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Devaluation and Economic Stabilization  
in Selected Latin-American Countries

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## I. Introduction

Stabilization programs featuring currency devaluations have been very controversial in developing countries. An important aspect of the controversy is whether a devaluation--and the fiscal, monetary and trade policies commonly associated with it in a stabilization program--will stimulate or contract output in the short and medium run (a period lasting two to three years). Other controversial aspects include the following: whether devaluation and its related stabilization policies will lead to more unequal income distribution; whether they will increase the rate of inflation in the medium run; and even whether they will improve the trade balance, the current account balance or the overall balance of payments.

To a large extent, the controversy has reflected results derived from different theoretical models, although there are now a number of empirical studies on the subject. This paper is not intended to add to the theoretical controversy; it focuses rather on the empirical evidence, using an approach similar to those of Donovan (1981), and Tun Wai and Acquah (1982). Specifically, this paper will provide evidence regarding the effect of the exchange rate and related stabilization policies on the external accounts and the growth path of the economies of some Latin American countries. It will be shown that new difficulties experienced by those countries in following the pursuit of stabilization policies accounts for different results during the early 1980s, compared with those of earlier devaluation episodes. The paper examines how far the nature of the imbalances, domestic policies, and external developments may explain these differences.

Since we wish to assess the nature of the disequilibrium and the medium-run effects of stabilization measures, we had to limit our sample of devaluation episodes to those cases in which the nominal exchange rate was fixed (pegged to the U.S. dollar) for some years before and after the exchange rate action, although the devaluation period may have lasted for several months in some cases. <sup>1/</sup> This limitation reduced the number of countries in the sample, as most countries in Latin America either maintained the same exchange rate for long periods, or varied it frequently; another limitation on the sample size arose from the lack of consistent published data for some countries. The sample size, therefore, consists only of 5 countries:

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<sup>1/</sup> In the 1980s (and in one case since the 1970s) the countries in the sample have followed a variable exchange rate policy after the initial devaluation--in some cases, this might only reflect a prolonged devaluation period. Nevertheless, in all these cases, the analysis only covers the periods prior and after the initial devaluation.

Bolivia, Costa Rica, Ecuador, Mexico and Peru. The period of analysis extends from the 1950s to the early 1980s.

The structure of the paper is as follows. Section II starts with a brief review of the theoretical and empirical arguments regarding the economic effects of devaluation and stabilization policies. Then it addresses some of the arguments regarding the relationships between devaluation and the nature of the external disequilibrium. Section III examines some empirical evidence from our sample of Latin American countries. For each devaluation episode, an attempt is made to identify the nature of the external disequilibrium as well as to assess the results of the exchange rate action and related stabilization policies. Finally, section IV summarizes the main conclusions.

## II. Arguments regarding the effects of devaluation

### 1. Critical views of devaluation as a means for stabilization

Most of the criticisms of devaluation as a means for stabilizing an economy are based on conclusions derived from theoretical models. These models are of limited application, in part, because they start from an equilibrium position (see below).

The theoretical framework for most of these models is based on three main assumptions. First, the country is a small and open economy, that produces two final goods: traded and nontraded goods. The country faces a perfectly elastic demand for its traded goods at their international prices; the domestic prices of traded goods are therefore the product of their international prices and an exchange rate, controlled by government policy. The prices of nontraded goods are endogenous, determined by domestic production costs and internal demand. Imports are mainly capital goods and intermediate goods that are inputs into the production of the two final goods.

Second, it is implicitly assumed that there are no constraints on the size of the current account deficit; the authorities are able to borrow at will in the international market at a fixed interest rate.

The third and final assumption postulates that relative prices between traded and nontraded goods are in equilibrium before devaluation.

In accordance with the above framework, devaluation would raise the domestic currency price of traded goods and, at the same time, its price relative to those of nontraded goods. This would encourage more of the traded good to be produced, and less to be consumed domestically, leading to a current account surplus. It is usually assumed, also, that relative prices would tend to return to their initial levels in the medium term so that, in order to obtain a real and lasting devaluation, the nominal devaluation should be supported

by demand management policies. 1/ Within this framework, the dissatisfaction among some economists with devaluation as a tool for stabilizing the economies of developing countries stems from its assumed inability to elicit an adequate response from the traded goods sector. In particular, some studies based on theoretical models have concluded that devaluation would not only fail to improve the current account but might also cause economic recession. 2/ This conclusion rests on several specific assumptions added into these models that differ from those of the more orthodox models.

Firstly, these models (commonly referred to as "structural") assume a very low substitutability between exports and domestic goods in developing countries. It is asserted, therefore, that a devaluation could redirect the existing output flexibly toward net exports in developed countries but, in developing countries, the adjustment would require an actual shift of resources from industries producing nontraded goods to (different) industries producing exports. This argument is largely based on the assumption that the exports of developing countries are raw materials and other primary products, whose domestic consumption represents a small fraction of their output while developed countries export manufactured products that are also consumed domestically. Accordingly, as relative prices change, production and consumption cannot respond as flexibly in developing as in developed countries (while it is admitted that the change in relative prices would also modify the composition of output of developed countries.) Because this shift of resources towards the production of traded goods may take much longer time in developing countries, and some of their exports have in any case a relatively long production lag, it is argued that exports may not increase for several years after a devaluation. 3/

Secondly, the models also assume a very low substitutability between imports, on the one hand, and exports and nontraded goods, on the other, which implies that the demand for imports is highly inelastic in developing countries. Given that these imports are mainly capital and intermediate inputs, a devaluation that reduces the demand for them will also reduce their domestic output and real income.

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1/ For a pioneer statement of these propositions see Mundell (1968). During the 1970s, these propositions were explained further by many authors; for instance, see Bruno (1978). The effects of two different targets for demand policies following a devaluation are described in R. W. Jones and W. M. Corden (1976).

2/ For a review of some of those studies see Crockett (1981).

3/ For instance, the shift of physical capital will require new investment directed to the traded goods sector.

Thirdly, it is assumed that the increase in prices brought about by a devaluation will redistribute income from wage earners (who have a high propensity to consume) to other income recipients (mainly profit earners who have a low propensity to consume). Such income transfer, it is assumed, will tend to reduce aggregate demand and domestic output.

To these assumed effects are added other less controversial effects of a devaluation on output. Among these are its deflationary impact on the real value of financial assets and the general deflationary effect of stabilization policies, designed to ensure a lasting real devaluation.

After considering the effects of stabilization policies featuring an exchange rate devaluation, some authors conclude that, although devaluation should not be precluded, its depressive effects should be taken into account when designing complementary policies and, in particular, the time horizon over which the devaluation is to be implemented should be lengthened. <sup>1/</sup> However, other authors contend that devaluations are a clumsy tool with which to improve the balance of payments, because they lead to high import costs. <sup>2/</sup> These authors also conclude that the balance of payments may improve in the short run as the economy is deflated but, this only reflects the fall in imports due to lower real incomes and investment.

## 2. Devaluations and the nature of external imbalances

Because theoretical models for the analysis of the effects of devaluation usually assume that relative prices are initially in equilibrium, they do not consider the cause of the external imbalance, which is one of the main factors determining the nature of the adjustment of the economy.

There are two main reasons or causes of external imbalance that lead to devaluations: one, a domestic rate of inflation higher than the external rate of inflation; two, a "permanent" deterioration in the terms of trade (that is, a deterioration that is non-reversible in the medium run).

### a. Adjustment in response to higher domestic inflation

Typically, the underlying source of a disequilibrium is an increase in a fiscal deficit financed by monetary expansion. The resulting increase in aggregate demand raises the prices of nontraded

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<sup>1/</sup> For instance, Buirra (1983).

<sup>2/</sup> For instance, Ahluwalia and Lysy (1981).

goods and domestic factor rewards relative to the domestic price of traded goods. This change in relative prices lowers exports, raises imports and initiates a process of reserve loss. The authorities may try to limit this loss by borrowing, or by imposing controls on some international transactions. However, these measures do not eliminate the source of the imbalance and the external disequilibrium will increase, requiring further borrowing or tighter controls. As external disequilibrium widens expectations of devaluation will develop. These can lead to an increase in the nominal rate of return on domestic investments reducing economic activity while increasing imports, the rate of interest, and capital flight. The longer the external imbalance persists, the greater will be the resource misallocation generated by the controls.

One of the effects of import tariffs or import quotas is to raise the domestic costs of imports above the foreign prices. The tighter the previous controls, the smaller will be the increase in import prices following a shift from quantitative restrictions to devaluation; they may even fall. In these conditions, a devaluation may not reduce output or increase domestic prices strongly via higher prices for imported inputs. Moreover, the elimination (or reduction) of expectations of further devaluations may decrease domestic interest rates and stimulate the economy once the devaluation has occurred.

In addition, most of the reasons for an output loss after a devaluation may not be valid when the source of the imbalance is domestic inflation. On the one hand, when devaluation substitutes for extensive controls, imports may not fall after a devaluation. Even if they do fall, it is likely to reflect mainly the elimination of imports used to increase inventories before the devaluation. On the other hand, exports may increase for several reasons. First, as production shifts from non-traded to traded goods, this may increase agricultural exports (and import-substituting manufacturing goods) in a relatively short period. Second, production of exports (and of traded goods in general) may also increase from the implementation of more intensive practices. Indeed some studies of developing countries have revealed that higher production costs of some crops, relative to their export prices, result in less intensive production practices, specially lower applications of fertilizers and other chemicals. As a devaluation increases the price of the export crop relative to its production costs, it will lead to more intensive practices and to an increase in the volume produced, even in the short run. And third,

manufactures are now an important fraction of the exports of some developing countries, and manufacturing exports may also have an important supply response in the short run. 1/

b. Adjustment in response to deterioration of the terms of trade.

When a "permanent" deterioration in the terms of trade occurs, the country will have to adjust one way or another. The adjustment required for a sustainable balance in the current account should involve both a relative increase in the production of traded goods and a reduction in real factor incomes. The adjustment can be carried out in two ways: first, through a real and lasting devaluation; and second, through the prolonged use of restrictive demand management policies. In most cases, the former will be less costly in terms of lost output than the latter.

In comparison with the adjustment brought about by higher domestic inflation, the adjustment in response to a "permanent" deterioration in the terms of trade will, in all likelihood, be slower and imply a higher output loss for several reasons. First, in the former case, the devaluation and related policies are directed to re-establishing initial relative prices and the original profitability in the traded goods sector. When the terms of trade have deteriorated, however, the adjustment measures will have to increase the relative profitability of the traded goods sector over and above the level that prevailed prior to the shift in the terms of trade. Second, the theoretical arguments regarding the slow adjustment of exports and the contractionary effects of lower imports are usually based on a shift from one equilibrium situation to another and do not apply to the adjustment brought about by higher domestic inflation. Third, when the rate of domestic inflation is higher than that of external inflation and persists for a long time, the private sector may anticipate most of the effects of the devaluation and output will respond flexibly to support it. However, a devaluation caused by a sudden deterioration in the terms of trade is not usually anticipated, and may increase uncertainty about future economic policies, specially as the higher domestic value of the external debt relative to that of domestic assets drastically reduces the short-run profitability of domestic enterprises. 2/

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1/ These reasons for the increase in exports are independent of whether imported inputs are considered. They only require that the increase in prices of domestic inputs--mainly labor costs--falls short of the domestic currency increase in the price of the output.

2/ The income distribution effects may also be different in each of the two disequilibrium causes. The relation between income

(Footnote continued)

### 3. Devaluation and foreign financing

In addition to these theoretical arguments, some studies, while agreeing that a devaluation may improve the overall balance of payments, have questioned the ability of the exchange rate to modify either the trade or the current account balance. For instance, Miles (1979) examined 16 devaluations in 14 countries, including both developed and developing countries, during the 1960s. He found that while the balance of payments improved temporarily during the two years following a devaluation, the balance of trade did not. From this evidence, he concluded that devaluation is essentially a monetary phenomenon involving only a portfolio stock adjustment.

However, Miles neglected to take into account that international lenders may be influenced, not only by prospective yields but also by their perception of the risks of payment arrears or default. Given these risks, the supply of foreign loans to any particular country (the level of "exposure") may be limited. An exchange rate depreciation coupled with demand-management policies, including interest rate adjustments, may then increase the absolute access of the country to international creditors (and may also favor the return of previously-exported capital) by reducing perceived risks. In this way, potential deficits in the current account and in the trade account will rise after the devaluation. As long as these higher deficits are sustainable, they will be consistent with adjustment. 1/

The fact that the capital account represents a constraint on the target balances of the trade and current accounts implies that "permanent" decreases in the availability of external funds will have effects on the adjustment of the economy that are similar to those of a permanent deterioration in the terms of trade. The adjustment will involve a relative increase in the output of traded goods, to produce a lower, sustainable, current account deficit (or a higher surplus) consistent with the once-and-for-all reduction in real factor incomes. 2/

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(Footnote continued)

distribution and devaluations will not be examined here because of the difficulty in gathering the required data. Two studies of this problem are Johnson and Salop (1980) and Bacha and Taylor (1970).

1/ C. Loser (1977).

2/ The reason for the similarity in impact is that, although a change in the terms of trade is a relative price effect, it will change relative real incomes. In turn, a permanent change in the availability of foreign financing, although a wealth effect, will alter the relative prices of traded goods as the economy adjusts to the change in the sustainable current account deficit.

Permanent increases in external funds will also produce effects similar to those of a permanent improvement in the terms of trade. The adjustment will bring about a relative increase in the production of nontraded goods and a higher current account deficit (or a lower surplus) consistent with the once-and-for-all increase in real factor incomes. These adjustments will also occur in the case of permanent changes in the real rate of interest--or in other contractual terms like maturity, or grace periods-- because they will affect the level of net disbursements. 1/ In all these cases, the adjustment will depend on the size of the change in the relevant variable.

If we extend the analysis to cover the effects on adjustment of "temporary" changes in the terms of trade or in foreign financing, it is clear that these effects will have to be reversed in the following years. For instance, although a nonsustainable rise in external funds may initially increase real factor incomes, and both the production of nontraded goods (relative to that of traded goods) and the current account deficit, the subsequent decline in the foreign funds will lower incomes, production of non-traded goods and the current account deficit. 2/

### III. The Latin-American Experience

The devaluation episodes in Latin American countries that are reviewed below will serve to highlight both the nature of the imbalances and the economic effects of the devaluation and related stabilization policies. In each episode, the nature of the external imbalance, and the evolution of the external accounts and the rate of economic growth, following the exchange rate adjustment, are evaluated through the examination of the movements of a number of aggregate variables and macroeconomic ratios.

The evaluation of the results has to be done with special caution, for several reasons. First, a comprehensive analysis of the effects of the exchange rate and other policy variables on output and on other target variables would require a dynamic model that makes explicit the interrelations and the different adjustment paths of the policy and endogenous variables. Second, the examination does not consider the effect of factors such as "weather" or "political climate," nor the effects of some economic policies other than exchange rate policy that may affect relative price movements, such as

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1/ As is shown in Loser (1977).

2/ This analysis neglects the possible intertemporal effects due to differences in the productivity of external funds relative to their cost.

changes in the structure of taxes, subsidies, administered prices and price controls. In particular, the possible effects of interest rate policies are not taken into account. Nevertheless, to the extent that movements in the selected aggregate variables and ratios reflect both the orientation and results of macroeconomic policies, these results may constitute relevant evidence regarding the effects of exchange rate adjustments and related policies.

The results of the examination of the different devaluation episodes will be presented chronologically, from the 1950s to the early 1980s. However, some authors have suggested that both the nature of imbalances and the external factors influencing the adjustment process were different in the 1950s and 1960s from those of the 1970s and 1980s: the earlier period was characterized by rapid expansion in world trade and limited external shocks; and external imbalances were mainly caused by expansionary domestic policies; while in the 1970s and early 1980s, external imbalances were to a greater extent caused by structural changes of external origin--such as large changes in the terms of trade, contraction in world trade, and sizeable increases in interest rates. <sup>1/</sup> To allow for these differences, as well as to isolate the specific results of the 1980s, the analysis covers three different periods: the 1950s-60s, the 1970s, and the early 1980s.

1. Devaluations: experiences in the 1950s and 1960s

All the countries in the sample experienced at least one exchange rate devaluation during this period: Mexico 1954, Peru 1958-59, Peru 1967 and Ecuador 1970. <sup>2/</sup>

There are three main findings. First, two different kinds of influences were at work on the external accounts of the sample countries prior to the devaluations. One was a medium-term deterioration of the current account, which brought about continuous losses of international reserves. The other was a rapid fall in external demand immediately prior to the devaluation-- which played a catalytic role in aggravating external imbalances. This rapid fall

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<sup>1/</sup> For instance, see Buirra (1984).

<sup>2/</sup> The Bolivian devaluation of 1956-58 and the Costa Rican devaluation of 1961 are omitted due to the scarcity of the data.

Table 1. Balance of Payments, Price Indices and Domestic Policy Indicators in Selected Years

	t-3	t-2	t-1	Devaluation year, t	t+1	t+2	t+3
<u>Overall balance of payments (in millions of U.S. dollars)</u>							
Mexico 1954	-1	-15	-32	-40	231	72	39 <sup>1/</sup>
Peru 1958-59 <sup>2/</sup>	...	15	-33	9	17	34	6
Peru 1967	25	15	-17	-29	-17	31	187
Ecuador 1970	9	-2	-5	8	-11	74	99
<u>Current account balance (in percent of GDP)</u>							
Mexico 1954	-3.5	-1.6	-1.8	-0.5	2.1	-1.5	-1.6 <sup>1/</sup>
Peru 1958-59 <sup>2/</sup>	...	-5.4	-7.4	-3.9	0.2	-0.5	-1.5
Peru 1967	0.3	-3.7	-4.8	-6.0	-1.1	-0.5	2.3
Ecuador 1970	-4.3	-6.5	-6.1	-7.3	-10.2	-4.5	-0.5
<u>Annual rate of change of Export Unit Values in U. S. dollars (in percent)</u>							
Mexico 1954	...	...	...	...	...	...	...
Peru 1958-59 <sup>2/</sup>	...	3.0	3.0	-21.5	11.1	0.0	3.3
Peru 1967	15.0	4.3	16.7	-10.7	8.0	11.1	3.3
Ecuador 1970	0.0	2.3	-11.1	12.5	6.7	-16.7	24.0
<u>Real exchange rate (index; devaluation year=100). (Decline reflects appreciation).</u>							
Mexico 1954	89	84	84	100	99	98	96 <sup>1/</sup>
Peru 1958-59 <sup>2/</sup>	...	85	82	100	93	87	82
Peru 1967	113	99	93	100	110	109	109
Ecuador 1970	86	86	85	100	115	96	104
<u>Annual rate of growth of domestic credit (in percent)</u>							
Mexico 1954	18.7	9.1	8.1	32.6	3.0	11.8	14.8 <sup>1/</sup>
Peru 1958-59 <sup>2/</sup>	15.6	18.9	10.2	9.3	14.1	12.4	8.5
Peru 1967	22.5	32.1	20.0	18.2	13.4	8.4	12.1
Ecuador 1970	9.1	26.4	17.1	19.9	12.4	7.9	10.6
<u>Annual rate of growth of government expenditure (in percent)</u>							
Mexico	...	...	...	...	...	...	...
Peru 1958-59 <sup>2/</sup>	...	20.8	3.4	7.3	2.9	32.4	13.8 <sup>1/</sup>
Peru 1967	27.3	31.9	18.1	17.7	0.0	0.6	22.7
Ecuador 1970	6.9	25.0	11.0	25.3	17.0	4.1	...

Source: IMF. International Financial Statistics.

... denotes not available.

<sup>1/</sup> Average 1955-64.

<sup>2/</sup> Average 1958-59, the year t+1 corresponds to 1960, t+2 to 1961 and so on.

was reflected in decreases in the export unit values in the devaluation year or in the previous year. 1/ (Table 1).

Second, a common cause of the medium-term deterioration of the current account was the disequilibrium in relative prices, reflected in appreciating levels of the real exchange rate in the three years prior to the devaluations. In turn, the available evidence suggests that the relative increase in prices of domestic goods was brought about by expansionary policies, revealed in accelerated expansions of domestic credit and/or government expenditure two or three years before the devaluations.

Third, demand management policies were geared to favor the shift of resources towards the production of tradables following the devaluations, reinforcing the effect of the devaluations and stabilizing the economy. To achieve this stabilization, the rates of growth of domestic credit were sharply reduced in the first and second years immediately following the devaluation in all countries although not as markedly in the case of Peru. The rates of growth of government expenditures were also reduced in this period. Because these policies were instrumental in reducing domestic inflation to levels compatible with world inflation in two or three years--as reflected in the behavior of the real exchange rate--in three of the four cases, countries could re-establish and maintain a fixed rate of exchange for a relatively long period. 2/

Several points are worth making regarding the behavior of real gross domestic product (GDP) and of the external accounts 3/, following the devaluation and the implementation of stabilization policies.

First, following the devaluation and the related stabilization policies, quick responses were observed in the volume of exports in

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1/ In the case of Mexico 1954, where there is no Export Unit Value Index available, the fall in external demand, associated with the end of the Korean War and the beginning of the recession in the U.S., was one of the main causes of the fall by 11 per cent in the value of exports (fob) in 1953; the other main cause was the loss of competitiveness in the production of exports. An econometric model that estimates the relative importance of these effects appears in Gómez-Oliver (1978).

2/ Except in the case of Peru 1958-59. The failure to reduce domestic inflation to international levels may explain why the country had to devalue its currency again in 1967. (See table 2).

3/ The analysis focuses on changes in the volume of exports whenever data on these volumes are available. However, because of lack of data on volumes of imports, the analysis of the changes of imports is carried out in value terms.

all cases. <sup>1/</sup> These increases generally occurred during the first year after the devaluation, although in the cases of Mexico and Ecuador, a significant increase in exports also occurred in the year of the devaluation (Table 2).

Second, following the exchange rate adjustment, quick responses were observed in the value of imports during the year of the devaluation (and, in the case of Peru 1967 when the devaluation took place in the second half of the year, in the year following the devaluation). However, in the case of Ecuador 1970, the decrease of imports was delayed, reflecting in part the large inflow of foreign capital immediately following the devaluation.

Third, the behavior of real GDP growth differed among countries. However, in all cases, during the 3 years immediately following the devaluation, real GDP attained annual growth rates as high as, or higher than, the annual rates during the 3 years preceding the devaluation. In the case where the external disequilibrium was small relative to GDP (Mexico 1954), or when the devaluation was accompanied by an increase in net capital inflow (Ecuador 1970), the growth rates of real GDP were relatively high both in the year of the devaluation and in the subsequent year after. On the contrary, in the cases of Peru 1958-59 and Peru 1967, where sizeable disequilibriums had prevailed, real GDP was practically stagnant during the devaluation period, but it increased during the next three years. <sup>2/</sup>

## 2. Devaluations: experiences in the 1970s

All countries in the sample except Ecuador devalued their currencies at least once in the 1970s. The analysis covers the

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<sup>1/</sup> Although there is no information about the volume of exports of Mexico, the value of exports (fob) increased 12 per cent and 29 per cent, in U.S. dollars, in the year of the devaluation and in the following year, respectively. In each of those years, the wholesale price index of the United States increased around 0.2 per cent. This suggests strong increases in the volume exported in both years, given that the U.S. was by far the most important market for Mexican exports, which were relatively diversified by Latin American standards.

<sup>2/</sup> The rate of growth of real GDP in 1958, the first year of the devaluation period, was 0.9 per cent and, in 1959, the second year of the devaluation period, it increased to 4.0 per cent. In the next three years it averaged more than 10 per cent. In 1967, the devaluation occurred during the second half of the year and real GDP was stagnant in the following year, then, real GDP growth was 4.2 per cent in the next year, and in the three years following the devaluation real GDP growth averaged over 6 per cent.

Table 2. Growth in the Volume of Exports, in the Value of Imports and in Real GDP, in Selected Years

(Annual rates in percent)

	t-3	t-2	t-1	Devaluation year, t	t+1	t+2	t+3
<u>Volume of exports</u>							
Mexico 1954 <u>1/</u>	21.1	3.3	-11.1	11.5	28.9	-2.0	4.6
Peru 1958-59 <u>2/</u>	...	4.6	3.7	13.5	31.6	20.0	8.8
Peru 1967	10.5	-4.4	2.3	4.5	10.7	-8.8	8.5
Ecuador 1970	28.1	3.7	-17.6	20.0	0.0	32.1	41.4
<u>Imports fob (in U.S. dollars)</u>							
Mexico 1954	48.0	-1.8	0.0	-1.0	10.5	21.2	6.3
Peru 1958-59 <u>2/</u>	...	28.2	16.4	-17.0	19.8	24.8	14.4
Peru 1967	0.4	27.8	23.0	0.9	-16.9	-2.1	6.1
Ecuador 1970	22.1	18.3	-5.6	14.1	22.9	-7.4	39.9
<u>Real GDP</u>							
Mexico 1954	7.7	4.0	0.3	9.9	8.5	6.8	6.6
Peru 1958-59 <u>2/</u>	...	2.3 <u>3/</u>	4.4 <u>3/</u>	2.4 <u>3/</u>	12.4 <u>3/</u>	8.8	10.3
Peru 1967	6.9	5.1	7.0	3.5	0.0	4.2	7.3
Ecuador 1970	7.9	4.7	4.0	6.4	6.3	14.4	25.3
<u>Memorandum item:</u>							
<u>Export prices/consumer prices</u>							
Mexico 1954	...	...	...	...	...	...	...
Peru 1958-59 <u>2/</u>	...	111	107	100	100	92	89
Peru 1967	110	94	101	100	114	114	121
Ecuador 1970	118	116	97	100	118	91	100

Source: IMF. International Financial Statistics.

... denotes not available.

1/ Growth in the value of exports (fob) measured in U.S. dollars.

2/ Average of 1958-59 period.

3/ United Nations: Yearbook of National Accounts Statistics.

experiences of Bolivia 1972, Costa Rica 1974, Peru 1975 and Mexico 1976. 1/

The main findings for the 1970s are as follows. First, the capital account played a more important role in the 1970s than in the earlier periods. Although the current account deficits were relatively high in 3 of the 4 countries before the devaluations--and were growing quickly in 2 of them--the overall balance of payments of the 4 countries showed increasing surpluses (Table 3). It is likely that, in some cases, the availability (and low real cost) of foreign financing may have been the main factor responsible for the postponement of the required adjustment indicated by exchange rate overvaluations and worsening current account.

Second, regarding the origin of the devaluations, the big swings in external demand and in the terms of trade aggravated rapidly the external imbalances prior to the devaluations, and played the same catalytic role as in the 1950s and 1960s in 3 of the 4 countries, excepting Bolivia. In Peru, the export unit values declined 68 per cent in 1975; in Costa Rica, the price of coffee--its main export product--increased only 7 per cent in 1974, while the rise in the price of oil and of other raw materials increased its import bill in U.S. dollars by some 80 per cent; and in Mexico, the 1975 recession in the U.S. was one of the main reasons for the stagnant value of Mexican exports.

Another important reason for the devaluations in the same 3 countries was the medium-term deterioration of the current account prior to devaluation due to the disequilibrium of relative prices. The current account deficits were growing very quickly in the cases of Peru 1975 and Mexico 1976, while in the case of Costa Rica 1974, the relative fall of the current account deficit was primarily the result of the imposition of some restrictions that were lifted at the time of the devaluation. 2/

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1/ For convenience in exposition I will not examine here the Bolivian devaluation that took place at the end of 1979; it will be examined with the other devaluations that occurred in the 1980s.

2/ During 1972, the Costa Rican authorities reduced the list of imports through the official market. This reduction caused the proportion of official market imports to total imports to fall from about 80 per cent at the beginning of the year, to about 20-25 per cent at the end of the year. The increased importance of the "free" or "parallel" market was equivalent to a "back-door" devaluation. Despite the easing of the restrictions, the overvalued currency and the deterioration in the terms of trade sharply increased the current account deficit in 1974. Then, to correct the imbalances, the

(Footnote continued)

In the remaining case, Bolivia 1972, the data do not indicate the presence of a significant external imbalance in the current account during the years prior to the devaluation nor a "permanent" and sizeable deterioration in the terms of trade during that period. 1/ However, domestic costs had been rising very rapidly for tin and other mining products, which could have brought about a decrease in the exports of these products, with unfavorable consequences for both employment and the government finances. 2/

Third, in contrast to the 1950s and 1960s, the rates of growth of domestic credit and of government expenditures did not slow down, in general, in the years after the devaluation. In 3 of the 4 countries (namely Bolivia, Costa Rica and Mexico) this may be explained by these factors: (a) availability of foreign capital (at low cost) for financing the current account deficit; two years after the devaluations, the latter had reached values in terms of GDP similar to those registered in the 3-year period prior to the devaluations; and (b) large increases in the prices of exports from these countries and sizeable improvements in their terms of trade. 3/ In the remaining case (Peru 1975) the continuation of expansionary fiscal and monetary policies was made possible by the adoption of a flexible exchange rate policy in 1976. 4/

Regarding the behavior of the external sector and of real GDP following the devaluation and stabilization policies, the main findings (recorded in Table 4) are as follows.

First, the volume of exports responded differently in the 4 countries, reflecting changes in the terms of trade and in the exchange rate policies pursued by the authorities. In the case of Peru 1975, in which expansionary monetary and fiscal policies were offset by a

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(Footnote continued)

authorities unified the exchange rate, at the level of the "free" rate in 1974. Banco Central de Costa Rica, Memoria Anual:

1/ A sizeable adjustment did occur in 1970 when the current account improved by an amount equivalent to almost 6 per cent of GDP. In the next two years, the current account deficit remained at less than 1 per cent of GDP.

2/ See Johnson and Salop (1980) p. 18.

3/ The Export Unit Value Index of Bolivia grew 31 per cent and 74 per cent, in the two years after the devaluation. In the case of Costa Rica, coffee prices in U.S. dollars grew more than 90 per cent per year in the second and third year after the devaluation. In the case of Mexico, it benefitted from the increases in the price of oil.

4/ During 1976, the Peruvian authorities devalued the sol once in the second quarter and more frequently during the fourth quarter. Beginning in the fourth quarter of 1977, the authorities increased the pace of the devaluation.

Table 3. Balance of Payments, Price Indices and Domestic Policy Indicators in Selected Devaluations during the 1970s

	t-3	t-2	t-1	Devaluation year, t	t+1	t+2	t+3
<u>Overall balance of payments (in millions of U.S. dollars)</u>							
Bolivia 1972	-1	5	6	4	-2	127	-33
Costa Rica 1974	13	20	16	-33	-17	64	109
Peru 1975 <u>1/</u>	29	94	413	-499	-312	59	5
Mexico 1976	168	42	112	-682	384	455	396
<u>Current account balance (in percent of GDP)</u>							
Bolivia 1972	-5.9	0.2	-0.6	-0.9	0.1	5.8	-5.7
Costa Rica 1974	-11.0	-8.3	-7.3	-16.1	-11.1	-8.4	-7.4
Peru 1975 <u>1/</u>	-0.8	-3.2	-6.5	-11.6	-9.3	-7.8	-2.3
Mexico 1976	-2.6	-4.0	-4.6	-3.9	-2.3	-3.2	-4.1
<u>Annual rate of change of export unit values in U.S. dollars (in percent)</u>							
Bolivia 1972	8.7	29.4	-19.0	4.1	30.9	74.2	-4.4
Costa Rica 1974 <u>2/</u>	-12.2	-2.4	42.8	7.2	-9.2	90.7	97.0
Peru 1975 <u>1/</u>	7.1	63.3	22.4	-68.3	14.6	8.5	-2.0
Mexico 1976	...	...	...	...	...	...	...
<u>Real exchange rate (index; devaluation year=100). (Decline reflects appreciation)</u>							
Bolivia 1972	90	92	92	100	122	82	83
Costa Rica 1974	109	108	99	100	100	102	104
Peru 1975 <u>1/</u>	117	114	107	100	111	124	157
Mexico 1976	104	93	89	100	121	111	106
<u>Annual rate of growth of domestic credit (in percent)</u>							
Bolivia 1972	6.1	18.0	15.4	30.6	32.7	3.8	42.0
Costa Rica 1974	29.4	15.1	7.3	41.3	42.8	18.3	29.8
Peru 1975 <u>1/</u>	24.7	30.9	21.8	38.8	48.8	35.8	50.7
Mexico 1976	18.2	24.8	27.2	37.6	35.0	23.0	41.0
<u>Annual rate of growth of government expenditures (in percent)</u>							
Bolivia 1972	-5.6	2.9	22.1 <sub>3</sub>	18.1 <sub>3</sub>	66.9 <sub>3</sub>	... <sub>3</sub>	... <sub>3</sub>
Costa Rica 1974	...	...	23.8 <sub>3</sub>	26.9 <sub>3</sub>	33.9 <sub>3</sub>	28.1 <sub>3</sub>	19.7 <sub>3</sub>
Peru 1975 <u>1/</u>	13.9	19.5	22.7	43.3	34.9	45.9	47.5
Mexico 1976	29.0	33.3	44.4	24.4	29.7	27.7	40.2

Source: IMF. International Financial Statistics.

... denotes not available.

1/ The country has had a floating exchange rate since 1975.

2/ Annual variations in coffee prices in U.S. dollars.

3/ From IMF. Government Finance Statistics Yearbook.

depreciating exchange rate, the volume of exports increased substantially during the three years following the initial devaluation. In those countries where export unit values increased strongly, and the authorities followed expansionary domestic policies while maintaining fixed exchange rates, there were divergent responses in exports. In Bolivia the volume of exports showed a tendency to fall, while in the case of Mexico, the volume of exports sharply increased, mainly due to exports of oil. 1/

Second, imports fell in the year after the devaluation in 3 of the 4 countries (except Bolivia). However, imports began to increase steadily in subsequent years in the other 3 countries, except for Peru, where imports rose only temporarily and continued to fall with the depreciation of the real exchange rate. Improvements in the terms of trade, expansionary domestic policies, and the availability of foreign financing allowed for these strong increases in imports.

Third, the rate of growth of real GDP slowed down both in the year of the devaluation and in the next year in 3 of the 4 countries (except Bolivia); however, real GDP expanded at a very high rate afterwards in 3 of the 4 countries (except Peru). In these 3 countries, the high growth rates of real GDP were associated with improvements in the terms of trade, with greater availability (and low cost) of foreign financing and with relatively expansionary domestic policies.

### 3. Devaluations: experiences in 1980-83

This period differs from the two earlier periods in two important respects. First, the 4 countries in the sample (namely Bolivia, Costa Rica, Ecuador and Mexico) adopted a variable exchange rate policy during the period. 2/ The analysis in this section is therefore based on cases of successive devaluations from a fixed rate that prevailed during the predevaluation years. Second, data are not available for the full three years after the initial devaluation for all four countries (complete data are only available for Bolivia 1979).

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1/ There is no published index for the total volume of exports in the cases of Costa Rica and Mexico. The available data on the volume of the main export products indicate a fall or stagnation in the volume of the 3 main export products of Costa Rica in the first year after the devaluation, and the volume of the 2 main products also declined in the next year. In the case of Mexico, in the first year after the devaluation, the volume of the main export products generally declined, except for crude petroleum which practically doubled.

2/ The remaining country, Peru, had adopted this policy earlier, and it is not in the sample for the 1980s.

Table 4. Growth in the Volume of Exports, in the Value of Imports and in Real GDP in Selected Devaluations during the 1970s

(Annual rates, in percent)

	t-3	t-2	t-1	Devaluation			t+3
				year, t	t+1	t+2	
<u>Volume of exports</u>							
Bolivia 1972	6.8	-8.9	9.1	3.2	-34.8	1.0	-5.7
Costa Rica 1974 <u>1/</u>	-2.5	23.7	23.6	27.7	12.0	20.1	39.7
Peru 1975 <u>2/</u>	-4.2	-20.3	1.7	-45.0	12.1	10.8	15.9
Mexico 1976 <u>1/</u>	24.7	40.1	0.3	15.6	32.5	35.7	48.9
<u>Imports fob (in U.S. dollars)</u>							
Bolivia 1972	7.4	-22.0	6.8	6.2	26.1	67.7	45.0
Costa Rica 1974	10.6	6.3	22.2	57.5	-3.3	10.9	33.0
Peru 1975 <u>2/</u>	11.2	35.2	74.0	25.2	-12.1	3.1	-26.0
Mexico 1976	40.1	58.4	8.4	-8.1	-2.5	42.1	51.8
<u>Real GDP</u>							
Bolivia 1972	4.6	7.8	4.9	5.8	6.7	5.1	6.6
Costa Rica 1974	6.8	8.2	7.7	5.5	2.1	5.5	8.9
Peru 1975 <u>2/</u>	5.8	6.2	6.8	3.3	3.1	-1.2	-1.8
Mexico 1976	8.4	6.1	5.6	4.2	3.4	8.2	9.2
<u>Memorandum item</u>							
<u>Export prices/consumer prices</u>							
Bolivia 1972	94	118	92	100	150	161	142
Costa Rica 1974 <u>3/</u>	85	82	101	100	83	147	274
Peru 1975	71	117	126	100	112	129	149
Mexico 1976 (1970=100)	...	...	...	...	...	...	...

Source: IMF. International Financial Statistics.

... denotes not available.

1/ Growth in the value of exports (fob) measured in U.S. dollars.

2/ The country has a floating rate since 1975.

3/ The ratio of coffee prices (in colones) to consumer prices.

The main findings are the following. First, the relative importance of capital flows was greater in this period than in earlier periods. In the 4 countries that are analyzed, net capital inflows almost, and in some cases more than, offset very high current account deficits both during the two years prior to the devaluation and in the year of the devaluation. 1/

Second, in the same 4 countries, an important cause of devaluation was the very high--and generally growing--deficit in the current account due to expansionary domestic policies (particularly credit policy) and higher rates of domestic inflation. Decreases in export prices triggered the devaluations in these countries, except in Bolivia (Table 5).

Third, contrary to the experience of the 1970s, the export unit values of 3 of the 4 countries fell not only before the devaluation, but also in the years immediately after the devaluation. In the other country, Bolivia, export unit values increased in the first year after the devaluation and declined in the next two years. In all likelihood, this general fall in export unit values also implied a fall in the terms of trade for the 4 countries over the medium term. In addition, the drastic reduction in the availability (and the sharp rise in the real cost) of foreign financing brought about a decline in imports and a sizeable improvement in the current account of the balance of payments of the 4 countries following the devaluations. 2/

Fourth, monetary and fiscal policies were relatively expansionary after the devaluation in the 4 countries. 3/ Consequently, the fixed exchange rate policy had to be abandoned in those countries, and the ensuing currency devaluations depreciated the real exchange rate,

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1/ In the case of Mexico, where the net capital inflow increased strongly prior to the devaluation, it fell drastically in the year of the devaluation reflecting difficulties in obtaining foreign financing and capital flight.

2/ In the case of Bolivia the current account deficit in terms of GDP, fell to less than half of the preceding year in 1980, and fell again a similar percentage in 1982. In the case of Mexico, this deficit, in terms of GDP, fell from 6 percent in the year before the devaluation to 2 percent in the devaluation year, and turned into a surplus of 4 percent in the year after the devaluation. In the case of Ecuador, the current account deficit in terms of GDP fell from almost 9 percent in the devaluation year to little over 1 percent in the following year. Finally, in the case of Costa Rica, the current account deficit fell to almost in half, in dollar terms, in the year after the initial devaluation.

3/ Although IFS does not have monetary and fiscal data for 1982 in Costa Rica, data from the Central American Monetary Council for that year indicates that the annual increases in the credit of the financial system were 30 per cent to the public sector, and 24 per cent to the private sector. In addition, central government expenditures increased 57 per cent in 1982.

Table 5. Balance of Payments, Price Indices and Domestic Policy Indicators in Selected Devaluations during the early 1980s

	t-3	t-2	t-1	Devaluation year, t	t+1	t+2	t+3
<u>Overall balance of payments (in millions of U.S. dollars)</u>							
Bolivia 1979	47	76	-81	25	-137	22	37
Costa Rica 1981	26	-114	99	-67	137	61	...
Ecuador 1982	86	291	-381	-328	127	...	...
Mexico 1982	396	1027	1122	-3470	2050	...	...
<u>Current account balance (in percent of GDP)</u>							
Bolivia 1979	-2.3	-4.0	-9.2	-8.8	-3.2	-4.7	-2.0
Costa Rica 1981	-10.3	-14.0	-13.6	-15.6	-12.6	...	...
Ecuador 1982	-7.0	-5.7	-7.4	-8.9	-1.2	...	...
Mexico 1982	-4.1	-4.5	-5.9	-1.8	3.8	...	...
<u>Annual rate of change of export unit values in U.S. dollars (in percent)</u>							
Bolivia 1979	12.9	24.2	12.9	22.0	33.5	-2.9	-4.9
Costa Rica 1981 <u>1/</u>	-24.6	-8.8	6.4	-27.6	1.0	-15.8	...
Ecuador 1982	61.8	37.4	-8.3	-4.6	-10.5	-0.6	...
Mexico 1982 <u>2/</u>	43.8	62.4	-5.6	-5.5	-13.3	...	...
<u>Real exchange rate (index; devaluation year=100). (Decline reflects appreciation)</u>							
Bolivia 1979	112	109	107	100	92	77	95
Costa Rica 1981	51	51	49	100	96	82	83
Ecuador 1982	93	93	91	100	99	110	...
Mexico 1982	80	73	67	100	112	100	...
<u>Annual rate of growth of domestic credit (in percent)</u>							
Bolivia 1979	38.1	31.5	34.3	41.7	34.0	26.8	345.1
Costa Rica 1981	29.0	39.8	23.8	...	...	...	...
Ecuador 1982	28.9	24.5	25.4	33.4	57.4	30.0	...
Mexico 1982	31.2	35.2	53.0	127.2	50.5	49.1	...
<u>Annual rate of growth of government expenditures (in percent)</u>							
Bolivia 1979	...	...	5.4	30.3	43.1	12.8	436.4
Costa Rica 1981	39.3	19.2	20.6	15.7	...	...	...
Ecuador 1982	15.2	69.4	34.7	14.0	52.6	...	...
Mexico 1982	40.2	49.5	59.1	110.1	71.6	...	...

Source: IMF. International Financial Statistics.

... denotes not available.

1/ Coffee prices

2/ Oil prices

sharply in the cases of Costa Rica and Mexico, less so in Ecuador, while in the case of Bolivia, the depreciation of the nominal rate appeared to be insufficient to compensate for the rise of domestic prices.

Fifth, the available data indicates that the volume of exports increased in the year after the devaluation only in Ecuador and Mexico (Table 6). 1/ However, in Bolivia and Costa Rica, the volume of exports also increased although with some delay. 2/ The delayed and weak response of exports seems to have been caused by several factors, among them: lower external demand, which reflected the recession in industrial countries; reduced foreign financing, which limited the importation of capital and other imports needed for export activities; and, in some cases, domestic policies which created undue uncertainty and diminished the relative advantage of traded goods activities.

Sixth, imports had to bear the major part of the adjustment; in the first year after the devaluation the value of imports (fob) dropped by a sizeable percentage (between 17 per cent and 47 per cent) in all 4 countries.

Finally, many factors--the size of the previous imbalances, the fall in capital inflows and in external demand, the deterioration in the terms of trade, the rise in interest payments and the increased domestic uncertainty--prevented a reversal of the declining trend in the growth of real GDP. This was the case in Bolivia and Costa Rica; in Ecuador and Mexico, these unfavorable circumstances were reflected in a fall of real GDP during the first year after the devaluation. 3/

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1/ Following the several devaluations of the Mexican peso in 1982 (in February, in August and in December) non-oil exports (fob) fell 6.5 percent in U.S. dollars in that year. However, non-oil exports increased 15 percent in U.S. dollars in 1983; manufactured exports increased more than 20 percent. The small increase in total exports in 1983 was due to the offsetting effect of the oil prices, which fell more than 13 percent in U.S. dollars.

2/ In the case of Costa Rica, the volume of coffee exports, which had declined 3 percent in 1982, the first year after the initial devaluation, increased 15 percent in 1983.

3/ In the case of Mexico, real GDP continued to decline in the year of the devaluation. However, preliminary statistics show an increase in the GDP of 3 per cent in 1984.

Table 6. Growth in the Volume of Exports, in the Value of Imports  
and in Real GDP, in Selected Devaluations  
during the early 1980s

(Annual rates, in percent)

	t-3	t-2	t-1	Devaluation year, t	t+1	t+2	t+3
<u>Volume of exports</u>							
Bolivia 1979	8.0	7.4	-5.2	-4.5	-4.8	8.0	-8.3
Costa Rica 1981 <u>1/</u>	4.4	9.1	6.2	0.2	-13.3	0.2	9.6
Ecuador 1982	0.9	-13.9	12.4	-16.8	30.8	6.5	...
Mexico 1982 <u>1/</u>	48.9	72.7	24.1	8.2	0.9	11.0	...
<u>Imports fob (in U.S. dollars)</u>							
Bolivia 1979	9.0	13.0	25.0	12.6	-16.6	0.0	-37.0
Costa Rica 1981	13.4	19.8	9.4	-20.7	-26.2	10.9	10.0
Ecuador 1982	23.0	6.9	5.3	-7.6	-27.0	17.1	...
Mexico 1982	51.8	55.8	27.2	-39.7	-46.5	40.5	...
<u>Real GDP</u>							
Bolivia 1979	6.1	4.2	3.4	1.8	0.6	-1.0	-9.1
Costa Rica 1981	6.3	4.9	-0.8	-2.3	-7.3	2.3	...
Ecuador 1982	5.1	4.8	4.3	1.4	-3.3	...	...
Mexico 1982	9.2	8.3	8.0	-1.6	-4.7	...	...
Memorandum item:							
<u>Export prices/consumer prices</u>							
Bolivia 1979	83	95	98	100	110	81	90
Costa Rica 1981	99	83	75	100	92	70	...
Ecuador 1982	115	129	104	100	87	94	...
Mexico 1982 (1970=100)	...	...	...	...	...	...	...

Source: IMF. International Financial Statistics.

... denotes not available.

1/ Exports (fob) in U.S. dollars.

#### IV. Conclusions

The conclusions of this paper should be interpreted with caution since the empirical findings are based on the behavior of a limited, albeit important, number of aggregate variables and ratios; a comprehensive analysis of the economies of the different countries was not attempted. Nevertheless, they should further our understanding of stabilization programs involving exchange rate adjustments in developing countries. Regarding the causes of the imbalances, the main findings are the following:

First, the accelerated expansion of aggregate demand appears to be an important cause of external imbalances in 11 of the 12 episodes examined here. 1/ This is true even of cases occurring after the oil shocks and big swings in the terms of trade.

Second, changes in the terms of trade, which only played a precipitating role in some episodes of devaluations in the 1950s and 1960s, played a more important role in adjustment and devaluation during the 1970s and early 1980s. 2/ During the 1970s, the terms of trade improved for the countries in the sample over the medium term, and this improvement permitted the authorities to pursue a more expansionary policy than would otherwise have been sustainable, effectively postponing and magnifying the eventual adjustment (Bolivia, Costa Rica, Mexico). By contrast, the terms of trade deteriorated during the early 1980s, increasing the extent of the adjustment efforts required from the 4 countries examined in this period (Bolivia, Costa Rica, Mexico and Ecuador). 3/

Third, an additional factor became very important during the 1970s and 1980s--the changes in the availability (and cost) of foreign financing. The greater availability (and lower cost) of foreign financing during the 1970s propitiated that net foreign financing increased (or at most decreased gradually) during economic stabilization. The latter was characterized by a gradual adjustment in the current account (and in some cases even a postponement of adjustment). However, stabilization efforts in the 1980s were accompanied, and in some cases triggered, by drastic reductions in net foreign borrowing that called for sharp adjustments in current account deficits.

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1/ The only exception being Bolivia in 1972.

2/ In the 1950s and 1960s, the deterioration in the terms of trade aggravated external imbalances that had already been generated before the devaluations.

3/ The remaining country, Peru, was not examined in this period because it maintained a variable exchange rate since the mid-1970s.

Regarding the effects of stabilization policies, the stabilization efforts of the 1970s and early 1980s have not brought about the same degree of economic adjustment as did the stabilization efforts of the 1950s and 1960s. During the earlier periods, stabilization policies were successful in controlling aggregate demand immediately after the devaluation, which ensured a real and lasting devaluation. In turn, this lasting change in relative prices caused a more rapid and lasting adjustment in the external account. However, during the 1970s and early 1980s, stabilization policies were generally directed toward a more gradual adjustment of domestic demand and relative prices. This policy stance might have been justified during the 1970s, when foreign financing was more readily available and relatively cheap and when external adjustment was also aided by the improvement in the terms of trade. However, given the tighter constraints on foreign financing in the early 1980s, balance of payments equilibrium required a rapid and very sizeable adjustment in the current account. In this sense, a policy stance of gradual adjustment was not only inconsistent with the required degree of adjustment but may also have retarded the required change in the allocation of resources, unduly increasing the cost of adjustment.

Regarding the effects of stabilization policies on exports, imports and real GDP growth, the main findings are the following: first, devaluation and related policies usually induced quick responses in the volume of exports during the 1950s and 1960s. The export response was mixed during the 1970s; countries that experienced sizeable improvements in the terms of trade usually followed expansionary domestic policies that stimulated the production of domestic goods at the expense of exports. During the early 1980s, the export response was somewhat weak and, in some cases, it was delayed beyond one year. This seems to be due to several factors; among them, inconsistent policies and the world recession.

Second, devaluation and related stabilization policies were reflected in lower expenditures on imports in 11 of the 12 cases during the devaluation year or the following year (excepting Ecuador in 1970). However, the fall in imports was more drastic in the 4 stabilization efforts of the early 1980s, when exports responded more slowly and less foreign capital was available.

Finally, the links between the stabilization policies and the growth of real GDP differed among countries. During the 1950s and 1960s, higher growth rates of real GDP were usually observed immediately following the devaluations. The stabilization efforts in the 1970s were usually accompanied by a slowdown in the growth rate of real GDP for one or two years and were followed by high rates of economic growth in subsequent years. However, the stabilization efforts in the early 1980s were accompanied by actual contractions in real GDP; these contractions reflected the size of previous imbalances, the reductions in external financing, the adverse external effects from the deterioration in the terms of trade and world recession

and, in some cases, the adverse effects from inconsistent domestic policies.

APPENDIX I

Definitions of variables in the tables

Overall balance of payments. Corresponds to the Total Change in Reserves, as published in IFS.

Current account balance. Does not include the Official Unrequited Transfers.

Real exchange rate. Reflects changes in the nominal exchange rate and changes in the Consumer Price Index of the country and of the U.S.

Domestic credit. Corresponds to the credit of the financial system. When this was not available directly, it was estimated as the sum of Domestic Credit, in the Monetary Survey of the IFS, less Claims on Other Financial Institutions, plus the Claims on Government and on Private Sector of the Other Financial Institutions.

Government expenditure. Includes Net Lending, i.e., Lending minus Repayments. The government data (government expenditure and government deficit), correspond to the definition of government in IFS, that is, they relate to the central government or to those parts of central government for which data are available on a current basis.

Export prices/Consumer prices. Corresponds to the ratio of Export Unit Values--or export price of the main export product--to consumer prices, in local currency (its variations are the product of the variation of the export prices in US dollars times the variations in the exchange rate) over the consumer prices (year average).

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