard the overall well-being of all its members; i.e., the IMF has to reconcile specific national interests during the adjustment period with the general interests of the members of the club (especially the lending countries, which supply the bulk of the Fund's financial resources). These rules include the free convertibility of currency, free access to the exchange market and openness to imports. Thirdly, it may be thought that the IMF acts as a catalyst for financing from other sources. Here, involvement of the IMF and its economic programme are prior conditions demanded by private international banks and governments before they make loans to a country with balance-of-payments difficulties. Lastly, in the 1980s the IMF has acted as mediator between creditor banks and debtor countries. Thus, instead of confining itself to the problem of unequal flows in a country's balance of payments, the IMF now concerns itself with the problem of the total amount of foreign debt and the adjustment which a country must make in order to service its debt. This means that the IMF has become a kind of long-term inspector on behalf of the creditors, who checks that the debtor countries are carrying out an economic policy which will enable them to meet their foreign debt commitments (Bacha, 1985). The IMF's role in the management of foreign debt has thus become a vital one in preventing a disaster in the international capital market. However, the costs of preventing such a disaster have been borne basically by the debtor countries (Massad, 1985). While it is in the interest of all countries to

prevent the collapse of the international financial system, why should the cost of doing so be borne only by the debtor countries?

#### *4. Some suggestions for the IMF adjustment programme*

In the IMF's economic programme there is a kind of identification of adjustment with recession. In some cases the magnitude of the adjustment reaches considerable proportions. If Latin America's annual growth rate in the three years 1981-1983 had been only half the average annual rate during the 1970s, the GGP of Latin America would have been US\$150 000 million more than it actually was; this amount represents almost 50% of the total Latin American foreign debt (Massad and Zahler, 1984). The adjustment has not been determined so much by the causes or factors which generated the external imbalance, but rather by the amount of financial resources available; in other words, the shortage of financing has meant that the adjustment programme has been very costly. However, it is also true that the outflow of capital from Latin America during the period 1980-1983 amounted to US\$100 000 million (Massad and Zahler, 1984).

The IMF's economic programme takes a very short-term view; in order to reduce the external imbalance, macroeconomic policies are introduced which basically depress the aggregate demand to a level compatible with that of the available financing. Thus, this short-term approach does not take into account the aggregate supply situation.<sup>28</sup> A country with a balance-of-payments deficit must transfer resources to its creditor countries; in order to be able to do so, it must direct and increase its productive capacity to generate the necessary productive resources. To this end it is vital to increase investment and the use of installed capacity, which runs counter to exclusively recessionary macroeconomic policies. The creditor countries must also be willing to accept the goods exported by the deficit countries instead of imposing restrictions on them.

The process of adjusting to a balance-of-payments deficit cannot be guided exclusively by

<sup>28</sup>On this topic, see Killick (1984).

short-term considerations; medium- and long-term factors must also be taken into account. Indeed, a short-term "shock" adjustment can generate in the long term a worse balance-of-payments situation than a gradual adjustment. This is not to say that a gradual adjustment is always better (in the long term) than a "shock" adjustment; the basic question is the need to evaluate the alternatives, and the lack of an adequate methodology for doing this. The various macroeconomic approaches merely compare two situations in equilibrium, but very little is known about the comparison and analysis of the various adjustment routes which link the two situations of equilibrium.

A corollary of this might be that some elements of economic policy should be designed to minimize the costs of the adjustment. From the country's domestic standpoint, it would also be useful to distribute these costs fairly. This might lead in practice to the setting of ceilings on the domestic cost: i.e., it would not be permissible to exceed certain levels of unemployment or falls in the product and real wages in order to reduce the

external imbalance. What is suggested is a gradualist policy which extends the time-limit for accomplishing the external adjustment so as to avoid excessive domestic costs.

In other words, just as the IMF programme establishes quantitative indicators for the fiscal deficit, level of international reserves, etc., a maximum limit would have to be imposed on the level of unemployment, GGP decline and cutback in real wages.

As to the fair distribution of the cost of the adjustment, consideration would have to be given to the type of mechanism needed to ensure that the cost of the cutback is absorbed by all economic agents. If all the country's economic agents are going to benefit from the restoration of macroeconomic balance, why should only a part of the population bear the cost of the adjustment? This means that some mechanism, probably a tax mechanism, should be introduced to ensure that the economic agents who retain their jobs and their real income levels should compensate the unemployed and those whose income falls.

## VI

### Some final considerations

The various theoretical approaches to external adjustment can provide very divergent answers with respect to the evaluation of a concrete situation. While one approach may suggest that there is a critical situation in the external sector, another may indicate that there is no reason for concern. The debate which took place in Chile in the second half of 1981 is a good example of this: some economists believed that there was a difficult situation of external imbalance, since the current account deficit had reached considerable proportions; it was therefore necessary to devalue. Others believed that the situation in the external sector was comfortable and favourable since there was a balance-of-payments surplus, and it was therefore necessary to revalue. Lastly, there were those who maintained that the exchange rate should not be touched, as it was the nominal anchor of the Chilean economy and

the central mechanism which conditioned expectations and kept inflation in check.

In short, every approach can produce a different perception as to the existence or non-existence of a balance-of-payments problem and can therefore make different suggestions about economic policy (in the recent example, about exchange policy).

Nevertheless, the various approaches are to some degree complementary. Each of them considers different aspects of one and the same phenomenon and its effects over different periods. On the one hand, the Keynesian current account approaches analyse the problem of external imbalance (of flows) in the short and medium terms (between three months and two years); the capital account approaches are concerned with exchange rate variations in the very short term (between one week and one month),

while the monetarist approach of the balance of payments analyses the long term, when full adjustment of all stocks of assets is achieved.

Various efforts have been made to achieve a synthesis of these approaches. However, for reasons of simplicity, *inter alia*, it seems better to keep them separate; at given points in the economy's development one of these partial approaches can give a fairly complete picture of what is happening. Obviously, an approach can be the most suitable in year  $t_1$  and the most unsuitable in year  $t_2$ ; it is therefore vital to keep in mind the basic assumptions determining the underlying *modus operandi* of each approach.

The external sector presents a country's economy with a number of dilemmas. In particular, the Latin American economies are exposed to various kinds of exogenous disruption; the question is: which are the most suitable economic policies for absorbing the different kinds of shock? From a more general standpoint the question would be: what is the structure or institutional system which a country's economy needs in order to be able to pursue an independent policy, affected as little as possible by external disruptions? Is this in fact possible in a world in which the different markets are increasingly interdependent and integrated? The relative effectiveness of various tools in absorbing a given disruption depends on the type of economic structure and institutional system. It is usual for the Latin American economies to be wrestling with problems of internal imbalance (inflation, unemployment); the effects of external shocks are thus superimposed on a bad situation. It is very possible that in these circumstances instruments capable of absorbing the external shock cannot be used, for they might make the internal imbalance even worse. Thus a country has to cope with the age-old conflict between trying to pursue an independent domestic policy and remaining an active member of the international economic "club".

One of the aspects of greatest interest for the Latin American countries has been virtually omitted from the theoretical approaches to external adjustment: the problem of which of the various adjustment routes would be the best. The basic criterion ought to be the minimization of the cost of the adjustment, subject to the achievement of a given reduction in the external

imbalance. What kind of adjustment route does a given economic programme impose? How can different adjustment routes be compared? These are some of the questions which require dynamic analysis. Other aspects which must be taken into account are the speed, intensity and sequence of the adjustment. We touched on this theme when we talked of gradual adjustment and shock adjustment; from the economic standpoint it could be argued that gradual adjustment would be preferable to shock adjustment in the case of an external imbalance, for it would minimize the disruption of economic activity. However, this economic logic does not necessarily coincide with political logic, which may be more concerned with the route by which the final situation is reached than with the absolute worth of that situation.<sup>29</sup>

Another point about adjustment routes is the interrelationship between the short and the long term. A short-term recessionary policy can have adverse effects on the economy's growth in the long term. A short-term monetarist policy can help to reduce the external imbalance; however, the increase in the (domestic) interest rate discourages investment at the same time, and this affects the economy's future growth. The relationship between the short and the long term must therefore be examined; it is thus possible to evaluate the economic policies which can be used in the short term to cope with an external imbalance at the lowest possible cost, so that in the long term the economy resumes the same course of stable growth.

A burning topic in Latin America, one not mentioned in the publications consulted, is the cost of the adjustment. Who pays for it? What is the connection between different policies for external adjustment and their distributive effects? How could the costs of the adjustment be distributed more fairly?

The economic publications in vogue today are biased in favour of the use of the market and

<sup>29</sup>For example, suppose that per capita consumption is at a level of 100 in year  $t$ . The implementation of a gradual adjustment may hold this level constant for four years. On the other hand, a shock adjustment may mean a fall of 10% in per capita consumption in the first year, followed by an annual increase of 3%, reaching a level of 98.3 after three consecutive years. From the standpoint of political logic, if there are elections in year  $t + 4$  this second type of adjustment would seem preferable.



the system of free prices as a mechanism for correcting any imbalance; almost all the models implicitly use this method. However, a basic feature of the Latin American economies is that they have different kinds of control mechanism for regulating the external sector. In periods of external imbalance the various controls can play an important role in reducing the cost of the adjustment in the short term. It would be useful to have an analysis of this topic and a comparison with the results obtained by a system lacking these controls. Furthermore, economic policies have different effects when the controls are different; one example of this is the effect of an uncontrolled devaluation, which could reduce the price of imported goods. Lastly, given the existence of the controls, some phenomena acquire special relevance; examples of this are the price of the dollar in the "black" market, the under-invoicing of exports and over-invoicing of imports, the problem of the smuggling of goods into the country, and the flight of capital. In short, the functioning of an economy under controls and the problem of adjusting it to an external imbalance is not taken into account in the global approaches found in today's specialized publications.

Lastly, the main line of thinking in Latin America today, given the high level of foreign debt, implicitly questions the traditional view of the problem of external adjustment. The region has a need to grow in order to be able to service its foreign debt. In other words "adjustment

with growth", for it is more feasible and easier to service the foreign debt in an expanding economy than in one which is contracting.

The traditional approach means that adjustment to an external imbalance is based—theoretically and empirically—almost exclusively on the cutback of aggregate demand. However, it is not absolutely obvious that a significant fall in a country's level of economic activity will facilitate the operation of forces which encourage growth; in other words, the mere reduction of aggregate demand need not automatically produce an improvement in the functioning of the economy. An alternative (and probably complementary) proposition is now emerging, one concerned with stimulation of aggregate supply. This proposition contains two different approaches which will probably be the focus of the debate in the near future, especially in view of the greater relative importance which will attach to the World Bank's structural adjustment lending (SAL). These approaches are: i) to achieve the maximum microeconomic efficiency by eliminating distortions and defects, with a view to ensuring the free operation of market forces; ii) to identify key sectors in the economy of each country and to channel investment to them by means of special incentives (tax subsidies, preferential loans, etc). The investigation of these topics, which are so important for the Latin American economies and for developing countries in general, has only just begun.

### Bibliography

- Bacha, E. (1982): Crescimento com oferta limitada de divisas: uma reavaliação do modelo de dois hiatos, in *Pesquisa e Planejamento Econômico*, vol. 12, No. 2, August, pp. 285 to 310.
- (1983): Prologo para a terceira carta. *Forum gazeta mercantil* (comp.), FMI x Brasil. *A armadilha da recessão*. São Paulo, pp. 113 to 128.
- (1985): *The future role of the International Monetary Fund in Latin America: issues and proposals*. Rio de Janeiro: Catholic University, June, mimeo.
- Branson, W. H. (1983): Economic structure and policy for external balance, *IMF Staff Papers*, vol. 30, No. 1, March, pp. 39 to 66.
- Bruce, N. and D.D. Purvis (1985): The specification of goods and factor markets in open economy macroeconomic models, R.W. Jones and P.B. Kenen (eds.), *Handbook of International Economics*, vol. 2, Amsterdam: North Holland, pp. 807 to 857.
- Buira, A. (1983): La programación financiera y la condicionalidad del FMI. *El Trimestre Económico*, vol. L (1), No. 197, January-March, pp. 117 to 149.
- Corden, W.M. (1977): *Inflation, exchange rates and the world economy*. Chicago: University of Chicago Press.
- Chacholiades, M. (1978): *International Monetary Theory and Policy*. New York: McGraw Hill.
- Dam, K.W. (1982): *The Rules of the Game*. Chicago: University of Chicago Press.
- Díaz-Alejandro, C.F. (1983): Some aspects of the 1982-1983 Brazilian payment crisis, *Brookings Papers on Economic Activity*, No. 2, pp. 515 to 552.

- Dornbusch, R. (1980a): *Open Economy Macroeconomics*. New York: Basic Books.
- (1980b): Exchange rate economics: Where do we stand?, *Brookings Papers on Economic Activity*, No. 1, pp. 143 to 206.
- (1982): Stabilization policies in developing countries: What have we learned?, *World Development*, vol. 10, No. 9, September, pp. 701 to 708.
- Frenkel, J.A. and H.G. Johnson (eds.) (1976): *The Monetary Approach to the Balance of Payments*. London: Allen and Unwin.
- Frenkel, J.A. and M.L. Mussa (1985): Asset markets, exchange rates and the balance of payments. R.W. Jones and P.B. Kenen (eds.), *op. cit.*, pp. 679 to 747.
- Ground, R.L. (1984): Orthodox adjustment programme in Latin America: a critical look at the policies of the International Monetary Fund. *CEPAL Review*, No. 23, August, pp. 45-82. United Nations publication, Sales No.: E.84.II.G.4.
- Hahn, F.H. (1977): The monetary approach to the balance of payments, *Journal of International Economics*, vol. 7, No. 3, August, pp. 231 to 249.
- Johnson, H.G. (1961): Towards a general theory of the balance of payments. H.G. Johnson, *International Trade and Economic Growth*. Cambridge: Harvard University Press, pp. 153 to 168. (There is a Spanish translation entitled "Hacia una teoría general del balance de pagos" in H.G. Johnson, *Comercio internacional y crecimiento económico*. Buenos Aires: Amorrortu Editores, 1971.)
- (1976a): The monetary approach to balance of payments theory, J.A. Frenkel and H.G. Johnson (eds.), *op. cit.*, pp. 147 to 167.
- (1976b): The monetary theory of balance of payments policies, J.A. Frenkel and H.G. Johnson (eds.), *op. cit.*, pp. 262 to 284.
- Jones, R.W. and P.B. Kenen (eds.) (1985): *Handbook of International Economics*, vol. 2. Amsterdam: North Holland.
- Kenen, P.B. (1985a): Macroeconomic theory and policy: how the closed economy was opened, R.W. Jones and P.B. Kenen (eds.), *op. cit.*, pp. 226 to 677.
- (1985b): *The International Economy*. London: Prentice-Hall.
- Killick, T. (ed.) (1984): *The Quest for Economic Stabilization: The IMF and the Third World*. New York: St. Martin's Press.
- Krueger, A.O. (1983): *Exchange-rate Determination*. Cambridge: Cambridge University Press.
- Marston, R.C. (1985): Stabilization policies in open economies, R.W. Jones and P.B. Kenen (eds.), *op. cit.*, pp. 859 to 916.
- Massad, C. and R. Zahler (1984): The adjustment process, K. Haq and C. Massad (eds.), *Adjustment with Growth*, North-South Roundtable, Islamabad, Pakistan, pp. 43 to 80.
- Massad, C. (1985): Debt: an overview, *Journal of Development Planning*, No. 16, pp. 3 to 23. United Nations publication, Sales No.: E.85.II.A.12.
- McKinnon, R.I. (1981): The exchange rate and macroeconomic policy: changing postwar perceptions, *Journal of Economic Literature*, vol. 19, No. 2, June, pp. 531 to 557.
- Niehans, J. (1984): *International Monetary Economics*. Baltimore, Md.: Johns Hopkins University Press.
- Williamson, J. (1983a): *The Open Economy and the World Economy*. New York: Basic Books.
- (ed.) (1983b): *IMF Conditionality*. Cambridge: MIT Press.