JOINT PROJECT UNDP/ECLAC RLA/77/021

"IMPLICATIONS FOR LATIN AMERICA OF THE INTERNATIONAL MONETARY AND FINANCIAL SYSTEM"

LATIN AMERICA: INTERNATIONAL MONETARY SYSTEM AND EXTERNAL FINANCING

United Nations Development Programme

Economic Commission for Latin America and the Caribbean

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Foreword

The situation of the international economy in the early 1970s gave prominence to the role of the functioning of the international system and of the world financial markets in Latin American development. At the same time the studies that were being conducted by the International Monetary Fund, in conjunction with the developing countries for the reform of the monetary system made it clear that these countries needed technical support in defining and concerting their position.

The concern of the Economic Commission for Latin America and the Caribbean to deal with these topics in a systematic manner found echo at the headquarters of the United Nations Development Programme, and the collaboration of both United Nations agencies was sought to carry out studies in the international monetary and financial field. This collaboration materialized in two successive projects, the first of which was started in 1975 (RLA/75/040). The second, "Implications for Latin America of the international monetary and financial system" (RLA/77/021), followed in 1977.

The evolution of the world economy and of the international monetary and financial problems has fully justified the interest shown by ECLAC and UNDP in these topics. The articles presented in this book, selected from those produced in the financial field during the last ten years through the collaboration of these two institutions, have made a useful and timely contribution to the knowledge of the subject and have explored possible solutions to the difficulties encountered. These studies exhibit a sequence closely related to events. Many of the arguments advanced have come to be part of accepted knowledge and many of the predictions have been fulfilled.

The numerous requests for technical assistance received from universities and governments and from subregional, regional and international institutions in Latin America and beyond, which have been met to the extent of their resources by the staff of the ECLAC/UNDP joint projects in the financial field, are further testimony to the services rendered to the community by these two organs of the United Nations.

Hugo Navajas Mogro
Assistant Administrator
and Regional Director
Regional Bureau for Latin America and
the Caribbean of the United Nations
Development Programme

Norberto González
Executive Secretary
Economic Commission for Latin America
and the Caribbean of the
United Nations

Introduction

This book comprises fourteen articles which have already appeared in print and which were prepared under the joint projects of the United Nations Development Programme and the Economic Commission for Latin America and the Caribbean, in the field of the functioning of the international monetary system and the external financing of Latin America.

Since the early 1970s there has been a noticeable increase in the relative importance of external financing from private sources as against that from public sources which was traditionally predominant in the region. The first shock of the rise in oil prices, in accelerating the expansion of the Euromoney markets, helped to accentuate the already existing trends. The intense capital movements at the end of the 1960s and the beginning of the 1970s put an end to the system of fixed exchange rates and the convertibility of the dollar into gold, thus eroding the bases of the monetary system created at Bretton Woods and making its revision indispensable.

The first article included in this work, "The revolt of the bankers in the international economy: a world without a monetary system", appraises the situation of the monetary system in the first half of the 1970s, outlines its most probable evolution and indicates the role that might be played by the reforms to the Constitutive Agreement of the International Monetary Fund which were at that time under scrutiny. The article underlines the growing importance of private financing, and points out that its growth tends to reduce the field of action of the Monetary Fund. This outcome, which was not obvious at the time when the article was written, became apparent later on, with the outbreak of the crisis of 1982.

The article lays emphasis on the asymmetries of the international monetary system in force and the need to correct them, and points out that this means giving great importance to the Special Drawing Rights. He observes, however, that this does not seem compatible with recent financial events, especially with the floating of the leading currencies and with the greater influence of the private sector on the holdings of foreign exchange and on intervention in the markets. The article declares in conclusion that the internationally accepted aim of placing the Special Drawing Rights in the centre of the monetary system is incompatible with the characteristics of the system and its probable evolution. This conclusion has been fully corroborated by subsequent events.

The continuing growth of private financial markets made them a new source of funds for financing external imbalances; it was often possible to obtain these resources without official guarantee. The second article which appears in this volume, "The external financing and indebtedness of Latin America and proposals for action", constitutes the first attempt to evaluate the region's external debt considering not only the component of the debt traditionally taken into account, namely, the publicly guaranteed debt, but also the debt contracted by the private sector of the debtor country with foreign commercial banks without State guarantee. The article stresses the rapid growth of the debt contracted with commercial banks and the resulting change in the cost and average payment period of Latin America's external debt. It also contains some proposals for solution, including formulas for the alleviation of interest payments,

improvements in the mechanisms of renegotiation and refinancing of the debt, reinforcement of the multilateral financing institutions, and expansion (instead of restriction) of trade.

This is perhaps the first warning signal of the rapid increase in recourse to foreign debt as a formula for financing deficits on the balance-of-payments current account in the region.

Confronted by the rapid increase of the debt, most analysts declared that its real value was speedily eroded by world inflation. The third article, "World inflation and foreign debt: the case of the improper deflator", evaluates, and discards as incorrect, the argument which maintains that the external debt is not a problem, since international inflation reduces its real value. The thesis of the article came to be generally accepted later on; namely, that fluctuating interest rates, which reflect the effect of anticipated inflation, coupled with the deterioration in the terms of trade of the non-oil-exporting countries which was then taking place, tend to make the servicing of the debt more onerous for the economy of the debtor countries, and neutralize the presumed relief caused by world inflation, which would only be effective for the debtor countries if the rates of interest and terms of trade were fixed. This article is the first critique on the traditionally accepted arguments concerning the burden of debt servicing.

The rapid growth of the debt led to the consideration of alternatives for the financing of the current deficit on the balance of payments. The major option is direct foreign investment, which has been the subject of considerable discussion both on the economic and on the political plane. The fourth article in this book, "Oil-exporting countries' investment portfolio: diversification toward Latin America", is an analysis of the Latin American demand for foreign investment and maintains that the accelerated growth of the debt as the main form of transfer of foreign saving cannot continue for very long, since its servicing, which implies a predetermined commitment as to maturity period and amount, may come to be incompatible with the real possibilities of financing it. The article points out that one way of coping with this problem is to stimulate the growth of foreign investment and observes, besides, that it would be expedient for the oil-exporting countries to invest in Latin America: it would enable the average yield of the investment portfolio of these countries to be increased and would diminish the variability of this yield. The article indicates means of reducing or eliminating political obstacles to direct foreign investment.

Direct foreign investment is only one of the forms adopted by capital movements between countries. However, that form of capital transfer has been the only one subject to relatively systematic analysis in developing countries. Other capital movements —generally of shorter terms and which reached a growing importance in external transactions of those countries— had not been studied. The fifth article included in this book, "International Capital Movements", presents an analytical model to explain these movements, including private holdings of "divisas" and the empirical results of the application of the model to a number of Latin American countries. The study reaches the conclusion that direct control of capital movements is difficult and that capital movements respond to economic incentives very rapidly in normal operating conditions of external financial markets.

The problems of development and the growing imbalances in the world economy gave rise to various attempts to find solutions. The most important of these was the setting up of an Independent Commission on International Development Problems, headed by the former Chancellor of the Federal Republic of Germany, Willy Brandt. The sixth article in the book, "Latin America and the international monetary system: some comments and suggestions", by Carlos Massad, is a revised version of the exposition made

by the author to the Brandt Commission, at the Commission's invitation. This article underlines the radical qualitative transformation of the international monetary system owing to the increasing role of the private sector both in financing and in the management of major holdings of foreign exchange, and points out the need for a more rapid growth of exports from the developing countries. The article also suggests measures for improving the monetary and financial system, including both those aimed at improving the adjustment process at world level and those which would permit negotiations of wider scope between developed and developing countries.

The increased availability of external financial resources induced several countries to consider that the traditional bottleneck of external credit had been finally overcome, so that it seemed expedient to adopt a more liberal policy as regards trade and external payments. Hence rapid processes of opening up and liberalization were initiated, especially in the southern cone of Latin America. These processes differed in respect of their sequence and the degree and speed of their opening up to trade and capital movements. The seventh article in the book, "Financial openness and the adjustment process", describes the adjustment process provoked by an internal monetary shock and explores this process in two extreme cases: total opening up to trade in the absence of non-compensatory capital movements and total opening up to capital transfers in an economy closed to trade transactions. The article examines the differences between the two cases, particularly in terms of the effects on domestic interest rates and on the levels of employment and prices.

The eighth article, "The monetary and real effects of opening up to the exterior: the Chilean case 1975-1978", analyses in greater detail the consequences for the Chilean economy of the financial opening up to the exterior in the second half of the 1970s. The author sustains that the efforts made to contain the growth rate of the nominal quantity of money were inconsistent with the policy of the progressive opening up of the Chilean economy to the exterior and of the fixing of the exchange rate, since in such conditions the money supply becomes an endogenous variable. He points out that the exchange rate should not be used as an instrument for controlling the money supply and that an appropriate increase in loans from the exterior requires active measures for regulating the flow of foreign currency through the capital account. The author also states that there should be more concern for the different components of the balance of payments and not only for its global balance. He concludes that the policy applied during the period in Chile had important redistributive consequences both in the private sector itself and between this and the public sector, and that the opening up to trade and to finance should be evaluated and put into practice in a co-ordinated manner in view of their marked reciprocal effects.

These two articles are the first in a systematic analysis of the opening up processes and of the most appropriate sequence of changes in the degree of opening up in the financial and trading field.

As a result of the work already completed through UNDP/ECLAC co-operation the idea arose of designing a simulation model which would permit the analysis of the main economic consequences of different opening up strategies. To this end the co-operation of the IMF was requested. The results of this tripartite effort are reflected in the ninth and tenth articles reproduced in this book: "Alternative opening up strategies: a simulation model", and "Trade and financial liberalization in the context of external shocks and inconsistent domestic policies". Both articles present a simulation model for analysing the effects on the main macroeconomic variables of the modifications (increase or decrease) in the degree of opening up to foreign trade and finance, with differences in speed and sequence, in the face of different external shocks and under different domestic

economic policies. These studies direct their attention to variables such as the exchange rate, the interest rate, the level of ecnomic activity and the external equilibrium, and examine the effects of various shocks and alternative policies on these variables, both in relation to the course of dynamic adjustment and the position of final equilibrium.

The eleventh article contained in this work, "Recent southern cone liberalization reforms and stabilization policies: the Chilean case 1974-1982", examines in detail the Chilean experience in the field of liberalization and economic opening up, together with the anti-inflationary efforts made in that situation. The author shows how the Chilean economic policy fluctuates from one extreme of statism (in the early 1970s) to the other extreme of privatism, from 1974 onwards, and how the latter led, paradoxically, to a situation in which the financial system and a large part of the country's productive enterprises ended up under State ownership. He argues that, although external circumstances had some influence, the main responsibility for this outcome is attributable to domestic policies. He adds that inconsistent policies with regard to the exchange rate and interest rates, and an absolutely inflexible exchange-rate policy, provoked such enormous imbalances in the economy that their correction was only possible by way of a crisis.

Towards the end of the 1970s anxiety began to grow in Latin American intellectual circles with regard to the region's external debt. This concern did not appear to be shared by the creditors, who continued with active offers of resources to the region. The twelfth article in the book, "The real cost of the external debt for the creditor and for the debtor", shows that debtor and creditor have different points of view in assessing the burden, or real cost, of the debt, since each of them considers different options for the use of their resources. The article proposes a method for measuring the real cost of the external debt from both points of view and, on the basis of this method, presents estimates of the real cost of the external debt for creditors and debtors in a group of Latin American countries during the period 1961-1980.

With the outbreak of the crisis the private international financial markets abruptly closed their doors against the possibility of granting new credits, and there arose the evident danger of a real catastrophe. The International Monetary Fund exerted its influence to avoid it and, not having sufficient resources of its own, had to put pressure on the private financial institutions to continue lending, although at a much slower rate than in the recent past. This situation imposed on the debtor countries the need for an adjustment unprecedented in the past half century, which redounded in a brusque fall in real per capita income and in marked increases in unemployment. The thirteenth study presented here, "External financing in Latin America: developments, problems and options", shows the different factors which, both on the demand and on the supply side, have influenced the rapid growth of the Latin American debt, considering that it is not only an imbalance in the public sector that can generate problems in the external sector but, in certain cases, it is the imbalance in the private sector that have in fact driven the public sector out of the market. The article examines the restrictions imposed by the increasing debt on the freedom to apply domestic policies, the international transfer of real resources and the mechanisms of transmission of external shocks to the domestic economy. It points out that in certain conditions of interest rates, terms of trade and additional credit, the external debt can be sustained, but in present circumstances these conditions are not fulfilled, so that deliberate international action is required to ward off a greater crisis.

The magnitude of the adjustment effort embarked on by the debtor countries and its high cost made it necessary to reconsider the traditional adjustment policies and to call into question the approach to cases in isolation which is at present the practice of

international agencies and the governments of creditor countries. The last article reproduced in this book, "The adjustment process in the 1980s: the need for a global approach", underscores the need to regard adjustment as a global international phenomenon when there are numerous countries, and not merely a few, affected by the disequilibria. To continue to regard each country as if it were a case apart leads to serious errors of composition which increase the cost of the adjustment and generate a marked recessive bias in the world economy. This article points out that a simple approach, case by case, is inadequate for the solution of the economic problems of the 1980s, and reiterates the need for a more symmetrical adjustment process. At the same time it points out that an improvement in the world economy within the limits that can be expected will not suffice to solve the problem created by the high level of the external debt. A solution is proposed on the lines of the stabilization of interest payments abroad.

The debt crisis has revealed the existence of a contradiction between the macroeconomic effects of the policies normally applied to close the external gap and ensure the payment of the debt abroad and their effects on the payment possibilities of the non-official debtors. The current policies of constraint, although they reduce, and even reverse, the deficit on the balance-of-payments current account, have negative microeconomic effects on firms and individuals, who find it difficult to maintain the punctual servicing of their debts with institutions in their own country and abroad. Thus the problem of the external debt extends to the national financial system, affecting its stability and thereby the whole process of generation and transfer of savings. These aspects, and others relating to the financing of development, are now being explored under the ECLAC/UNDP collaboration scheme.

Carlos Massad
Co-ordinator

The revolt of the bankers in the international economy: a world without a monetary system

Carlos Massad

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I
Introduction

The last ten years have witnessed profound and rapid changes in the field of international financial relations, extending from the attempt to regulate the growth of international liquidity in the second half of the 1960s to the official acceptance of freedom in exchange matters at the beginning of the second half of the 1970s. An important implication of these changes is that they have shifted the main responsibility as regards exchange regulation.

Thus, the system in force since the end of the Second World War placed the main responsibility for the functioning of the system in the hands of the monetary authorities, whereas in the present situation it is the private sector market and bodies, particularly the banks and the transnational enterprises, which play an accepted and decisive role in the short-term management of exchange rates and the accumulation and disposal of international means of payment.

II
The Bretton Woods system

The earliest sporadic efforts to organize some form of international monetary system to replace the gold standard date from the period of monetary disorder of the 1930s, but the first systematic proposals were made only in 1942, in government circles of the United Kingdom and the United States.

These proposals were aimed at finding a solution for the monetary problems which were expected after the Second World War. The studies and proposals were headed by Harry D. White of the Department of the Treasury of the United States and by John M. Keynes in England.

Less than three years had passed since the original proposal when the International Monetary and Financial Conference of the United Nations and their associates, meeting at Bretton Woods, New Hampshire, in the United States, gave its approval to the new system. This was reflected in the Articles of Agreement of the New International Monetary Fund, which were adopted at that conference on 22 July 1944, came into force on 27 December 1945, and continued without changes for almost 25 years.[1]

1. *The problems to be solved*

This international agreement pursued two main objectives: the correction of balance-of-payments problems and the creation and regulation of international liquidity.

As regards the first point, the agreement laid down that a country could only vary the relationship of its currency with gold, i.e., its "parity", when there were fundamental imbalances which could not be solved by any other means, and it placed emphasis on monetary and fiscal policies. It was expected that, except in extreme cases, these would be successful in adjusting the balance of payments without any need to modify parity. In order to ensure stable parity, the countries undertook to maintain their currencies within maximum limits of variation of one per cent above or below parity and to intervene in the

market to maintain those limits. Thus, through this relationship with gold, a relationship of the various currencies among themselves was also established: the system of exchange rates.

Since the intervention was to be carried out with United States dollars, that country lost its freedom to determine its own exchange rate. Indeed, the dollar exchange rate was simply the result of the determination by the rest of the member countries of the system of their own exchange rates with respect to the dollar. If the United States had tried to establish a different exchange rate, this would have led to a situation of incompatibility of policies, so that country had to refrain from intervening in the market. It was, however, agreed to convert into gold, at the official price of 35 dollars per troy ounce of fine gold, all dollars presented for conversion by the monetary authorities of the member countries.

Thus, the dollar was the currency of intervention and current use in international payments, the exchange rates of the various currencies were established in relation to the dollar, and the dollar, in turn, anchored the system to gold. It was expected that the International Monetary Fund would recommend adjustment measures both for countries with deficits and those with surpluses in their international payments, and a system of medium-term loans was set up for the countries which took adjustment measures, with the aim of covering the period needed until those measures took effect.

As regards the creation of liquidity, the Articles of Agreement of the International Monetary Fund provided that this should be regulated through "uniform changes in par values", which are no other but changes in the price of gold, expressed in all currencies in the same proportion. This is the same thing as a change in the price of gold in all currencies: more currency units for the same quantity of gold, thus increasing international liquidity, although naturally only in terms of currencies and not of gold.

A second means of modifying international liquidity consisted of the possible accumulation of more gold in the vaults of the Central Banks. Thus, the creation of international liquidity was linked to the total existing reserves of gold, the annual production of that metal, and its price in terms of currency units.

2. *The system in practice*

The economic conditions of the countries at the end of the Second World War were such that the dollar became the international means of payment and the most sought-after currency for accumulation. On the one hand the European countries needed to build up their reserves, while on the other, the rapid expansion of world trade after the war generated a growing need for means of payment. In order to accumulate these, the European countries maintained persistent surpluses on their international payments, which was only possible thanks to the persistent deficits of the United States, financed through the increase in the United States' short-term external liabilities.

The foregoing leads us up to one of the great problems raised by the scheme devised at Bretton Woods: the lack of incentives for making adjustments in countries with persistent surpluses or countries able to finance their deficits with their own currency wich was accumulating abroad. Neither of these types of countries needed to have recourse to IMF financing, and they were therefore not subject to its discipline,[2] which eventually applied in practice mainly to the countries with international payments deficits and without reserve currency.

Furthermore, the international liquidity requirements were being satisfied through the accumulation of dollars by the countries with surpluses, at the cost of trasferring real resources to the country issuing the reserve currency.

The system therefore contained three main shortcomings: a shortcoming as regards the stimuli for making adjustments, which caused the burden of these

adjustments to fall on the countries which had deficits and no reserve currency; a shortcoming as regards the obligation to intervene in currency markets which meant that the United States was exempted from this requirement in return for guaranteeing convertibility into gold, and a shortcoming as regards the generation of liquidity, the cost of which had to be paid by the rest of the world to the issuing country.

This last shortcoming calls for a special explanation. When a country accumulates means of payment from abroad it does so by refraining from using those means of payment to obtain real resources from other countries. For its part, the country which supplies the foreign currency thus accumulated does so in exchange for a good or service from the country receiving the currency. Thus, a country which finances its deficits with its own currency is really changing that currency for goods and services abroad. The country which accumulates such currency is supplying goods and services in exchange for it, so that there is a net flow of real resources from the country which accumulates reserves towards the country which finances its deficits. The country issuing the currency is receiving seigniorage from those accumulating it.

Some of the shortcomings mentioned above were solved more adequately in the plan put forward by Keynes during the discussion on monetary reform held in the last years of the Second World War. This plan provided for the establishment of a clearing house which would act as a kind of central bank of the central banks and keep accounts of international transactions, just as a central bank keeps accounts of the transactions between commercial banks. The plan provided for interest to be collected both on negative and positive balances with the system, thus creating an incentive for adjustments not only by the debtor countries but also by the creditor countries. It limited both the positive and the negative balances to a certain maximum and suggested the creation by multilateral decision of an international currency, "bancor", to provide the necessary international liquidity. It laid down certain conditions under which debtor countries had to devalue their currencies or creditor countries had to revalue theirs, and it permitted much greater exchange flexibility than the agreement adopted at Bretton Woods, which was inspired by the ideas of Harry D. White. The Keynes plan also proposed the creation of an international investment organization to which automatic contributions would be made by countries with balance-of-payments surpluses, an organization responsible for regulating the cyclic variations in the prices of primary commodities, and an international economic organization for consultation and discussion on economic policy in the world.

Both plans —that of White and that of Keynes— assigned great importance to the action of the authorities in the functioning of the monetary system. This was clear both from the multilateral body which was supposed to be set up and from the policies whose application by governments was supposed to make exchange fluctuations unnecessary or at least minimal.

III

The development and crisis of the international monetary system

After the end of the Second World War, the economies of Europe and Japan began to recover from the effects of the world conflict, to grow more rapidly than the United States economy, and to increase their productivity at a rapid rate. International trade expanded, and the demands on official reserves increased. Private holdings of international liquidity were of no importance whatever: the rigidity of exchange rates and the decreasing

importance of exchange restrictions enabled the private sector to obtain the foreign exchange it needed from the monetary authorities at a given price. Since there was no serious uncertainty about exchange rates and the money markets were relatively limited, there were no abrupt short-term international movements of capital.

1. *The development of the system*

A situation thus took shape in which the European countries and Japan registered continual balance-of-payments surpluses and thus accumulated the reserves which they needed. The United States balance of payments, for its part, registered a persistent deficit, financed by an increase in its external liabilities matching the accumulation of dollars by the countries which had a surplus.

Although the United States was not obliged to intervene in the markets to maintain the parity of the dollar, the system did provide for the convertibility into gold by the United States monetary authorities, on demand, of the dollar balances of official currency holders. It was assumed that this convertibility would induce the United States to apply adjustment measures to its balance of payments in view of the sustained deficits and the consequent accumulation of dollars abroad. These incentives proved ineffective, however, in view of the vigorous world demand for dollars with which to build up reserves. Already at the beginning of the 1960s official holdings of dollars abroad exceeded the gold reserves of the United States, and by the end of 1970 they came to 25 billion dollars[3] whereas in the same year the United States' holdings of gold amounted to only 13.8 billion dollars.[4]

As foreseen by Robert Triffin,[5] by the middle of the 1950s the massive accumulation of dollars outside the United States created a risk of inconvertibility, since the monetary authorities of that country would not have been able to convert most of the official foreign holdings of dollars if these had been presented for that purpose.

2. *The symptoms of the crisis*

The growing lack of confidence in the system led to the appearance of various crisis symptoms. When doubts arose regarding the capacity (or the willingness) of the United States to convert into gold the dollars accumulated abroad by official holders, this caused an unstable situation in which rumours were responsible for the movements of the market. As far back as 1960 the price of gold on the private market rose above 40 dollars per ounce, and this led Germany, Belgium, the United States, France, the Netherlands, Italy, the United Kingdom and Switzerland to enter into an agreement to pool their gold reserves in order to keep the market price at not more than 35.20 dollars per ounce. In December 1967 the United States lost almost a billion dollars —some 750 tons of fine gold at the official price of 35 dollars per ounce— when there was a wave of conversion of dollars into gold because of the fear that the United States exchange policy was likely to change. The losses continued in the early months of 1968, and in March the countries which had pooled their reserves declared that they would no longer support the price of gold on the free market and that the official price would be maintained only for transactions between central banks.[6]

The heavy conversions of dollars into gold in 1967, together with the growing accumulation of dollars abroad in contrast with the limited gold reserves of the United States, gave rise in the late 1960s to the generalized impression that the latter country would be obliged to apply adjustment measures to its economy in order to eliminate its balance-of-payments deficit. Such measures would bring about the closing down of the main source of new international liquidity, with the consequent danger that there would

be a shortage of liquidity and a generalized tendency towards restrictions on foreign trade. In view of this prospect, the countries began to interest themselves in the possible creation of a substitute for the dollar as a means of international liquidity, the idea being to determine the value of that substitute by international agreement on the basis of some reasonable estimate of world liquidity requirements.

This is how Special Drawing Rights, which were linked to gold at the same parity as the dollar and which it was hoped would become the main form of international reserve assets, were born. Special Drawing Rights correspond to accounting entries between the IMF and the participating countries, and each country is assigned a certain amount of these rights, which it can use to obtain convertible currency. Special Drawing Rights have no physical existence and can only be held and used by institutions which carry out the functions of central banks. The amendment to the Articles of Agreement of the International Monetary Fund which set up Special Drawing Rights (SDRs) was adopted on 31 May 1968 and came into force on 28 July 1969. This was the first amendment to the Articles of Agreement of the Monetary Fund since these came into force at the end of 1945, almost 25 years before.

The prophecies which had led to the establishment of Special Drawing Rights were not fulfilled. Not only did the United States balance-of-payments deficits continue, but there was also a big increase in the holdings of dollars and other currencies outside the issuing countries, thus giving a strong impulse to the Eurocurrency market.

Towards 1958 the Socialist countries, and especially the Soviet Union, began to deposit dollars in European banks to avoid possible action against them if they deposited the money in the United States, and these deposits gave rise to credits in the same currency. A little earlier the United Kingdom had introduced restrictions on the pound sterling for international trade purposes because of a heavy external deficit. These two facts gave rise to the Eurodollar market, made up of deposits in dollars outside the United States, both by central banks and governments and by commercial banks and other private bodies. Furthermore, as the international trade position of currencies other than the dollar was strengthened, deposits and credits in these currencies also began to be made outside their country of origin, thus diversifying and expanding the Eurocurrency market. These deposits and credits are not subject to the regulations and restrictions of the countries issuing the respective currencies, nor are they generally subject to regulation in the recipient country, so the Eurocurrency market is the freest and least regulated money market in the world.

The increase in the private holdings of foreign currencies, their diversification and the growing volume of official holdings brought still further instability into the system. As soon as rumours of some change in the parity of a particular currency arose, this led to strong destabilizing movements of capital. Because of their magnitude, the monetary effects of such movements on the countries whose currencies were involved were impossible to compensate, even through non-traditional measures such as negative interest rates on deposits by aliens. Not even direct controls were sufficient to stop the short-term capital movements, since these were able to assume forms which were difficult or impossible to control, such as deferred or advance payments for imports and exports. By means such as those indicated, the capital movements sometimes took place through current transactions, which, according to the Bretton Woods agreement, could not or rather should not be regulated through direct controls.

3. *Crisis and confusion*

As the accummulation of dollars in official and private circles outside the United States continued, this in turn generated lack of confidence in the convertibility of the dollar into

gold and gave rise to strongly destabilizing capital movements. In these circumstances, on 15 August 1971 the United States Government officially suspended the convertibility of the dollar into gold, thus breaking the very basis of the monetary system set up at Bretton Woods. This date marks the final crisis of this system.

After this measure by the United States, there was great confusion in the markets and repeated attempts to find a new set of parities capable of being maintained. At the end of 1971, at a meeting held in the Smithsonian Institute, Washington, D.C., the highest financial authorities of 11 industrial countries agreed to vary the exchange rates of their currencies by devaluing some of them (mainly the dollar) and revaluing others, such as the Japanese yen and the German mark. In effect, the devaluation of the dollar represented an increase in the official price of gold from 35 to 38 dollars per ounce. At the same time, with the aim of trying to cushion short-term capital movements, it was decided to expand the permissible margin of fluctuation of the currencies each side of parity from 1% to 2.25%. When it ratified these agreements,[5] the IMF created a new concept, that of "central exchange rates". These, unlike the former "parities", do not necessarily assume a relationship with gold, but rather with another currency or with Special Drawing Rights.

The aim of the expansion of the permissible margins of fluctuation around parity or around the central rates was to establish an instrument which would cushion, through the functioning of the market forces, the short-term capital movements recorded in the recent past. It was hoped that, by increasing from 2% to 4.5% the width of the band within which the various currencies fluctuate without it being necessary for official intervention to take place to maintain the exchange rate, this would considerably weaken the incentive for short-term capital movements.

The new band was not sufficient to achieve its purpose either, however, and scarcely six months after the Smithsonian Agreement this had been completely smashed by events, while a very wide variety of exchange systems had sprung up in the various countries. For reasons which will be analysed later, the majority of the developing countries had no alternative but to link their currencies to that of some industrial country with which they had important trade and capital transaction links.

IV

The "snake", the "tunnel" and floating

The independent floating of the main currencies discourages economic integration to some extent, since it changes the degree of protection agreed in advance for each of the economies which form part of an integration scheme with regard to the others. Such changes tend to create friction between the countries and to weaken agreements which often reflect a delicate balance of interests.

Because of their awareness of this situation, and with the object of continuing to advance towards their aims of economic integration, a group of European countries, basically those of the European Economic Community, tried to find ways of limiting the relative fluctuations between their currencies and agreed to set up a system under which they undertook not to allow the exchange rates to diverge from each other by more than 2.25% with respect to the central parities or exchange rates agreed upon. Consequently, the group of currencies was to move more or less in unison within maximum margins of fluctuation equal to half the total margin of 4.50% permitted by the Smithsonian Agreement. Thus arose the "snake", made up of the group of European currencies which

fluctuated less than the rest. The maximum margin of fluctuation of 4.50% was called the "tunnel", so that a monetary system was set up for the major countries which consisted of a "snake in a tunnel".

In practice, the maximum margin of 4.50% of fluctuation soon lost its validity, while some of the members of the "snake" abandoned and rejoined it according to circumstances.[9]

Some countries such as Canada, the United States, Italy, Japan and the United Kingdom decided to allow their currencies to float independently. This did not mean that their authorities gave up intervening in the market, but simply that they ceased to stick to any fixed or previously revealed rules in this respect. Other countries fixed their exchange rates with respect to a set of currencies or to Special Drawing Rights and intervened in the market in order to maintain that rate, while others linked their currency to that of some other country. This latter category includes most of the developing countries.

Thus, the system of parities established at Bretton Woods, which had operated for 25 years, was replaced by a variety of systems which reflected the diversity of interests and economic situations of the countries. For some of them, exchange rate floating has proved a relatively efficient solution, with relatively small alterations in exchange rates proving sufficient to bring about corrective movements, but for others floating may involve a high economic and social cost.

V

To float or not to float

If small exchange rate changes are sufficient to bring about marked corrective movements in the balance of payments, then countries would be well advised to allow their currencies to float and the balance of international payments would be facilitated by only slight exchange rate modifications. In contrast, if severe exchange rate fluctuations are required in order to bring about a given corrective movement in the balance of payments, the countries probably would not be willing to allow their currencies to float freely or even with some degree of intervention. At the same time, while the existence of exchange markets —particularly for future transactions— enables exporters and importers to cover themselves against the risk of exchange rate changes, if such markets do not exist or if their scale is very limited this makes such coverage more difficult. Thus, a country where the existence of well-developed money markets is accompanied by a relatively high elasticity of response of the balance of payments to exchange rate movements will prefer the system of floating to other possible systems, whereas if such markets do not exist and there is poor elasticity of adjustment to exchange rate movements this will act as a considerable deterrent to floating.

The responsiveness of the balance of payments to exchange rate movements will depend both on the price elasticities of the demand for imports and the supply of exports and on the probable magnitude of the changes in the conditions being faced by the country. This probable magnitude will influence the capital movements.

The smaller the proportion of imported products in the total and the more diversified are both imports and national production, the greater will be the price elasticity of the demand for imports. Thus, for example, a country which imports only a small proportion of the total domestic supply of particular products will find that the elasticity of demand for imports goes up in inverse proportion to the share of total demand, at each price, which is imported.

Furthermore, a country with diversified production which generally exports domestic production surpluses that are relatively small compared with total production will find that small exchange rate movements will suffice to alter the price relationship between exported products and those consumed in the country; such alteration will be sufficient to cause the changes in demand thus generated to absorb an appreciable proportion of the exportable product or to increase considerably the balance available for export.

If these circumstances are present at the same time, then small variations in the exchange rate will produce substantial movements towards the adjustment of the balance-of-payments current account and, consequently, the probability that there will be very sharp changes in the exchange rate is only small. Moreover, if it is unlikely that the external or internal conditions faced by a country will change very substantially, then this set of circumstances will mean that the changes to be expected in the exchange rate will only be small. This will have an influence on capital movements, since limited movements in the domestic interest rates with respect to the external rates will be sufficient to compensate for possible gains through speculative transactions in connection with exchange rate changes.[10]

Generally speaking, these conditions exist more markedly in the United States than in any of the countries of the European Economic Community taken separately. The European integration efforts, however, together with the joint float of the European countries' currencies, mean that the comparison should not be with each country, but with the whole group of countries. Viewed in this way, the countries of the European Economic Community show conditions very similar to those of the United States, so that the system of floating seems suitable for both.

For most of the developing countries, in contrast, the situation is exactly the opposite. The price elasticity of the demand for imports is usually lower, since imported products normally represent a high proportion of the total consumption, or such goods simply may not be produced in the country at all. The exports of these countries, for their part, are highly concentrated in just a few goods, almost the entire production of which is sold abroad. Consequently, on both the export and the import side, the change in the relative prices between products traded with the exterior and products used inside the country must be large in order to bring about an adjustment of a given size. Thus, the probability of large fluctuations in the exchange rate is greater, since it is more difficult to compensate the incentives for capital movements through variations in interest rates.

Furthermore, the developing countries do not have substantial foreign exchange markets, and in most of them there are no future markets for their currencies, so that it is not possible for exporters and importers to cover themselves against foreign exchange risks in the domestic markets.

Moreover, in most of the developing countries revenue from taxes on export and import activities forms an appreciable part of fiscal income, so that changes in exchange rates are also transmitted to the rest of the economy through their repercussions on fiscal financing.

To sum up, then, while currency floating is a suitable possibility for the United States and Europe it is the least attractive or most costly option for most of the developing countries. This is why the developing countries have not welcomed with any degree of enthusiasm the breakdown of the Bretton Woods agreement, and why in general they have linked their currencies with those of some industrial country with which they have substantial trade and financial links.

VI
The effect of floating on the developing countries

As we have seen, the developing countries have generally been impelled to link their currencies to those of some industrial country with whom they trade. If there is a fluctuation in the mutual relationships of these currencies, then there will be changes in the effective exchange rate of the developing country in the same direction as the movement in the main currency. It is to be expected that the movements of the main currency will have a balancing effect for the country issuing that currency, but they will not necessarily have such an effect from the point of view of the developing country.

In practice, the exchange rate variations required in order to achieve a balancing influence on the balance of payments of a developing country are generally different from those which would make possible a correction of the international payments of the industrial country to whose currency the developing country's currency has been linked. This unbalancing bias does not disappear even when the currency of the developing country is linked to a group of currencies of industrial countries, since what interests every importer and exporter is the exchange rate of the currency in which a transaction is being carried out, and not an average. The elimination of this problem involves relatively frequent adjustments to the exchange rate of the developing country with respect to the main currency. While such changes are made in some countries,[11] they are only possible in an inflationary environment in which advantage can be taken of the exchange rate movements made necessary by inflation in order to move the real exchange rate also in the desired direction. In countries where the rate of inflation has been low for a long period and where there is a tradition of exchange rate stability, these frequent adjustments are often politically impossible and may even be economically dangerous because of the expectations which they may generate.

Floating therefore introduces an additional element of risk into the external trade transactions of the developing countries and consequently tends to reduce the volume of resources devoted to the production of internationally saleable goods, since uncertainty is an additional cost in international transactions as compared with transactions on the domestic market.

Some countries have tried to tackle these problems by changing the currency to which their own currency is linked. These changes cannot be made too frequently, however, since this would increase the risks involved in international transactions instead of reducing them.

VII
The role of private holdings of foreign currency in the generation and transmission of international imbalances

While there is no clear proof of this, it might be expected that the floating of the main currencies would reduce the demand for reserves for the purpose of intervention by the authorities, as compared with the demand generated under a system of fixed parities. In this latter system, the private sector can minimize the balances which it maintains in foreign currencies, since it is possible to obtain such currencies at any moment from the

monetary authorities. The latter bear the entire responsibility as regards intervention in the markets, particularly when only a small fluctuation is permissible around the established exchange rate. In a system of floating exchange rates, in contrast, the task of intervening in the market falls entirely or partially on the private sector. When a perfectly clean float is involved, i.e., when the official sector never intervenes in the market, the responsibility of the private sector is complete, whereas when the monetary authority aims to regulate exchange rate fluctuations in some manner through its own intervention the responsibility of the private sector is partial.

At all events, whether the monetary authorities do not intervene at all or intervene partially in the market, floating creates a stimulus for private intervention in the exchange markets with a view to reducing variations in exchange rates or else spreading them over a period of time.

The private sector must accumulate stocks of the foreign exchange in which it is to intervene in order to play a part in the markets and thus try to reduce uncertainty about the exchange rates. Naturally, the bigger this accumulation of foreign exchange, the bigger will be the effect which the action of the private sector can have on the exchange markets, since when it has its own resources this sector is less vulnerable to control or regulatory measures that may be adopted by the authorities.

Consequently, it may be expected as a result of floating that there will be a reduction in the official demand for reserves and an increase in the private demand for these.

On the other hand, the greater the diversity of currencies which are of importance in the international market, the greater must be the diversity of the reserve holdings, both official and private, if there are changes in the exchange rates of these currencies. Such diversification may tend to make exchange rates more volatile by creating opportunities for speculative movements among the various currencies accepted in international payments. This is particularly so when a considerable part of the accumulation of reserve currencies is concentrated in the private sector, since the official sector may be expected to be less sensitive to the possibility of speculative gains.

For the private sector this generates a problem of the composition of assets, which may be dealt with through the well-known models of the composition of these. If we follow the logic of these models, we may conclude that when the private sector accumulates foreign currency it does so by disposing of other forms of assets, including national currency. Thus, the private accumulation of foreign currency may generate pressures similar to those produced when the accumulation takes place in the official sector. Whereas in the latter case there would be an issue of money for the purchase of foreign currency, in the former case there would be a reduction in the demand for other assets, including money, matching the total demand for foreign currency.

Let us suppose, for example, that starting from a situation of equilibrium there is a deficit in the United States balance of payments, measured in terms of liquidity, although the equilibrium of the balance is maintained when measured in terms of official transactions.[12] This equilibrium will be maintained as long as there is no official intervention, but the absence of intervention will not guarantee equilibrium in the balance of payments measured in terms of liquidity.

In the example described, additional balances of dollars in the hands of the private sector would be building up abroad, thus generating inflationary pressures towards the exterior. Through this mechanism, the disequilibrium in the United States balance of payments would be transmitted to the rest of the world, even if the exchange rates were floating.

Naturally, the process of transmission also functions through the exchange rates. A devaluation will produce an increase in the cost of imported products and will also apply

upward pressure to the domestic prices of exported goods, thus causing an increase in the average domestic prices, whereas revaluation will not produce a similar reduction in these prices, because prices do not go down as easily as they go up. It will thus be observed that the system of exchange rate floating contains an inflationary element even when, over a long period of time, the average exchange rate remains constant. There are those who assert that this bias towards inflation is increased by the fact that exchange rate floating conceals behind the movements of the exchange rate the unbalancing effects of domestic policies, so that it reduces the incentive to apply anti-inflationary policies.

To sum up, there are various ways in which an imbalance can be transmitted internationally, even with completely floating exchange rates.

VIII
The reform of the system

The breakdown of the international monetary system in 1971 immediately generated greater interest in the discussions about its reform. Although some economists had long ago drawn attention to the need to make changes in the system. These proposals had taken shape only in the creation of Special Drawing Rights. The rest of the features of the system had remained completely untouched until their complete breakdown.

The existing institutional machinery did not facilitate the study of a broad type of monetary reform in which the participants would be not only the most important industrial countries, but also the rest of the members of IMF, including the developing countries. The Board of Governors of the Fund, its highest authority, was not a suitable mechanism for the study and discussion of such a complex problem, as it was difficult both to arrange for relatively frequent meetings of over 120 Governors and to organize a fruitful discussion in such a large assembly. In view of this, the Executive Directors of the IMF proposed to the Board of Governors the establishment of a committee of 20 Governors representing the various countries or geographical areas of the world: with a small Executive Secretariat and through frequent technical-level meetings this could take upon itself the study of monetary reform. This Committee, which was set up with the name of the Committee of 20, worked in 1972 and 1973 to prepare the bases for the future monetary reform.

The Committee of 20 tried to conceive the basic characteristics of a monetary system of the future which could solve in a suitable manner both the problems of adjusting the balance of payments and those of creating liquidity. The Committee agreed on the need to ensure greater similarity between the adjustment obligation of countries which had deficits and those which had surpluses and on the desirability of ensuring better control of the creation of liquidity. There was general agreement that the Special Drawing Rights should be the centre of the monetary system, thus replacing gold, and that it was desirable to set up a system of stable but adjustable parities.

The Committee of 20 was subsequently replaced by what was known as the Interim Committee,[13] which was the forerunner of another committee later set up as a permanent organ of IMF through an amendment to its Articles. This Interim Committee ratified the basic characteristics of the system as agreed in the Committee of 20, although it changed the approach of its work somewhat. It devoted itself essentially to determining what amendments should be made immediately to the Articles of Agreement of the Fund with a view to establishing some legal basis for the functioning of the international monetary system. At the Fifth Meeting of the Interim Committee of the Board of Governors of IMF

on the international monetary system held in Jamaica in January 1976, it gave its final backing to a set of new measures which substantially modified the Articles of Agreement of the Fund.[14]

IX

The developing countries, the amendments to the Articles of Agreement of the IMF, and the agreements of the Jamaica Meeting[15]

The amendments to the Articles of Agreement of the IMF approved at the Jamaica Meeting refer to five basic aspects of the monetary system: the function of gold, the exchange system, Special Drawing Rights, the operations and transactions of the Fund, and its institutional structure.

1. *Gold in the reformed monetary system*

The new measures mean the abolition of the official price of gold and of the set of rules designed to enforce that official price, including the end of the limitations of central banks or monetary authorities on free operations in the gold market. Without an official price, gold ceases to be the centre of the monetary system, since these measures eliminate all predetermined links between gold and currencies. Gold thus comes to play within the monetary system, the same role as any other non-perishable product, the only difference being that this metal has a very generalized acceptance.

Generally speaking, the Fund is authorized to sell gold at a price linked to the market price in exchange for currencies, subject to certain limitations and after consultation with the country whose currency is being acquired in exchange for gold. The Fund is also authorized to sell gold to the countries which were members on 31 August 1975, in proportion to their memebership quotas at that date, in exchange for their own currencies and at the official price.

Every time that the Fund sells gold at the market price it must pay into its General Account the proportion correspondig to the official price, while the surplus must be paid into a Special Disbursement Account serving to pay both for ordinary operations and for financing special operations not considered in the Articles of Agreement, including possible direct distribution of the money to the developing countries in proportion to their quotas. When special operations are involved, these must be approved by the Board of Governors with a majority of 85% of the voting power.

By eliminating the official price of gold, the system of parities based on gold disappears not only *de facto* but also *de jure* so that the need arises for a new exchange system.

2. *The exchange system*

The changes in the exchange system provide that every country can use the system of its choice: floating, frequent gradual adjustments, joint floats with other currencies, fixed exchange rates with respect to the intervention currency, Special Drawing Rights or a group of various currencies, or such other systems as may be adopted by the central banks. It is specified, however, that whatever the system used, the Fund shall exercise general supervision of the functioning of the systems in use, in order to ensure the collaboration of their members with a view to solving any problems which may arise.

In other words, the new articles of the Fund do not establish an exchange system but rather simply give their sanction to the existing situation,[16] although they do authorize the Fund to restore a system of parities whose basis is described only in general outline. Thus, the draft states that, with a majority of 85% of the voting power, the Fund can decide that the international economic conditions permit the introduction of a general foreign exchange system based on "stable but adjustable" parities which may be established in terms of Special Drawing Rights or of some other common denominator which is neither gold nor national currencies. They also provide that the maximum and minimum exchange rates for spot transactions between the currency of one country and those of others which maintain this system of parities may not differ by more than 4%, although this margin can be changed by the Fund subject to an 85% majority vote. Since these parities are not expressed on the basis of currencies, the margin is applied in the same way to all of them.[17]

In order to be able to restore the system of parities, in addition to the 85% voting majority required, the Fund must take account of the situation of the world economy, particularly as regards the generation of liquidity and the process of adjustment. As regards the former, it was hoped that there would be good control of the growth of international liquidity, and as regards the latter it was hoped that arrangements would come into effect under which both members in surplus and members in deficit in their balances of payments would take "prompt, effective and symmetrical action" to achieve adjustment. The Fund must also make its determination on the basis of the underlying stability of the world economy, taking into account price movements and rates of expansion in the economies of its member countries.

3. *Special Drawing Rights*

The amendments connected with the characteristics and use of Special Drawing Rights are designed to make these the main reserve asset of the international monetary system. They put an end to the link between Special Drawing Rights and gold and authorize the Fund to determine the mode of valuing them and even make substantial changes in the systems of valuation. In general terms, they maintain the provisions which limit the use of Special Drawing Rights to situations of need rather than cases where there is simply a desire to change the structure of a country's reserves. The principle of "designation" is preserved, whereby the Fund can designate a country to provide currency in exchange for Special Drawing Rights, provided that the country's reserve position is sufficiently strong. In addition, the majority needed for modifying or eliminating the obligation to reconstitute funds is reduced.[18]

The limitations on the rate of interest payable on Special Drawing Rights are eliminated, and gold is eliminated as a means of payments for obtaining Special Drawing Rights in order to pay the charges applied. The countries participating in the Special Drawing Account undertake to collaborate to ensure that SDRs are converted into the principal asset of the international monetary system. In addition it is laid down that countries may pay the Fund in currencies of other member countries in exchange for Special Drawing Rights, provided that the countries issuing the currency in question are agreeable to the transaction.

4. *The operations of the Fund and its institutional structure*

The new articles also provide for modernization of the operations and transactions of the Fund and expansion of the categories covered by them and facilitate the use of the Fund's resources to finance contributions to international buffer stocks of primary commodities;

in addition, it is hoped that the IMF will use its holdings of all currencies in its operations, and not just its holdings of some of them, as occurs at present: the concept of "currency convertible in fact" is replaced by that of "freely usable currency".

As regards the institutional structure of the Fund, the new articles authorize the Board of Governors of the Fund to set up, as a new IMF body, a Council of Governors to serve as an organ of analysis and discussion of a political nature which will be more flexible and efficient than the Board itself. The Council will have as many members as there are Executive Directors of the Fund, and these members will be elected by the same countries or groups of countries which elect the Executive Directors.

5. *Other decisions of the Interim Committee*

In addition to approving the amendments to the Articles of Agreement of the IMF, the Jamaica Meeting of the Interim Committee ratified the decision to sell one-sixth (some 25 million ounces) of the Fund's gold holdings by public auction over a period of four years and to devote all the profits thus produced to the developing countries both by directly supplying them with a proportion of the profits corresponding to their quotas and through the formation of a special aid fund for developing countries which are going through difficult conditions. In the latter case, the per capita income of the member country in question will be taken into account.[19]

The meeting also ratified the decision to provide each member country, in exchange for payment in its own currency, with a proportion corresponding to that country's quota of an additional amount of 25 million ounces of gold, valued at the official price of 0.888671 grams of fine gold per SDR unit.

At the Jamaica Meeting, the Interim Committee endorsed the IMF Executive Directors' proposals for a global increase of 32.5% in the quotas of member countries.[20] This increase would be so distributed that it would double the proportion of quotas accounted for by the oil-exporting countries (from 5% to 10% of the total), the proportion of the other developing countries would remain the same, while that of the industrial countries would be reduced. At the same time, the Committee decided to support the proposal for a 45% increase in each of the credit tranches of the Fund as a temporary measure until the increase in the quotas came into effect.

In addition, the Committee noted with satisfaction the decision of the Executive Directors of the Fund to modify the arrangements for compensatory financing to make up for temporary shortfalls in export incomes. These modifications will liberalize the system and enable more account to be taken of the most recent developments, including the price increases recorded in international trade.

6. *Effects on the developing countries*

Out of this set of decisions, the most noteworthy because of their effect on the developing countries in general and the Latin American countries in particular are those connected with the abolition of the official price of gold, the use of all currencies in operations and transactions, the acceptance of the existence of multiple foreign exchange systems, the changes made in the compensatory financing facility, the temporary increase in the credit tranches of the Fund, and the establishment of a Trust Fund.[21]

First of all, the abolition of the official price of gold means in practice —as long as its general acceptance lasts— an increase in that price. Market prices already influenced the decisions of the central banks in the past, but the freedom to carry out gold transactions at market prices gives official sanction to the consideration of gold at higher prices than the official rate of 1 SDR unit per 0.888671 grams of fine gold (equivalent to

about 42 dollars per ounce). In reality; the Fund had already agreed with at least one member country that the member could value its gold reserves, for domestic purposes, at a higher price than the official figure.

A higher price for gold means an increase in liquidity as expressed in terms of currency, in proportion to countries' gold holdings. Since there is uncertainty about the market price, however, it is probable that in measuring the liquidity created it will be necessary to reduce the apparent result by a certain amount in order to take this uncertainty into account.

If a difference in price of 60 dollars per ounce is assumed between the official price and the market price, the legitimation of the latter price for official operations will, if the proposed amendments to the Articles of Agreement are approved, affect the conduct of official holders of gold. If, in view of the uncertainty about the market price, the profit margin influencing the decisions of these official holders of gold is reduced to a figure of 50 dollars, the resultant increase in liquidity would be some 50 billion dollars. Out of this total, no more than 2.6 billion dollars would correspond to the non-oil-exporting developing countries.[22]

Moreover, the provisions concerning the Fund's use of all currencies in its operations mean that use will also be made of the currencies of the developing countries, which are not generally considered reserve currencies and will therefore be converted into such currencies. The reserves of the developing countries would thus be committed to some extent, although exactly how much is difficult to specify.[23]

The new agreements would probably also have other longer term but perhaps more important effects on the developing countries. The endorsement of floating as a system might oblige countries to diversify their reserve currency holdings, thus reducing instead of increasing the importance of Special Drawing Rights. For the developing countries, whose currencies will not generally be accumulated by other countries, these holdings could signify an extra cost in terms of resources delivered in exchange for the currencies of the other countries which are being accumulated. This cost is also difficult to estimate in advance, and its measurement will have to await the course of events.

Moreover, as already noted, floating does in itself impose an additional cost on most of the developing countries which, because of the lack of exchange markets for transactions in their currencies or because of the small size of such markets, are obliged to link their currencies to those of some other country or group of countries with which they trade. Naturally, if floating manages to minimize the fluctuations in the international trade of the developed countries it will in this way have a positive effect on the developing countries, but what has been observed so far does not seem to point in this direction.

The changes made in the compensatory financing facility enable the developing countries to use it more easily,[24] and the estimates made by IMF seem to indicate that these countries would be able to draw on about 1 billion dollars in this way in 1976.[25] Assuming net increases of 1 billion dollars per year until the figure of an additional 5 billion dollars is reached, the current value of this greater access to credit, calculated at an actualization rate of 7% per year, would be less than 4.4 billion dollars.

The temporary 45% increase in the credit tranches of the Fund also represents an increase in the resources at the disposal of all member countries: in this way, the developing countries could obtain some 500 million dollars in 1976.[26] If it is assumed that these countries will be able to count on net increases of 500 million dollars per year under this heading until the figure of 2 billion dollars is reached, then the present value of such resources, also at an actualization rate of 7% per year would be some 1.8 million dollars.

Finally, the Trust Fund could mean an additional contribution in favour of the poorest developing countries of 400 to 500 million dollars.

The liberalization of the compensatory financing facility and the temporary increase in the credit tranches would thus mean some 5.2 million dollars more for the non-oil-exporting developing countries, measured in terms of the present value of the sums involved. The freeing of the price of gold and the establishment of the Trust Fund would represent about an extra 3 billion dollars.

At the same time, however, the termination of the Oil Facility would mean the loss of rights to draw resources amounting to some 2.8 billion dollars, which is the present value of the drawings by developing countries made or approved in 1974, 1975 and 1976.[27]

The developing countries are also affected by the greater need to adjust their economies to cope with the fluctuations of the main currencies and the need to accumulate additional currencies in their reserves. For the developed countries, in contrast, floating seems to solve some problems of capital movements which would be difficult to handle by other means, while the accumulation of currencies by these countries is compensated because each of them accumulates the currencies of the others. Thus, in net terms, the accumulation of currencies by the developing countries signifies the absorption by them of currencies issued by the developed countries.

Moreover, the developed countries and the oil-exporting countries will receive an increase in their liquidity, measured in terms of currency, of some 48 billion dollars, while they will also have the possibility of using the expanded credit tranches of the Fund, which may signify a current value of some 5.6 billion dollars more, thus making a total of about 53.6 billion dollars. Furthermore, these countries will no longer have to contribute to the financing of the Oil Facility, which involved (after deduction of the drawings made by developed countries) the provision by them of financing with a current value of some 2.8 billion dollars. Their total benefits thus rise to some 56.4 billion dollars.

MEASURABLE EFFECTS OF THE REFORM OF THE MONETARY SYSTEM AND OTHER AGREEMENTS BY THE FUND ON THE DEVELOPING COUNTRIES AND OTHER MEMBER COUNTRIES OF IMF

(Billions of dollars)

	Non-oil-exporting developing countries	*Other members*
Compensatory financing	4 387[a]	—
Credit Tranches	1 812[b]	5 616[c]
Gold[d]	3 000	48 000
Oil[e]	-2 757	+2 757
Total	6 442	56 373

[a] Calculated on the assumption that only the non-oil-exporting developing countries make use of this facility. The calculations also assume that there will be a net increase in drawings of 1 billion dollars per year for five years and that from then on there will be no net increases. In order to work out the present value, an actualization rate of 7% per year was used.

[b] Calculated on the assumption that there will be a net increase in drawings by the developing countries of 500 million dollars per year until a total of 2 billion dollars is reached.

[c] Calculated on the assumption that there will be a net increase in the drawings by the other member countries of 2 billion dollars per year until a total of 6 billion dollars is reached.

[d] Calculated on the assumption of a gain of 50 dollars per ounce in the price of gold kept as reserves.

[e] The effective data were actualized at the rate of 7% per year.

As may be seen from the following table, the quantifiable effects of the Jamaica agreements and the other measures adopted by the Fund represent resources worth almost 64 billion dollars, of which only 10% corresponds to the non-oil-exporting developing countries, although these countries contribute 22% of the quotas of the Fund and generate at least 15% of the total national product of the Fund members.

X

The effects of the present situation on the future system

The objective which should be achieved by a new international monetary system and which had been endorsed at various ministerial-level international meetings are those of reducing the role of gold in the system, making Special Drawing Rights the central element, achieving suitable control of the expansion of liquidity, and ensuring symmetrical incentives for adjustments by both deficit and surplus countries. Another objective which has been mentioned is that of achieving a system of stable but adjustable parities: more stable than the present exchange rates, but also more easily adjustable than the old parities. The strategy selected for achieving these objectives is that of gradual evolution in order thus to ensure that every further step is taken only when the general economic circumstances make this possible.

Today, however, the situation of the system seems to be pointing, as we shall see, in a different direction from that indicated. At present, a group of industrial countries has agreed on a joint float of their currencies, while those of other industrial countries float independently and the vast majority of the developing countries have linked their currencies to those of one or other of the industrial countries.

The joint floating of a group of currencies calls for official intervention in order to maintain each of them within the limits which have been accepted by the group. This intervention calls for the constant use of the various currencies which make up the group and for financing which is generally obtained through some form of mutual credit support between the central banks. While the financing needs would be very small or zero in the long term if the system were stable, this stability is nevertheless not guaranteed, and at the same time there is a short-term need for financial resources in order to intervene. Naturally, this intervention is carried out with the use of currencies, and not of other international assets.

Moreover, the group of currencies which float together moves, with respect to the currencies which are floating independently, in a direction which is generally balanced for the group of countries involved, although not necessarily for each individual country. If this is a free or "clean" float, the authorities do not need to intervene in the markets. From this point of view, while the authorities need to possess resources in order to intervene in order to maintain the exchange rates within the limits agreed by the group of countries whose currencies are floating together, they do not need to intervene in respect of any currencies outside the group. In this case, however, as already stated, there will be incentives for the private sector to intervene in the markets of the currencies which are floating, and this sector will consequently have to accumulate currencies with which to intervene.

The developing countries, for their part, which are generally forced to link their currencies to those of some industrial countries, have to accept unlimited intervention by their central banks in order to maintain the exchange rate fixed in respect of the currency

to which they are linked. Since this link can produce destabilizing effects it may also increase the need for official reserves in order to intervene. Thus, considerations of uncertainty will assuredly lead the central banks of the developing countries, like other holders of foreign currencies, to diversify their holdings.

This situation has various effects on the demand for reserves. As already stated, the monetary authorities of the countries whose currencies are floating together cover their requirements for the intervention financing needed to maintain the exchange rates prevailing between them through a system of mutual credits, so that the net demand for additional reserves by the group for this purpose will be close to zero. Moreover, the floating with respect to the other main currencies will tend to diminish their demand for reserves and to change the composition of such reserves in favour of a larger accumulation of the currencies of the countries outside the group which are accepted as an international means of payment. The private sector, for its part, will display a bigger demand for currency with which to carry out the sector's expanded intervention in the currency markets.

It is difficult to gauge the relative effect of these influences in view of the limited number of observations available and the fact that the float has not been really clean. It is possible, however, to draw some tentative conclusions regarding the real transfers of resources implicit in the accumulation of reserves. The incentives which are inherent in the system seem to point towards a slight reduction in the official demand for reserves in those countries whose currencies are floating, as against an increase —sometimes considerable— in private demand. At all events, the countries whose currencies are used in international transactions will observe that the increase in holdings of the currencies of other countries is compensated, at least partly, by the increase in holdings of their own currency by other countries.

In the case of the countries whose currencies are floating jointly, it may be hoped that, if the system is stable, the purchases and sales of each particular currency will tend to cancel each other out in the long run. Consequently, for the countries whose currencies are used in international trade, any additional accumulation of reserves will take place without real transfers of resources or else with very small transfers. This contrasts with the situation before 1970, when the European group of countries accumulated the dollar without the United States having to accumulate European currencies. As a result of these influences, there will be a relative increase in the demand for currency compared with other reserve assets, and particularly compared with Special Drawing Rights.

In the developing countries, the demand for official reserves will tend to increase because of the additional requirements for adjustment created by the linking of their currencies to another floating currency. This accumulation will take place without compensation, since the other countries will not accumulate the currencies of the developing countries.[28] Consequently, these countries will accumulate reserves at the cost of transferring real resources to the countries whose currency they are accumulating. A link is thus established between the generation of liquidity and the transfer of real resources, but it is a link which operates in the opposite direction to that which is desired: resources are transferred from the developing countries to those whose currency is accumulated.

This analysis enables us to conclude that the international monetary system does not help to strengthen the role of Special Drawing Rights. The requirements for reserves for the purpose of public or private intervention are concentrated essentially in the main currencies. If there is any increase in the demand for reserves, it will be an increase in the demand for currencies, and not for Special Drawing Rights. Although in the industrial countries there may be a reduction in the demand for reserves by the official sector, there

can be no doubt that there will be an increase in the demand by the private sector, which requires currency for its action and cannot, by the very nature and characteristics of these instruments, use Special Drawing Rights for this purpose. Thus, in these countries the main effect will probably be that of a change in the composition of the overall reserves, both public and private, in favour of currencies and to the prejudice of Special Drawing Rights.

The same is not necessarily true of the developing countries, since the greater adjustment requirements created by the floating of the currencies to which the developing countries' own currencies are linked will generate a bigger demand for official reserves. This bigger demand for reserves could also be reflected in an increase in the demand for Special Drawing Rights, but because of its small size this is not likely to increase the importance of the latter in the international monetary system. Thus, the role of Special Drawing Rights in the system may well be reduced instead of increased, even if these are maintained as a useful unit of account.

It should be stressed that the function of Special Drawing Rights as a unit of account, important though it may be, does not endow these instruments with a central role in the system, since the same unit of account could be constructed with a group of currencies, without any reference to Special Drawing Rights.

The greater the importance of currencies as a reserve instrument, and the greater the proportion of private holdings in the total, the more difficult it will be to achieve suitable regulation of the growth of international reserves. On the one hand, the accumulation of currencies will depend on the economic policy of each country, and not on a rational collective decision, and on the other hand, the action of the private sector may help to create or destroy international means of payment through the operation of the banking systems, thus introducing into the picture an additional element which is extremely difficult to manage.

In the Eurocurrency market, a banking multiplier is in operation which is similar to that which exists in any national banking system with fractional reserves.[29] In national banking systems, the decisions of the private sector —banks, enterprises and individuals— as regards the reserves to be maintained to cope with possible withdrawals of deposits and as regards the preferred composition of currency holdings will determine the capacity of the banking system to create more or less money. The same elements operate in the Eurocurrency market, with the difference that generally there are no minimum legal cash requirements which tend to impose a relatively low limit on the banking muliplier. At all events, private decisions can reduce or increase the total volume of deposits of Eurocurrencies as well as cause changes in their composition. If private holdings grow sufficiently, then it will be the action of the private sector which predominates in matters of intervention, and there will be no guarantee whatever that this will take place with suitable attention to the international adjustment requirements.

At the same time, the private sector can now evade the monetary and credit policies of the national central banks more easily than ever by the simple expedient of operating through banks located outside the national frontiers. The veritable revolution which has taken place as regards private international financing means that it is now much more difficult for the monetary authorities of the countries to control the domestic monetary and credit situation. The private sector is therefore now at the centre of the international monetary machinery.

Generally speaking, then, the countries which are of greatest importance in international trade feel quite comfortable about the floating of currencies, and their demand for Special Drawing Rights tends to go down, while the influence of the private sector tends to increase, thus solving the floating requirements.

For the developing countries, in contrast, floating is a costly business, and in order to obtain additional liquidity resources they are obliged to transfer real resources in exchange. As these countries are not sufficiently important in quantitative terms in international transactions and their power of decision at the international level is rather limited, it is unlikely that their interests will predominate over those of the industrial countries, so that it can hardly be expected that the stated objectives of monetary reform will be fulfilled. Furthermore, the influence of private decisions on exchange and credit matters has come to be decisive.

XI
Conclusions

As will be gathered from the analysis made in the foregoing pages, the short-term situation is that the importance of Special Drawing Rights tends to go down, while that of currency floats tends to increase, as does the importance of certain individual currencies in international trade. At the same time, the authority of the body responsible for supervising the entire system diminishes, while the role of private decisions and actions in the adjustment process is increased.

In this latter aspect, the private banks and bankers which operate in the international financial field have ever-increasing responsibilities. Their future expectations tend to make themselves come true, consequently provoking devaluations or revaluations if a devaluation or revaluation is what they expect. Thus, they have come to play a leading role in exchange fluctuations and in the international adjustment process. The private sector is more sensitive than the official sector to variations in relative interest rates or expected exchange rates, so that the extraordinary volume now assumed by private holdings of foreign currencies introduces a dangerous element of instability into the picture. In addition, the changes in the desired composition of the assets and liabilities of the private sector may lead to important effects on global internal demand.

Because of this, the existing situation is not stable. It could lead to repeated crises and consequently bring about desirable modifications in the system, but such an effect would not be achieved through a peaceful evolution, but through the growing dissatisfaction caused by the crises.

As an illustration of this, the case of "snake" is particularly interesting. Because of the conditions in which the world economy is evolving, the continued existence of the "snake" is only possible as a result of frequent adjustments in the parities or central rates of the countries making up this system, or successive withdrawals and re-entries into the group, that is to say, frequent crises in the mechanism.

It would seem that only repeated crises in the international financial field could finally bring about the achievement of the objectives considerd desirable. The highest authorities of the member countries of IMF have agreed that it is necessary to have stable but adjustable exchange rates, and to reduce the importance of currencies while increasing that of Special Drawing Rights in international payments. The present situation, however, is leading in exactly the opposite direction.

It is not even possible to achieve the objective of regulating the expansion of international liquidity in the present circumstances. The growing influence of private transactions in the international monetary markets[30] makes it practically impossible to exercise adequate control over international liquidity, yet this is necessary in order to guarantee the sustained development of international trade without inflationary or depressive pressures. Such control calls for greater influence by the official sector and by

the international organizations, including suitable regulation of the Eurocurrency markets. In this aspect also, however, the tendency has been in the opposite direction.

In short, either the true objectives sought in the international financial field are not those which have so far been accepted internationally, or else the procedures adopted in order to try to achieve them are not the right ones.

NOTES

[1] An excellent description of the various proposals made, the debates which took place and the negotiations which led to the Bretton Woods agreement may be found in Y. Keith Horsefield, *The International Monetary Fund 1945-1965*, International Monetary Fund, Washington, D.C., 1969.

[2] Except, in the case of the former, for the possibility that their currency might be declared a "scarce currency". This punishment was never applied, however.

[3] Not counting official holdings of Eurodollars. If these are taken into account, the figure rises to 34.2 billion dollars. See IMF *Annual Report*, 1975, p. 39.

[4] Including 2.8 billion dollars in Special Drawing Rights and IMF loans.

[5] Robert Triffin, *Europe and the Money Muddle*, New Haven, Yale University Press, 1957: see especially pp. 296-299.

[6] France left the group at the end of 1967.

[7] West Germany, Belgium, Canada, the United States, France, Italy, Japan, the Netherlands, the United Kingdom, Sweden and Switzerland.

[8] The Smithsonian agreements are the first in which it was agreed to make generalized changes in exchange rates.

[9] West Germany, Belgium, France, Luxemburg and the Netherlands were the original members of this group, the formation of which was announced on 12 March 1972. On 16 March it was joined by Sweden, on 24 April by Italy, and on 1 May by the United Kingdom, Ireland and Denmark. These latter countries withdrew from the agreement on 23 June 1972, but Denmark re-entered it on 10 October. Italy left the group in February 1973. Finally, France left the group temporarily in January 1974, rejoined it in the last quarter of 1975, and left it once again at the end of the first quarter of 1976.

[10] Let us assume, for example, that a 3% devaluation in a country's currency is expected in the year. It will be sufficient for domestic interest rates to rise 3% compared with external rates in order to eliminate any incentive to take capital out of the country. Similarly, however, if the expected devaluation is 15%, then the domestic interest rates must rise by at least that figure with respect to external rates in order to achieve the same purpose. The necessary movements in interest rates would have to be even bigger if the devaluation was expected at a certain moment in time instead of taking place over a whole period.

[11] Such as Brazil, Chile and Colombia, for example.

[12] This means that although the situation as regards the *official* external assets and liabilities of the United States does not change, the net liabilities to private creditors increase.

[13] The Committee of 20 submitted its final report, with an outline of the reforms needed, on 14 June 1974. It was replaced on 2 October of the same year by the new Interim Committee of the Board of Governors of the International Monetary Fund.

[14] In April 1976 the Board of Governors ratified what had been approved by the Interim Committee at the Jamaica Meeting. In order for the amendments to the Articles of Agreement to come into force, however, ratification by the legislature is needed in most of the Fund's member countries.

[15] A similar analysis of the subject dealt with in this section, made by the same author, previously appeared in *Temas del nuevo orden económico internacional*, Cuadernos de la CEPAL, Nº 11, Santiago, Chile, 1976.

[16] It is proposed to change the title of Article IV of the Articles of Agreement of the International Monetary Fund, "Par values of currencies", to "Obligations regarding exchange arrangements".

[17] If the parities were expressed in terms of a currency, then the possible margin of variation of the latter would be half the margin of variation of the other currencies.

[18] The present provisions state that each participant shall so use and reconstitute its holdings of Special Drawing Rights that at the end of each calendar quarter the average of its total daily holdings of Special Drawing Rights over the most recent five-year period shall be not less than 30% of the average of its daily net cumulative allocation of Special Drawing Rights over the same period. If the average is below the minimum, the participant is obliged to "reconstitute" its holdings, i.e., to acquire Special Drawing Rights in order to comply with this obligation.

[19] This means that special preference will be given to countries with a per capita income of less than 300 SDR units (some 360 dollars), thus ruling out most of Latin America.

[20] The increase in the quotas has already been approved by a vote of the Governors, but it will not enter into force until the legal requirements are completed in each country and until the reforms to the Articles of Agreement of the Monetary Fund are approved. The whole process may last for another year or more.

[21] The Trust Fund will be set up with part of the profits from the sale of the Fund's gold and will be designed to help the poorest member countries on highly concessional terms.

[22] These estimates are based on the assumption that the total gold holdings of the member countries of IMF are 1 billion ounces, of which 5% corresponds to holdings of the non-oil-exporting countries. It is assumed that the price of gold which influences the decisions of holders of this metal is below the market price, since the latter is subject to quite substantial fluctuations.

[23] If a country, in drawing on the Fund, obtains currencies which are little used in international trade, it can approach the country issuing that currency to obtain reserve currencies in exchange for it.

[24] It is not yet possible to measure the greater ease of use of the compensatory financing facility in concrete terms, since this will depend not only on the new operating rules, but also on the specific policies which the Fund puts into practice.

[25] Statement by the Managing Director of IMF at press conference held on 8 January 1976, IMF Survey, 19 January 1976, pp. 24 and 25.

[26] *Ibid.*, pp. 24 and 25.

[27] The Oil Facility was set up by the Fund in 1974 with the aim of helping to avoid restrictive measures on international trade which might arise in oil-importing countries as a result of the sharp rise in the price of this fuel.

[28] Except for the currencies of the oil-exporting countries.

[29] For a detailed explanation of the process of "creation" of money in the Eurodollar market, see M. Friedman, "The Eurodollar market: Some first principles", in *The Morgan Guaranty Survey*, October 1969.

[30] In 1964, the private holdings of international liquidity, which amounted to some 24 billion dollars, were one-third of the total official reserves. By 1973, however, they amounted to some 125 billion dollars, that is to say, over two-thirds, and far exceeded the official reserves of the countries in whose currencies such holdings were maintained. See, for example, IMF, *Annual Report*, 1974, p. 44, which gives estimates of private holdings of international liquidity.

The external financing and indebtedness of Latin America and proposals for action

Carlos Massad and Roberto Zahler

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I
Introduction

1. *The use made of external financing*

In recent years the external financing of the Latin American non-oil-exporting countries has undergone profound changes both as regards its magnitude, terms and conditions and as regards the evolution which has taken place in the sources of external resources for the region.

Thus, the average balance-of-payments current account deficit of these countries, which was slightly over US$ 1 500 million per year in the period 1965-1970 and a little over US$ 4 billion per year in the three-year period 1971-1973, rose abruptly in 1974 to almost US$ 13 billion and in 1975 to over US$ 16 billion. In 1965-1970, these deficits represented less than 15% of exports of goods and services, but in 1975 that proportion rose to over 50%.

In the mid-1960s, Latin America's external financing came mainly from bilateral and multilateral official sources and direct investments. In the mid-1970s, however, the bulk of the financing came from foreign private banks.

The current account deficits in question have been covered through net external financing. Sometimes, this has had to be supplemented through a reduction in the countries' reserves, whereas on other occasions it has made it possible to increase them. Consequently, in order to measure the use made of net external financing, it is appropriate to add the increases in reserves to the balance-of-payments current account deficits and to deduct the reductions in reserves from them. Table 1 shows the current account deficits and the variations in the international reserves of the Latin American non-oil-exporting countries, together with their sources of financing.[1]

In the five-year period 1966-1970, one-third of the financing came from direct investments and donations, while the remainder came in equal parts from official and private loans: credits from commercial banks represented 12% of the net external financing of the region.

In 1974-1975, the Latin American non-oil-exporting countries were obliged to reduce the level of their reserves in order to finance their deficits. The use made of financing in this two-year period, in nominal terms, increased sixfold compared with the second half of the previous decade. Direct investments and donations represented only 15% of the net external financing; the remainder was obtained through net loans.

Within the latter, official loans only represented 18%, while those from commercial banks accounted for 55% of the net external financing of the countries of the region: that is to say, while the resource needs for covering the current account deficits and variations in reserves increased sixfold, the financing from private international banks grew by a factor of over 27.

It can thus be seen that in the last few years the sources of external financing of the non-oil-exporting countries of the region have undergone considerable changes, especially as regards the growing importance of the commercial banks as sources of financing for the region. This has been due fundamentally to the fact that the member countries of the Organization for Economic Co-operation and Development (OECD)

have decided to give priority, in their development aid programmes, to the relatively less developed countries which have almost no access to the international capital markets. At the same time, the financing needs of the Latin American non-oil-exporting countries have grown as a result of the increase in oil prices and the drop in the terms of trade. Thus, these countries have been forced to compete for private sources of financing, mainly by seeking bank loans but also by trying to obtain or increase access to the long-term capital markets.

As already noted, the private banks, which contributed 12% of the net external financing of the non-oil-exporting countries of the region in the five-year period 1966-1970, provided 55% of such financing in 1974-1975. This naturally reflects the fact that official financing has grown much less than the ever-increasing needs of these countries.

Table 1

EXTERNAL FINANCING OF THE LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES

(Billions of dollars)

	1966-1970	*1974*	*1975*	*1976*
Current account deficit[a]	-2.0	-13.4	-16.3	-12.8
Reserves[b]	+0.4	-0.7	-2.2	+2.3
Use made of external financing	2.4	12.7	14.1	15.1
Net external financing[c]	2.5	14.3	15.4	
Direct investment	0.7	2.1	2.2	2.3
Donations	0.1	0.1	0.1	
Net loans[d]	1.7	12.1	13.1	
Loans from official sources	0.9	2.0	2.5	2.8
Multilateral	0.4	1.1	1.4	
Bilateral	0.5	0.9	1.1[e]	
Loans from private sources	0.8	10.1	10.6[f]	
Supplier loans	0.4	0.7	1.0[f]	1.1[f]
Commercial banks	0.3	8.2	8.2	7.2[g]
Non-assigned balance	0.1	1.2	1.4	

Source: International Monetary Fund, *Balance of Payments Yearbook;* Inter-American Development Bank, *Financiamiento externo de los países de América Latina,* June 1976; Bak for International Settlements, *Supplement* and *Yearbook*; ECLAC estimates.

Note: The flow of loans from commercial banks was estimated on the basis of the annual variation in the net external position (assets less liabilities) of the region with foreign commercial banks.

[a] Excluding official donations.

[b] Plus sign indicates an increase in reserves.

[c] Excluding Bolivia, Ecuador, Trinidad and Tobago and Venezuela because they are oil exporters and Panama because it is a financial centre.

[d] Including long, medium and short-term non-compensatory and compensatory loans.

[e] Calculated by differences, with the total figure for official resources being estimated on the base of the growth (20%) in the total provided by the Development Assistance Committee (DAC) to the developing countries.

[f] Figure estimated according to the growth in supplier credits granted by the DAC to non-oil-exporting developing countries.

[g] Preliminary figures for period up to September 1976.

2. *Official financing flows*

Official flows, which include donations and bilateral and multilateral loans, have certain conditions as regards periods of grace, interest rates and terms which make them more advantageous than private loans. As indicated in table 1, the importance of this type of financing within the total for the Latin American non-oil-exporting countries has gone down drastically.

According to preliminary data from the Development Assistance Committee (DAC), in 1975 official development assistance —as a proportion of the gross national product (GNP) of the industrialized countries— came to 0.36%, so that it was obviously still very far from the goal of 0.7% of the gross domestic product laid down by the United Nations for the transfer of this type of resources to the developing countries. Moreover, when we consider that in the 1960s the proportion was 0.44%, it can confidently be said that in the 1970s we have been losing ground instead of advancing in this field.

Table 2 gives an idea of the volume of this official aid transferred to the developing countries as a whole and its evolution between 1960 and 1975.

Ten years ago, the developed countries provided concessionary resources for development which amounted to 60% of the total resources transferred to the developing countries, but by the mid-1970s this percentage had dropped to 35%.

Projections prepared by international agencies[2] show that over the next five years official development assistance provided by the member countries of the DAC is likely to decline to 0.33% of their 1979/1980 gross national product. In the case of the United States, whose behaviour has the greatest impact on Latin America, official development assistance as a proportion of the gross national product amounted to 2.79% in 1949, when the Marshall Plan was initiated; 0.53% in 1960 and 0.31% in 1970, while the projection for 1980 is 0.21%.

Table 2

MEMBER COUNTRIES OF DEVELOPMENT ASSISTANCE COMMITTEE: NET FINANCIAL RESOURCES TRANSFERRED TO THE DEVELOPING COUNTRIES

(Net disbursements)

	Annual average 1961-1970	*1971*	*1972*	*1973*	*1974*	*1975*
	a) *Billions of dollars*					
Total net financial resources transferred to developing countries	11.0	17.8	19.7	24.6	27.6	38.8
Official development aid	6.0	7.7	8.5	9.4	11.3	13.6
Private disbursements	4.2	8.0	8.6	11.4	13.3	21.2
Other official resources	0.8	1.3	1.5	2.5	2.2	2.7
Private donations	-	-	0.9	1.4	1.2	1.4
	b) *As percentage of GNP*					
Total	0.77	0.80	0.77	0.79	0.82	1.02
Official development aid	0.44	0.35	0.33	0.30	0.33	0.36

Source: OECD press release, Paris, 29 June 1976, table 4.

Not only has there been a decline in the relative share of official financial flows —and, within them, in the proportion of flows of a more concessionary nature (especially in the case of the United States, which most directly affects the Latin American countries)— but the geographical distribution of the concessionary financial flows also confirms Latin America's unfavourable position compared with other regions.

In table 3, the term "concessionary flows" covers donations and those loans whose concessionary element amounts to at least 25%.

It can be seen from these data that the Latin American non-oil-exporting countries are the only developing group (other than Europe) which has suffered a reduction in the proportion of concessionary financial resources within the total net resources coming from the DAC. Furthermore, this proportion has dropped to only a little over half what it was in 1971, and the absolute volume of the concessionary flows directed to these countries in 1974 was smaller in real terms than in 1971.

Moreover, the average terms of the loan agreements also display an unfavourable tendecy for the region. Table 4 brings out this deterioration and shows the very low concessionary percentage in the resources provided for Latin America, compared with other geographical areas. It is interesting to note that the more advanced Mediterranean countries —Spain, Greece, Israel, Malta, Portugal, Turkey and Yugoslavia— receive a larger proportion of their resources on concessionary terms than Latin America, although their level of development is obviously higher than that of most of the Latin American countries.

In short, everything indicates that the importance of official loans as a source of external financing for the region has gone down markedly and that Latin America has been displaced, as regards the volume of loans on favourable conditions and the percentage of concessionary loans, by other developing regions.

Table 3

MEMBER COUNTRIES OF THE DEVELOPMENT ASSISTANCE COMMITTEE (DAC) AND MULTILATERAL AGENCIES[a]: GEOGRAPHICAL DISTRIBUTION OF NET FINANCIAL RESOURCES TRANSFERRED TO CERTAIN NON-OIL-EXPORTING DEVELOPING COUNTRIES

(Millions of dollars)

	1971			*1974*		
	Total flow	*Concessionary flow*	*Concessionary as % of total*	*Total flow*	*Concessionary flow*	*Concessionary as % of total*
Latin American non-oil-exporting countries[b]	3 333	555	16.7	7 039	626	8.9
Africa	3 760	1 962	52.2	4 752	2 935	61.8
Asia[c]	3 815	2 774	72.7	3 804	2 788	73.3
Oceania	389	284	73.0	608	495	81.4
Europe	1 245	223	17.9	1 885	129	6.8

Source: Organization for Economic Co-operation and Development; DAC, *Report 1975*, tables 26 and 28.

[a] Not including multilateral agencies whose tranfers of resources have a concessionary element of less than 25%.

[b] Including unspecified amounts for South America and America in general.

[c] Exclung Middle East and Indonesia.

Table 4

AVERAGE TERMS OF OFFICIALLY-GUARANTEED LOAN COMMITMENTS AND CONCESSIONARY FACTOR OF LOANS AND DONATIONS, BY REGIONS

Region	*Year*	*Loan commitments*		*Interest (percentages)*	*Concessionary factor of loans and donations (percentages)*
		Repayment period (years)	*Period of grace (years)*		
Latin America	1967	14.1	3.4	5.4	31
	1973	13.8	4.2	8.1	16
	1974	12.8	3.7	7.9	15
Mediterranean area	1967	17.5	5.9	4.1	39
	1973	17.3	6.5	6.0	32
	1974	15.4	4.9	7.5	20
Africa south of the Sahara	1967	21.4	5.3	3.1	69
	1973	21.5	5.9	4.9	53
	1974	20.6	5.8	5.0	55
East Asia and the Pacific	1967	14.0	3.9	4.4	59
	1973	21.8	6.0	5.4	45
	1974	16.6	5.3	6.1	33
North Africa and the Middle East	1967	13.6	3.5	3.9	44
	1973	14.7	4.4	5.8	27
	1974	17.0	3.9	5.4	35
South Asia	1967	27.8	6.9	2.5	72
	1973	33.0	7.8	2.1	69
	1974	28.1	7.2	2.4	62

Source: World Bank, *Annual Report, 1976*, p. 121.

In the face of the international financial situation prevailing at the end of 1973, efforts were made to expand and facilitate the access of the countries to resources from certain international organizations, especially the International Monetary Fund (IMF).

Although the recent expansion of the credit tranches of IMF pending the realization of the increase in quotas already agreed upon, the establishment of the Oil Facility (which closed its operations in March 1976) and the greater freedom of access to the Compensatory Financing Facility have helped to relieve the financing problems of deficit countries, they have only done so to a very modest extent when we consider the magnitude of the problem and the previous levels of official financing. This is particularly true of the Latin American non-oil-exporting countries, the great majority of which cannot take advantage of the resources from the new IMF Trust Fund, since access to this Fund has been restricted to countries with a per capita income of less than US$ 300 per year.

It seems clear that the measures adopted up to the end of 1973 by various international organizations, and especially the International Monetary Fund, with the aim of providing new official sources of liquidity for financing the balance-of-payments deficits of non-oil-exporting developing countries have not been sufficient to satisfy the needs of the Latin American countries which do not export this product.

3. *Private loans*

The importance assumed by the international commercial banks in the external financing of the Latin American non-oil-exporting countries in recent years is clear, as may be seen from table 1.

In 1974 and 1975, approximately 85% of the total net external financing of these countries came from private sources. The commercial banks became their main creditors in this period, accounting for 55% of the net resources transferred.

Although the information available is incomplete, it may be estimated that in these years the countries received between 75% and 80% of the commercial bank financing provided to the non-oil-exporting developing countries as a whole, whereas their deficit corresponded to only about 40% of the total deficit of the latter.

To view the matter from another angle, in the three-year period 1974-1976 the first-named countries ran up a current account deficit of US$ 43 billion. The global external debt has almost doubled since 1973, and it is estimated that it came to some US$ 80 billion at the end of 1976. Of this amount, approximately US$ 50 billion or two-thirds, was owed to commercial banks.

The importance which the commercial banks have acquired in the external financing of the Latin American non-oil-exporting countries has brought with it a number of consequences. In particular, the repayment terms and interest rates involved make it difficult to use this financing for long-term productive investments and help to aggravate the problem of debt servicing and creditworthiness of the countries. Table 5 shows that the average repayment term of bank loans has been systematically shortening in recent years.

These facts, together with the high balance-of-payments deficits of recent years, have led to steady growth in the region's external indebtedness and progressive deterioration of its debt structure, so that Latin America has become more vulnerable and more dependent on private bank financing sources.

Table 5

PUBLICLY ANNOUNCED EUROCURRENCY BANK LOANS, BY REPAYMENT PERIODS

(Percentages)

	1973	*1974*	*1975*	*1976*[a]
Industrial countries	**100.0**	**100.0**	**100.0**	**100.0**
1 to 6 years	17.7	16.1	52.9	31.4
7 to 10 years	58.3	70.7	40.4	49.0
Over 10 years	11.7	9.3	1.0	-
Term not known	12.3	3.9	5.7	19.53
Developing countries	**100.0**	**100.0**	**100.0**	**100.0**
1 to 6 years	6.5	19.2	74.8	71.1
7 to 10 years	48.8	62.8	21.2	24.2
Over 10 years	26.7	14.5	1.7	-
Term not known	17.9	3.5	2.3	4.6

Source: World Bank, *Borrowing in Capital Markets*, February 1975 and August 1976.
[a] As at June 1976.

Because of the persistent deficits on current account, rapid increases in external debt servicing costs and the need to recover and maintain a reasonable level of international reserves, the future external financing of the Latin American non-oil-exporting countries will depend to a large extent on resources coming from the private international banking system.

For the private banks, the possibility of continuing to satisfy the demands of debtor countries depends essentially on the creditworthiness of the latter. This creditworthiness rests basically on three elements: a) the contribution made by the deficit countries to the adjustment of their balance of payments through domestic measures aimed at reducing their aggregate demand and changing relative prices, increasing those of internationally tradeable goods; b) the contribution made by the industrial countries which register surpluses, through suitable policies of economic expansion and the elimination of trade barriers so as to increase their demand for imports and open up their markets to products coming from developing countries; and c) the participacion of official bodies —to a much greater extent than in the previous three-year period— in order to help to finance transitory imbalances and to settle the problems of adjustment and international liquidity in the near future.

In general, the majority of the Latin American non-oil-exporting countries have taken adjustment measures, although in some cases their authorities consider that the deficits must be further reduced. Recovery by these countries of their export markets, together with additional official financing resources, would help considerably to reduce the length and severity of the restrictions that must be imposed on the aggregate demand of these countries.

It seems clear that more active participation by multilateral international agencies, in the form of measures to increase the access of the countries to their resources and to supplement the latter, would directly help to solve the problem. It would also help to solve the problem indirectly, as it would facilitate access to private sources of financing by giving greater backing to member countries. This would reduce and make more manageable the cost of financing the balance-of-payments deficits of the deficit countries in general and the Latin American non-oil-exporting countries in particular.

II

The external indebtedness of Latin America

1. *The magnitude of the problem*

The figures given above for the current account deficit only partly reflect the size of the total external financing needs. In reality, if it is not desired to sacrifice the countries' growth rates, then in order to determine the size of this figure it is necessary to add to the current account deficit the resource requirements in connection with the necessary increase in reserves and the amortization of the debt already contracted. At the same time, it is necessary to subtract direct investments and net inflows of medium and long-term capital.

The available information does not permit the preparation of reliable complete series. On the one hand, the figures for direct investment are not always reliable, and on the other the errors and omissions in the balance-of-payments calculations also make the picture less accurate. The changes in the size of the current account deficit and debt amortization commitments, however, are a good indicator of the increase which has taken place in the external financing needs of the Latin American non-oil-exporting countries.[3]

As we can see from table 6, the figures show heavy concentration of indebtedness inArgentina, Brazil and Mexico. This concentration, however, is broadly similar to the concentration of the gross domestic product of the countries of the region. In 1974-1975, the total of the current account deficits and amortization commitments of Argentina, Brazil and Mexico represented a little under 75% of the total corresponding to the Latin American non-oil-exporting countries, whereas the gross domestic product of these three countries came to 76% of the corresponding total product.

By 1975, the external situation of these three countries had deteriorated still further because of the insufficient effects of the adjustment measures adopted. Consequently, during 1976 these countries applied additional measures aimed at relieving their external situation through different policies.

a) *The balance on current account*

The main causes of the deficit figures of the last few years lie in the increase in the prices of imports of capital and intermediate goods, the rise in oil prices, and the steady increase in foreign capital service payments: all these elements have been characteristic of the last three years and were further exacerbated, in 1975, by the recession which affected the industrialized world, with its consequent effect on the balance of payments of the economically weakest countries.

It should be noted that in the face of the rise in oil prices, the industrialized countries rapidly applied adjustment measures which, although they led to the most serious recession since the war, nevertheless enable them to correct their current account imbalance, passing from a deficit of US$ 11 billion in 1974 to a surplus of US$ 16 billion in 1975.

The majority of the Latin American countries, for their part, had not up to early 1975 applied severe policy measures aimed at reducing aggregate demand, particularly for imports. Thus, up to the end of 1974 the non-oil-exporting countries of the region

Table 6

LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES: BALANCE OF PAYMENTS CURRENT ACCOUNT DEFICITS[a] AND DEBT AMORTIZATION[b]

	1965-1970		*1971-1973*		*1974-1975*[c]	
	Millions of dollars	*Percentages*	*Millions of dollars*	*Percentages*	*Millions of dollars*	*Percentages*
Argentina, Brazil and Mexico	2 119	(62)	5 044	(67)	14 213	(74)
Colombia, Chile, Peru and Uruguay	706	(21)	1 595	(21)	2 838	(15)
Other countries	567	(17)	901	(12)	2 043	(11)
Total	**3 392**	**(100)**	**7 540**	**(100)**	**19 094**	**(100)**

Source: Prepared on the basis of official balance of payments figures of the countries. The figures correspond to annual averages for the periods indicated.

[a] Excluding official donations.

[b] Refers to long and medium-term non-compensatory debts.

[c] For 1974 and 1975 the 1974 debt amortization figures were used.

showed a growth rate of the gross domestic product which was quite satisfactory and stable (the annual average in 1972 was 7%), together with steady growth rates of their exports, especially of manufactures. In order not to sacrifice their volume of imports, economic growth and standards of living, however, they covered their external imbalance with greater indebtedness.

In 1975, most of these countries began to apply balance-of-payments adjustment measures, as a result of which their growth rate went down to less than half of that registered in 1971-1974. Because of the recession being suffered by the industrial world (with the consequently lower demand for imports), the greater flexibility of the industrialized economies for responding to their own adjustment measures, and the deterioration of approximately 12% which had taken place in the terms of trade, however, the Latin American non-oil-exporting countries saw their efforts largely frustrated, and their deficit on current account increased to levels even higher than those of 1974, while their external indebtedness accelerated.

Various estimates by international agencies all coincide in stating that in 1976 the trade deficit of these countries went down by some US$ 4 billion. This figure is estimated on the basis of a projected 14% increase in the value of exports, in view of the recovery of the industrial countries and the absence of major variations in the terms of trade. Furthermore, in view of the maintenance of fiscal, monetary, credit, income and foreign exchange policies aimed at reducing aggregate demand in order not to have to reduce still further the levels of their international reserves nor increase as rapidly as in the past their already high external debt, it is estimated that the value of their imports was kept more or less constant in nominal terms. The foregoing, together with other background data, enables us to estimate that the countries in question registered a growth rate of the gross domestic product which was slightly higher than that of 1975, that is to say, around 4% or 5% per year.

Although in 1976 this group of countries had to pay more in respect of interest on their external debt (because of greater indebtedness on more onerous terms), there was an estimated reduction in their current account deficit to around US$ 13 billion. In 1974 and 1975, over two-thirds of the deficit had corresponded to Brazil and Mexico; in 1976, the current account deficit of these two countries represented 80% of the total deficit of the non-oil-exporting countries of the region.

This does not mean that the recent external situation of the other Latin American non-oil-exporting countries has been easy. Although Brazil and Mexico accounted for a large part of the total deficit in absolute terms, the deficit of other countries was large in relation to their economic scale. In the period 1970-1973, Argentina, Chile, Paraguay, Peru and Uruguay had current account deficits which amounted to 8% of their exports (for the group of non-oil-exporting countries of the region as a whole the corresponding proportion was over 20%). In 1975, however, the corresponding figure was close on 50%: that is to say, in relative terms their situation deteriorated almost three times more than that of Brazil and Mexico taken together.

b) *The State-guaranteed external debt*

As already noted, in order to estimate the external financing needs it is necessary to take account not only of the deficit on current account but also of the disbursements in respect of amortization of the external debt. The figures given in table 6 include the payments corresponding to past indebtedness.

In order to assess the future evolution of external debt servicing it is necessary to look at the present situation.

In spite of the small reduction in the deficit estimated for 1976, the external financial position of most of the Latin American non-oil-exporting countries continues to be vulnerable. Although the delay of these countries in adjusting to the new international conditions has permitted a more gradual and programmed adjustment process, it has also brought some problems with it. Deficits of the order of US$ 12 billion to US$ 15 billion for the third year running reflect, at least in part, imports aimed at trying to keep up levels of consumption, with effects which can easily be foreseen as regards the future effort needed to service a fast-rising debt.

As a result of these heavy consecutive deficits, the external indebtedness figures also reflect the increase in financing needs. Latin America's external debt has grown appreciably in recent years and the countries of the region have had to have recourse mainly to private sources of loans, so that repayment terms and interest rates have become less favourable.

The external debt[4] of the non-oil-exporting countries of the region, which came to US$ 10 billion in 1967, amounted to US$ 24 billion by the end of 1973 (100% of the value of their exports) and US$ 32 billion in 1974. It is estimated that at the end of 1975 this indebtedness was approximately US$ 43 billion (over 130% of the value of those countries' exports), and that in 1976 it will come to not less than US$ 49 billion (see table 7).

This means that in the course of three years the external debt of these countries has doubled, whereas it is estimated that the value of their exports has grown by not more than 50%.

The external debt of the other non-oil-exporting developing countries, for its part (i.e., excluding the Latin American ones), grew from US$ 47 billion at the end of 1973 to around US$ 64 billion in 1975 and an estimated figure of almost US$ 80 billion in 1976.

It may thus be noted that between 1973 and 1976 the indebtedness of the other non-oil-exporting developing countries appears to have grown proportionately less than that corresponding to the Latin American non-oil-exporting countries.

Table 7

NON-OIL-EXPORTING DEVELOPING COUNTRIES: OFFICIALLY-GUARANTEED EXTERNAL DEBT[a]

(Billions of dollars)

	1967	*1970*	*1973*	*1974*	*1975*	*1976*
Latin American non-oil-exporting developing countries (LANOCO)	10	15	24	32	43	49
Most advanced Mediterranean developing countries[b]	5	8	13	16	19	23
Others	17	23	34	39	45	56
Total non-oil-exporting developing countries (NODEVCO)	32	46	71	87	107	128

Source: World Bank, *World Debt Tables 1976* and estimates based on partial information from the World Bank and the International Monetary Fund.

[a] Refers to effectively disbursed medium and long-term debt outstanding at end of each year.

[b] Comprise Greece, Israel, Malta, Portugal, Spain, Turkey and Yugoslavia.

Table 8

LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES: ESTIMATES OF GLOBAL DEBT

(Billions of dollars)

	1974			1975			1976		
	Officially guaranteed debt	*Non-guaranteed bank debt*	*Global debt*	*Officially guaranteed debt*	*Non-guaranteed bank debt*	*Global debt*	*Officially guaranteed debt*	*Non-guaranteed bank debt*[a]	*Global debt*
Argentina	3.34	2.39	5.73	3.16	3.07	6.23	3.63	2.63	6.26
Brazil	9.30	9.29	18.59	15.50	9.33	24.83	17.82	12.21	30.03
Mexico	8.01	6.01	14.02	11.25	8.51	19.76	12.94	11.17	24.11
Subtotal	20.65	17.69	38.34	29.91	20.91	50.82	34.39	26.01	60.40
Chile	3.73	0.55	4.28	4.06	0.39	4.45	4.67	0.51	5.18
Colombia	2.10	1.36	3.46	2.31	1.48	3.79	2.66	1.32	3.98
Peru	2.05	1.08	3.13	2.67	1.25	3.92	3.07	1.45	4.52
Uruguay	0.51	0.06	0.57	0.61	0.09	0.70	0.70	0.08	0.78
Subtotal	8.39	3.05	11.44	9.65	3.21	12.86	11.10	3.36	14.46
Other countries[b]	2.85	.02	2.87	3.48	.56	4.04	4.01	.37	4.38
Total[b]	31.89	20.76	52.65	43.04	24.68	67.72	49.50	29.74	79.24

Source: World Bank, *World Debt Tables 1976*; Bank for International Settlements, *Annual Reports* and *Press Review*, March 1977; ECLAC estimates.

Note: All the figures refer to the effectively disbursed debt at the end of each year. The officially guaranteed debt covers only medium and long-term debt. The non-guaranteed bank debt is the debt without any official guarantee contracted with foreign commercial banks operating in the following countries —Belgium/Luxembourg, France, Germany, Italy, the Netherlands, Sweden, the United Kingdom, Canada, Japan, the United States and Switzerland— and with branches of United States banks in the Caribbean and the Middle East. These figures are considered to be under-estimates, since they only include partial data on the operations of non-national financial centres. In addition to this under-estimation, it should be noted that the estimates of the global debt do not include non-guaranteed debts to suppliers nor IMF loans.

[a] Debt outstanding as at 30 September 1976. Preliminary United States figures for the fourth quarter of 1976 indicate that Brazil's short-term bank debt increased by 500 million dollars, while that of the Latin American non-oil-exporting countries increased by nearly 1 billion dollars.

[b] Excluding Panama because it is a financial centre.

Consequently, the situation of the latter shows a deterioration both in absolute terms and in comparison with the other non-oil-exporting developing regions.

The cost of servicing the officially guaranteed external indebtedness of the non-oil-exporting countries of the region amounted in 1973 to US$ 3 900 million, while in 1975 it is estimated to have amounted to US$ 6 billion, so that its growth rate (65%) was higher than the growth of the value of exports over the same period (32%). It is estimated that in 1976 the percentage growth rate of the servicing of this debt was very similar to that of exports. As already noted above, while the future cost of servicing the debt will increase there will probably be some relief in the current account deficit (although this will continue to be very high in absolute terms), but the gross requirements for external financing will continue to rise.

It should be noted that the figures on indebtedness given up to this point do not include debt for terms of less than one year,[5] nor that of a compensatory nature,[6] nor externally indebtedness which is not officially guaranteed.

c) *Non-guaranteed bank debt and the global debt*

As already noted, the above figures do not include credits from private sources which are not officially guaranteed.

The importance which has now been assumed by bank debt can be appreciated if we look at recent statistical data on the indebtedness of the countries with the commercial banks of the main world financial centres. These data give grounds for concluding that the figures on officially guaranteed external indebtedness are far from reflecting the total debt of the non-oil-exporting countries of the region.

The preliminary information available indicates that at the end of 1975 the debt[7] of these countries with banks of the United States, Belgium, Luxembourg, France, the Federal Republic of Germany, Italy, Holland, Sweden, Switzerland, the United Kingdom, Canada and Japan was at least[8] US$ 42 300 million. Their non-guaranteed bank debt, which amounted to some US$ 2 550 million in 1965, came to US$ 25 billion in 1975 and US$ 30 billion in September 1976.

Consequently, it may be estimated that at the end of 1975 the total guaranteed and non-guaranteed external debt of the non-oil-exporting countries of the region amounted to at least US$ 67 billion,[9] after having been over US$ 50 billion in 1974 (see table 8).

The guaranteed external debt of these countries rose by almost 80% during 1974 and 1975, while over the same period their bank debt (including non-guaranteed debt) grew by nearly 100%. Furthermore, in the two-year period 1974-1975 the banking community helped to finance 70% of these countries' current account deficit, but no more than 30% of the deficit of the other non-oil-exporting developing countries, yet the latter

Table 9

GEOGRAPHICAL DISTRIBUTION OF ASSETS AND LIABILITIES OF FOREIGN COMMERCIAL BANKS[a]

(Billions of dollars)

	1975			*1976*[b]		
	Assets	*Liabilities*	*Balance*	*Assets*	*Liabilities*	*Balance*
Industrial countries	262	286	-24	282	311	-29
Eastern Europe	22	6	16	27	6	21
International agencies	...	4	-4	1	3	-2
Oil-exporting countries	14	51	-37	19	58	-39
Financial centres	62	41	21	78	52	26
Non-oil-exporting Latin American countries	42	15	27	50	16	34
Other non-oil-exporting developing countries	32	38	-6	38	42	-4
Total non-oil-exporting developing countries	74	53	21	88	58	30
Not specified	7	6	1	6	8	-2
Total	**442**	**447**	**-5**	**500**	**496**	**4**

Source: Bank for International Settlements, *Annual Reports* and *Press Review*, March 1977.

[a] Refers to banks operating in Belgium/Luxembourg, France, Germany, Italy, the Netherlands, Sweden, United Kingdom, Canada, Japan, the United States and Switzerland, plus branches of United States banks in the Caribbean and Middle East.

[b] Information as at 30 September 1976.

Table 10

LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES: EXTERNAL POSITION WITH FOREIGN COMMERCIAL BANKS[a]

(Billions of dollars)

	1974			*1975*			*1976[b]*		
	Assets	*Liabilities*	*Balance*	*Assets*	*Liabilities*	*Balance*	*Assets*	*Liabilities*	*Balance*
Argentina	2.03	3.03	-1.00	2.54	3.59	-1.05	2.75	3.23	-0.48
Brazil	5.29	13.94	-8.65	5.01	16.73	-11.72	5.34	20.72	-15.38
Mexico	3.15	9.92	-6.77	4.18	15.17	-10.99	4.14	18.83	-14.69
Subtotal	**10.47**	**26.89**	**-16.42**	**11.73**	**35.49**	**-23.76**	**12.23**	**42.78**	**-30.55**
Chile	0.60	1.02	-0.42	0.64	0.89	-0.25	0.77	1.08	-0.31
Colombia	0.50	1.61	-1.11	0.76	1.78	-1.02	0.95	1.67	-0.72
Peru	0.58	1.93	-1.35	0.47	2.59	-2.12	0.45	2.99	-2.54
Uruguay	0.34	0.18	+0.16	0.44	0.18	+0.26	0.63	0.18	+0.45
Subtotal	**2.02**	**4.74**	**-2.72**	**2.31**	**5.44**	**-3.13**	**2.80**	**5.92**	**-3.12**
Other countries[c]	.31	.39	- .08	.85	1.40	- .55	.71	1.70	- .99
Total[c]	**12.80**	**32.02**	**-19.22**	**14.89**	**42.33**	**-27.44**	**15.74**	**50.40**	**-34.66**

Source: Bank for International Settlements, *Annual Reports* and *Press Review*, March 1977, and ECLAC estimates.
Note: The liabilities include short, medium and long-term guaranteed and non-guaranteed debts.
[a] These refer to banks operating in Belgium/Luxembourg, France, Germany, Italy, the Netherlands, Sweden, United Kingdom, Canada, Japan, the United States and Switzerland, and branches of United States banks in the Caribbean and the Middle East.
[b] Assets and liabilities as at 30 September 1976. Preliminary figures for the United States indicate that in the last quarter of 1976 the external position of the Latin American non-oil-exporting countries with United States banks improved by approximately US$ 600 million.
[c] Excluding Panama because it is a financial centre.

accounted for 60% of the total deficit accumulated by the non-oil-exporting developing countries as a whole. Up to September 1976 these countries as a whole had obtained US$ 14 billion from the banking community, of which 60% went to the non-oil-exporting countries of Latin America (see table 9).

Furthermore, if we look at the net position with the banks (that is to say, assets less bank liabilities), we see that at the end of 1975 the net position of the non-oil-exporting developing countries as a whole was positive, whereas that of the Latin American non-oil-exporting countries showed a net debit balance amounting to US$ 27 billion. In the first three quarters of 1976, the first-named countries reduced their positive position by US$ 2 billion, while the latter increased their negative position by approximately US$ 7 billion.

Very few of the Latin American non-oil-exporting countries have credit balances with banks, but the debit balances, in contrast, are very high in some cases. In 1975, three countries —Mexico, Brazil and Peru— received over 95% of the net resources obtained by the region.[10] Preliminary figures indicate that up to September 1976 there was a net flow of bank loans to Latin America of US$ 7 200 million, but the three countries mentioned above increased their debit balances with the banks by more than the global total corresponding to the region. This means that countries such as Argentina, Colombia and others *reduced* their debit balances, as may be seen in table 10.

It may be noted that the increase in Latin America's external indebtedness has not helped to bring about any appreciable relief in the official international reserve position of the region. These reserves, which in 1965 had represented 25% of the total imports of the Latin American non-oil-exporting countries and had been equivalent in 1973 to 45% of their imports, only came to 20% of them in 1975, subsequently recovering slightly to 23% in 1976.

2. *Evolution of the structure of the external debt*

The total increase in the financing needs of the non-oil-exporting countries of the region has not only considerably accentuated their indebtedness but has also made the composition of their debt more unfavourable.

In 1974, Latin America's guaranteed external indebtedness from official bilateral sources was equivalent to 23% of its total indebtedness, whereas for the rest of the developing world the percentage was 56%. At the same time, for Latin America the debt contracted with the private foreign sector represented over 60% of its guaranteed external indebtedness, whereas for the other developing regions the figure was not more than 27%.

Official development aid to Latin America has not evolved favourably either. The concessionary resources within the total net flows from member countries of the Development Assistance Committee (DAC) —bilateral and multilateral, including direct investment— have gone down steadily from 17% in 1971 to only 9% in 1974 (see table 3). For the other developing countries, in contrast, not only has the relationship between official development aid and the rest of net external financing from the same source remained stable, but such aid has also represented around 50% of the total resources coming from the member countries of the DAC.

Furthermore, Latin America and the Caribbean received an average of 31.5% of the loans from the World Bank group between 1964 and 1968, 27.8% between 1969 and 1973, and only a little under 22% in 1976.

As already noted, credits from private sources have grown much more rapidly than those from official bilateral or multilateral sources. These latter loans normally provide for some period of grace, they are generally of medium or long term, and they have a total cost in respect of interest and other charges which is normally less than that of credit from private sources.

Guaranteed and non-guaranteed credits from private bank sources came to two-thirds of the total in 1975: almost twice the proportion of rather more than one-third which they represented in 1965.

Between 1973 and 1975 the non-bank external debt of the Latin American non-oil-exporting countries grew by 60%, whereas the increase in bank debt was close on 100%. As a result of the growing importance of private sources of finance, and especially those of bank origin, the external indebtedness of these countries is now much more burdensome.

The change in the debt structure by source has brought with it a deterioration in repayment terms and costs. Thus, of the total publicly announced Eurocurrency loans granted to developing countries, in 1973 and 1974 those whose repayment period was over seven years accounted for 75% of the total, whereas in 1975 and the first half of 1976 such loans only accounted for less than 25%. In 1973, loans with a repayment period of over ten years represented 27% of the total, but this went down to 15% in 1974 and to less than 2% in 1975, disappearing altogether in the first six months of 1976 (see table 5).

Furthermore, the average spread over the basic reference rates[11] rose from 1.25 percentage points at the beginning of 1973 to 1.70 points in 1975 and 1.78 in the first quarter of 1976.

Finally, the bulk of the concessionary credits and other official flows tends to go to the relatively less developed countries or those which are in the most serious difficulties, thus excluding most of Latin America.

3. *Future prospects*

Interest payments on the external debt have been growing considerably, both because of the increase in total indebtedness and because of the greater importance being assumed within that indebtedness by bank debt. Furthermore, the interest rates on bank loans already contracted vary a little more slowly than LIBOR, so that it is estimated that in 1977 there will be a rise in the total cost of interest payments on the external debt, because of the increase in interest rates.[12]

Furthermore, the periods of grace in respect of recent indebtedness will already have expired in 1977, which means, together with the foregoing, that the traditional indicators of creditworthiness —such as the percentage of export income needed to service the debt and the proportion of exports represented by external indebtedness— will tend to deteriorate.

In addition, doubts have been expressed about the possibility of the non-oil-exporting developing countries —and especially the Latin American countries— being able to maintain their access to international bank finance and keep up their levels of indebtedness with such institutions.

The reasons for these doubts would appear to be mainly the growing concern of the banking community over possible problems of solvency of these countries (because of the size of their indebtedness, the shortening of the term of repayment of their debt, and the more burdensome terms on which loans have been obtained recently), together with the banks' tendency to try to keep a suitable relationship between the loan portfolio and their capital. Furthermore, if the cyclical recovery of the industrialized countries speeds up there will be a bigger demand for loans on the part of these countries and of other preferential borrowers, and this could hinder the access of the non-oil-exporting developing countries to private commercial sources of international finance.

The net result of these phenomena and of the smaller requirements for financing as a result of the projected smaller deficit[13] is difficult to foresee. The end of the recession in the industrialized countries will bring with it some improvement in the export income of the debtor countries and thus improve their creditworthiness, and furthermore up to mid-1977 the demand for loans by the industrialized countries has not risen sufficiently to leave the developing countries in a difficult position. However, the problem of the creditworthiness of the debtor countries continues to be a limitation.[14] This latter point is corroborated to some extent when we see that the most recent loans to countries with a high level of indebtedness are characterized by an increase in the spreads applied over basic interest rates, special commissions, and shorter average repayment periods.

It is estimated that if the flow of official capital continues to grow at a moderate rate, the smaller supply of bank funds and the smaller current account deficit of the Latin American non-oil-exporting countries will mean that the latter will need to have less recourse to private credit, and particularly bank credit. This phenomenon will tend to be repeated in the coming years if, as is hoped, the current account deficit of these countries gradually decreases. An ever-increasing gross inflow of capital will continue to be needed,

however, because of the build-up of commitments in respect of principal and interest on the present debt (especially that contracted in recent years), so that this will increase the vulnerability of the debtor countries to any significant change in their access to external credit.

4. *Creditworthiness criteria and indebtedness*

The current account deficit of the Latin American non-oil-exporting countries has grown sharply with respect to their exports. The same has occurred as regards the ratio between debt amortization commitments and exports, while the official international reserves, after having fallen sharply in proportion to imports up to 1975, showed only a slight recovery in 1976. The average repayment period of the debt has become shorter, and the cost of the debt has risen in relation to market costs, as reflected in the rates usually considered as representing reference levels.

On the other hand, the possibility of continuing to obtain loans will depend to a great extent on the resources available in the financial centres, and these resources are intimately linked, in the short term, with the rate of recovery of the developed countries. The possibility of obtaining such loans in coming years will also be substantially conditioned by the dynamism of the developing countries' exports and the achievement of an improvement in the structure of their external debt, especially as regards repayment periods. The international banking community could play a very active role concerning this latter point.

Among the creditworthiness criteria currently used by the creditor countries, the evolution of debt servicing as a percentage of exports is of importance. As the debt servicing burden is bound to grow considerably in the coming years, its possible refinancing and the rate of activity of the export sector will continue to be the crucial factors in relieving the external financing problem. A great deal of realism is therefore called for in the domestic economic policies of the debtor countries (especially as regards external trade), as well as greater facilities on the part of the industrial countries for the entry of exports from the Latin American non-oil-exporting countries.

Furthermore, the criteria of creditworthiness which are useful for considering the situation of an isolated country when the other countries are not experiencing similar situations cease to be useful when the situation is more generalized, since in this case it is more favourable for the world economy that certain groups of deficit countries should decide to pay more attention to financing than to adjustment.

Naturally, if public and private institutions in the great financial centres and the multilateral financing agencies ceased to pay much attention in their decisions to the behaviour of the traditional indexes, they could find themselves in difficult situations. Nevertheless, the fact remains that all the indexes in question are static indexes which do not take the future into account.

A steady increase in the exports of the Latin American non-oil-exporting countries and an improvement in the terms of trade would make it possible for them to sustain increasing levels of indebtedness without serious difficulties. If this could be achieved, not only would their access to credit be improved but their current deficits would also be reduced, thus relieving the pressure to seek still more financing. In this way, it would be possible to slow down the growth rate of the external debt and improve the international reserves situation of this group of countries, especially in relation to their imports and service payments on external capital. We thus see that the future solvency of the debtor countries is linked not only to the static indexes mentioned earlier, but also to such aspects as the access to large external markets for the sale of their export goods, and measures

aimed at avoiding the deterioration (and even if possible improving the level) of the terms of trade. The close relation between solvency, trade and financing is thus clearly revealed.

Likewise, the future structure of the debt is linked to the possibility of the debtor countries having increased access to medium and long-term capital markets, which shows the direct relation between solvency and access to external capital markets.

Access to markets for the sale of goods and the procurement of capital depends not only on the policies adopted by the countries seeking such access, but also on the policies applied by the countries whose markets are being sought, as well as on the existence of international or regional machinery to facilitate the sought-for access. In the financial field, any multilateral co-operation scheme which improves the solvency of the debtor countries can have the desired effect. There are two outstanding proposals in this field: the establishment of a financial safety net, and the creation of a refinancing facility.

A financial safety net would provide a second line of financial defence to help countries with short-term difficulties.[15] A refinancing facility, which could be used in specified cases for refinancing external debt payments, particularly in respect of debt from private sources, could give greater security to lender countries and institutions and thus facilitate the process of the transfer of resources.[16]

5. *The diversity of the Latin American countries*

In the financial field, as in some other aspects, the features of the various Latin American countries are by no means identical. The degree of diversification of exports towards a greater proportion of industrial products achieved by these countries differs considerably from one to another, and there are equally great differences in their degree of access to external financial markets.

With regard to the external indebtedness of the Latin American non-oil-exporting countries, at the end of 1975 six of them accounted for 90% of the total guaranteed external debt and 97% of the total bank debt of the region. Brazil and Mexico alone accounted for 62% of the guaranteed external debt and over 75% of the total bank debt. Of the total bank loans obtained by the non-oil-exporting countries of the region by September 1976, Mexico and Brazil had received 95% of the gross flow of loans to the region and over 100% of the net flow, so that they continue to be the main borrowers as regards this type of credit. Similarly, in the Eurocurrency loan market these two countries were the most important borrowers among all the non-oil-exporting developing countries in 1975 and the first nine months of 1976.

Generally speaking, in view of the situation of the external sector as a whole, perhaps a classification into three groups would reflect Latin American circumstances better. The first of these groups would of course include Argentina, Brazil and Mexico, which stand out above the others by their industrial expansion. A second group would include those countries of intermediate size which have begun a vigorous process of expansion and diversification of their exports. The rest of the non-oil-exporting Latin American countries, although still with differences from one to another, would make up the third group. Venezuela could be added to the first group because it has extensive resources derived from oil and its access to capital markets. This latter feature —the access to capital markets— is shared by all the countries of the first group, which have not only obtained very substantial loans from the private international banking system byt have also floated issues of medium or long-term bonds on world markets. The countries of the second group have had a certain degree of access to short and medium-term bank credit, but they have not yet been able to sell bonds on external markets in the recent past.

The countries of the third group, for their part, have economies which are very poorly diversified, their export income depends on one or two products, and except in a few cases they have only very recently begun to gain access to external bank financing. Generally speaking, their coefficients of indebtedness are the lowest of the Latin American non-oil-exporting countries.

This third group of countries requires systematic access to concessionary resources. The countries of the second group, which are vulnerable to changing conditions on international markets for both goods and capital, need some degree of occasional access when external circumstances are not favourable to them. Only the countries of the first group can endure for a prolonged period the treatment currently given to the greater part of the Latin American countries as regards access to official financing.

For the two groups of countries which have not gained access to private medium and long-term capital markets it is particularly important that something should be done to facilitate such access. Means to ensure this must be developed and put into practice before the access of these countries to official sources of long-term financing is restricted. If this were done, it would be possible to bring about an easier transition from official to private sources.

6. *The significance of external indebtedness*

Any country which needs financing has three possible courses of action open to it: to take domestic economic policy measures to reduce its financing needs, that is to say, to take adjustment measures; to seek the additional financing needed, that is to say, to finance its needs; or, of course, to combine both these approaches.

Each country's choice between adjusting or financing would appear to be a decision whose consequences only affect the country itself. Adjusting means reducing the country's present growth rate or even, if the financial deficit is very large, reducing its standard of living. On the other hand, financing means postponing the domestic sacrifice and spreading it over time.

When the problem of a financing deficit affects several countries at once, however, it must not be forgotten that the decision taken will have repercussions for the rest of the world. Thus, at a time when world economic growth is only weak, the decision by a group of countries to adjust instead of seeking finance weakens the growth rate even further. This happens because countries which adopt domestic adjustment programmes necessarily reduce their demand for the products of other countries and increase their supply of goods for export. In contrast, if it is decided in the same circumstances to finance the external deficit instead, the external demand of the countries in question will not go down and will thus help to sustain the economies of the other countries.

The circumstances which have prevailed in the world economy in the last two years made it advisable for the countries of Latin America to seek a set of policies in which financing predominates over adjustment, thus contributing to a better balance in the world economy. This is particularly true because the main causes of the sharp increase registered in all indexes of financial needs in the last three years are beyond the control of these countries.

It is worth stressing that the non-oil-exporting developing countries, including those of Latin America, must of necessity —as part of their develpment process— continue for some time to come to be net importers of capital in order to supplement their domestic saving effort and achieve growth rates which will enable them to ensure rapid and self-sustaining development.

The foregoing is particularly relevant when we consider another aspect of the evolution which has taken place in the main sources of external financing for Latin

America. Before the 1930s, several Latin American countries had access both to the short and long-term financial markets of Europe and the United States (particularly through the sale of bonds). Subsequently, this access was denied to them and the main source of external resources was government credits and loans from international agencies such as IBRD, IDB, IDA, etc. Today, the region is becoming increasingly marginated from this form of financing and has to have recourse to private banks on less favourable conditions.

Furthermore, neither the banks nor the countries seem to be prepared to resume a form of financial relationship which is on a growing scale and has more permanent characteristics. Owing, *inter alia*, to the restrictions on their access to longer-term capital markets, some countries are already displaying a high level of bank indebtedness which makes it more difficult for them to obtain additional resources. This aspect is somewhat less serious when there are close trade links between the debtor country and the country where the bank has its headquarters. The non-oil-exporting countries of the region, for their part, have lost much of the substantial experience in international financial markets which they had before the crisis of the 1930s, while the current conditions and needs for financing have undergone substantial changes compared with 40 years ago.

All the foregoing means that it is necessary to stress that, just as the international division of labour imposes a state of interdependence on the trade between countries, it also establishes interdependence in the financial field. When the process of development is associated with external financing, as has been particularly the case in Latin America in recent years, a growing relationship of financial interdependence is created between debtor and creditor countries, and this interdependence is further heightened by the close link between trade relations and bank financing.

This does not mean that the domestic policies of the countries do not play an important role in determining their external financing needs. Such policies help to mobilize domestic saving, to guarantee its most efficient use, and to assign the available resources between the domestic market and the external market in the most appropriate manner. The emphasis placed on these policies must be moderated, however, in the light of the elements which make external financing necessary and the international consequences of optional policies. The co-ordination of economic policies at the international level thus plays an increasingly important role.

7. *Consultation and negotiation machinery*

Due to the high levels of indebtedness of the Latin American non-oil-exporting countries, the use they will be making of international financing will increase even though their current account deficit may tend to go down gradually. The change in the sources of financing has been so rapid that it has left the existing international negotiation and consultation machinery behind in some important aspects. With the rapid increase in bank financing, the relative importance of the IMF resources has been reduced.

This process has acquired new dimensions in recent years and there has been a qualitative change in the relationship between banks and borrowers in the sense that the banks are now interested not only in the creditworthiness of individual debtors but also in economic and financial development and in the economic stability of the countries where they are domiciled.

Mutual efforts and co-operation between creditors and debtors appear to be called for with a view not only to helping the debtor countries to finance their balance of payments and their development plans but also to maintaining a certain degree of stability of international financial flows. The latter could also be aided by a considerable expansion in the resources of the international financing agencies.

The interest in giving stability to these flows is mutual. If the banks and other lenders decide, because of an unfavourable evaluation of the creditworthiness of some country of the region, to reduce their loans drastically, they would in fact be provoking international payments difficulties in that country because of the size of the figures involved. This would not only restrict the development process of the country in question but could also lead to problems of arrears of payment, with possible consequences for the liquidity situation and subsequent lending capacity of the creditors.

In view of the foregoing and of the industrial countries' decision to direct their official resources towards the relatively less developed countries, it would be advisable for the governments of the creditor countries to encourage their private banking systems to increase their links with Latin America so that some kind of guarantee or other mechanism can be offered to ensure that in proportion as official flows go down, private financial flows to the region tend to increase.

As already noted, the indebtedness of the non-oil-exporting countries of the region will tend to increase in coming years, and this will necessarily make the relationship between the private financial centres and these countries even closer.

It is therefore clear that both the private creditor banks and the debtor countries have every reason to take measures to prevent a serious problem from arising regarding financing.

In addition to the measures taken at the international level, or those taken by the creditor countries, the Latin American non-oil-exporting countries would be well advised, if they do not want to sacrifice their present economic growth rates, to improve their financial,foreign exchange, etc. structures in order to attract external resources and enjoy more uniform access to the international capital market, especially for long-term loans. At the same time, the desirability of working out policies to step up considerably the growth rate of exports is increasingly obvious.

III
Proposed solutions

The proposals put forward as regards the international financing of the developing countries have emerged as a result of the latter's increased financing problems in recent years. These problems are the result both of the operation of the international monetary system and of the recent generalized economic crisis, and they do not lend themselves to a rapid and automatic solution through the simple operation of the market mechanisms, unless the developing countries are to be asked to make a drastic sacrifice of their already precarious standards of living.

The fact is that the financing difficulties referred to in the foregoing paragraphs have obliged the developing countries to have increasing recourse to short-term loans. As a result of this, not only has the total amount of the debt rapidly increased, but also, as already noted, its structure has deteriorated, further complicating the future outlook as regards the international payments of these countries.

As noted earlier, the developing countries which have reached a certain level of industrial development and of exports of manufactures have been especially hard hit by this phenomenon. Since they have been excluded from the special forms of international assistance to the relatively less developed countries, they receive an ever smaller proportion of bilateral official aid, so that they have been forced to have much greater recourse to short-term bank financing.

This is not a problem which will solve itself simply with the recovery of the economies of the industrial countries. Although such a recovery would bring about some reduction in the current account deficits of the non-oil-exporting developing countries, those deficits would still continue, in the years to come, to stand at about the same level as at present (US$ 25 to US$ 35 billion per year for these countries, about half of this being accounted for by the Latin American countries). Only a dramatic upturn in the terms of trade could bring about rapid relief of the situation, but such an event does not seem likely.

1. *The measures proposed*

The proposals for a solution have been centred mainly in six areas: direct action regarding future payments of the debt; action regarding the solvency of the debtors; action regarding access to financial markets and flows of capital; action regarding balance-of-payments financing; action regarding commodity prices, and action regarding the possibilities of expanding and diversifying exports.

a) *Direct action regarding future payments of the debt*

In view of the seriousness of the problem, proposals in this area have even gone so far as suggesting the condonation of the official debt of the most seriously affected relatively less developed countries. In addition, it has been proposed that the commercial debts of the developing countries which so request should be consolidated into a single debt payable over a period of at least 25 years. It has also been proposed that a conference should be convened under the auspices of UNCTAD between the main developed creditor countries and the debtor countries.[17]

These proposals have not received the unanimous backing of the developing countries. Those countries which use private external financing to a considerable degree feel that their possibilities of obtaining additional loans could be adversely affected. These countries fear that, in the face of the risk of a relatively generalized renegotiation, the creditors could withdraw into their shells, which would lead to serious difficulties in continuing to service the current debt. They also fear that as a result of this, their possibilities of access to private finance markets could be prejudiced for a long period without it being possible to replace such markets with official sources.

Many of the main creditors have sharply rejected the foregoing proposals. These creditor countries maintain that the external debt problem does not lend itself to generalized solutions but only to the individual treatment of debtors through mechanisms such as already exist. At the UNCTAD session in Nairobi, all that was achieved was the recognition that a problem did exist, a declaration of good will on the part of the creditor countries, and a request to the appropriate international agencies to study the past experience with regard to debt renegotiation.

ECLAC, for its part, has suggested the establishment in some appropriate international agency of a "refinancing facility". This facility, financed through special contributions from the creditor countries and the oil exporters, through the use of the resources of the agency in question itself, and through the sale of bonds on the capital markets, would deal with the cases of individual debtor countries which so request within a certain general framework of operating rules. This proposal has the advantage of combining the general frame of reference with the individual treatment of the countries. Furthermore, the establishment of a facility like this would not adversely affect any country; on the contrary, its very existence would be an additional guarantee of payment for the creditors, which would make requests for credit from the developing countries more acceptable.

Furthermore, there is an important precedent for a similar facility: the Oil Facility set up by the IMF to help the countries which have to import this commodity to spread over a certain period the adjustment problems generated by the rise in oil prices. The operating procedure of this facility was to deal individually with the cases of countries which approached it, within a certain general action framework.

In the case of the Oil Facility, which has already ceased to operate, the IMF set up machinery in August 1975 to relieve the burden of future debt payments for a limited group of countries. This machinery consists of a subsidy account designed to reduce by some five percentage points the interest costs on loans granted by the Oil Facility to the most seriously affected countries.[18] This subsidy account is financed from contributions by the oil-exporting countries and some others, and it is hoped that the amounts contributed will enable the subsidy to be maintained until the debt is wiped out.

This account has only very limited scope, however. On the one hand, it only applies to the interest on funds drawn under the 1975 Oil Facility, and on the other it only covers the "most seriously affected" countries. According to the commitments already entered into by contributor countries, it is hoped to obtain from 24 countries a total of some 160 million SDR units (a little over US$ 180 million) in order to finance the subsidy.[19]

So far, there has not been any substantial international agreement regarding the external debt, and this topic is one of those dealt with at the Conference on International Economic Co-operation held in Paris. At all events, at their meeting in Colombo, Sri-Lanka, the "non-aligned" developing countries agreed to convene a ministerial conference to decide on the joint action called for if the Paris Conference does not succeed in finding a satisfactory solution to the problem.[20]

b) *Action regarding the solvency of debtors*

If a refinancing facility such as that mentioned earlier were set up, the mere fact of its existence would have a favourable effect on the solvency of debtors. Even more direct action has been proposed for achieving this aim, however. Thus, for example, mention has been made on various occasions of the desirability of studying the possible establishment of multilateral machinery to guarantee external indebtedness.[21]

One specific proposal in this field is that of creating a financial safety net in Latin America, as a multilateral mutual financial aid mechanism which would include guarantees for external indebtedness.[22] This project provides for the collaboration of creditor countries from outside the region in the scheme, in order to supplement the solidarity among the debtors themselves, which might not be considered a sufficient external guarantee. With such collaboration, it could be ensured that none of the debtors would become insolvent, and the access of all of them to private sources of external finance would be facilitated.

c) *Action regarding access to financial markets and capital flows*

The proposals made in this field have covered a wide range of aspects extending from an increase in official development assistance to preferential treatment as regards access to private capital markets. The most complete set of proposals is to be found in the Manila Declaration formulated at the Third Ministerial Meeting of the Group of 77 early in 1976.[23] This document covers three aspects: official aid, resources from multilateral development agencies, and access to capital markets.

i) *Official aid.* Although there is an internationally accepted target whereby official development aid should amount to at least 0.7% of the gross national product of the donor countries, the tendency is to sink further and further below this figure instead of

approaching it. In 1961-1962, such aid represented 0.53% of the gross national product of the OECD countries.[24] In 1974, however, the corresponding figure was 0.33% (see table 2). The proposals in this respect clarify the definition of the 0.7% target and stress the need for its fufilment.

ii) *Resource flows from multilateral development financing agencies.* The proposals in this respect are very general. They refer in particular to increasing the contributions by developed countries to multilateral agencies and the terms of the loans granted by such agencies to developing countries.

iii) *Access to the capital markets of the developed countries.* The proposals in this field assume growing importance as the official development aid becomes smaller and smaller and there is a steady decline in some developing countries' possibilities of obtaining resources from multinational financing agencies for this purpose.

This section also includes the proposals regarding multilateral guarantee mechanisms, since the judgement of the market regarding the solvency of a debtor country is of decisive importance when trying to obtain resources. In addition to such proposals, consideration should also be given to such measures as the exemption of developing countries from administrative restrictions on the sale of their securities and similar exemption of investor institutions of the creditor country from such restrictions or from other legal measures, including those concerned with the control of outflows of capital in respect of securities issued by the developing countries.

In this field, greater active concern on the part of the developing countries is called for, both in order to specify more exactly the nature of the difficulties which restrict their access to external capital markets, and to negotiate their elimination or reduction. The situation varies from one developed country to another, so that the negotiations should be aimed at establishing a clear declaration of intent and a frame of reference at the multilateral level, after which it would be necessary to seek direct agreements with the various developed countries.[25]

Some developing countries already make use of external capital markets to a relatively substantial extent. Their experience is very valuable for the others, so consideration should be given to the possibility of their giving technical assistance in this field to other developing countries in order to help in the preparation of issues of bonds or other securities on external markets and even in their actual sale on the market.

d) *Action regarding balance-of-payments financing*

The multilateral agencies, especially the IMF, have not been able to meet the need for a sharp increase in financial flows which arose when the international payments imbalances got worse. Because of their scanty resources and the conditions demanded for their use, financing from these agencies has lost relative importance in the past six or seven years, although there was perhaps a slight recovery in 1975. The countries have therefore been driven to resort to the international banking system both for depositing their surpluses and for covering their deficits.

For this reason, the big banks on international markets are increasingly playing the role of an international clearing house: that is to say, the role traditionally played in each individual country by the Central Bank. At the same time, it is these big banks which now generate a substantial proportion of international liquidity, without necessarily doing so in accordance with criteria consistent with the objectives of the stability and development of the world economy.

The proposals which have been made in this field coincide as regards the need to increase resources and the importance of the appropriate multilateral agencies, as well as the need to liberalize the conditions governing the use of these resources.

It should be borne in mind that there are at least two types of situations which require financing: those basically due to external influences which are beyond the control of the authorities, and those which are mainly the result of domestic policy decisions.

The financing needs caused by balance-of-payments adjustment problems due to external causes such as drops in the prices of main export commodities or higher prices of imported products should be satisfied in such a way as to minimize the present or future burden of adjustment for the developing country concerned. For this reason, such financing should be on a medium or long-term basis and it should be granted on terms which include a concessionary element.

The present IMF machinery for providing compensatory financing for drops in export income fulfils only part of this objective, for although the requirements concerning its use have recently been liberalized to some extent, this machinery still operates on bases which do not take due account of the world increase in prices; its repayment periods are relatively short; it only comes into effect when there is a drop in income from exports of goods, and it does not take into account possible increases in the cost of imports (due to increases in volume or price) for reasons beyond the control of the authorities.

The financing requirements deriving from domestic policy decisions are connected with the advisability of spreading over time the burden of necessary adjustments in external payments and extending the period needed for the adjustment measures adopted to come into effect. The IMF meets these needs, like others not covered by specific machinery, by giving countries the possibility of drawing IMF resources in a certain proportion to their quotas. In proportion as the drawings exceed certain limits, the requirements for making use of these resources become more and more severe.[26]

In general, countries are expected to bear the burden of adjustment measures in proportion to their own responsibility for the problem created. Although this responsibility is very difficult to establish in practice, no country has made proposals which deny the validity of this. The proposals mentioned in various forums are designed to increase the IMF's resources and to introduce into the conditions governing each drawing a better appraisal of the developing countries' need to grow. It has been agreed to increase the credit tranches of the IMF temporarily by 45% until legal approval can be obtained in the countries for a 35% increase in the quotas.

e) *Action regarding commodity prices*

Action in this field mainly covers: i) the measures to be adopted in order to implement UNCTAD resolution 93 (IV) on the Integrated Programme for Commodities, and ii) the decisions taken as regards the reduction or elimination of tariff and non-tariff barriers to commodities in the GATT Multilateral Trade Negotiations.

The measures laid down in UNCTAD resolution 93 (IV) are basically connected with the negotiation of an international commodity agreement. The proposed agreement includes the establishment of a common fund for the financing of buffer stocks in order to give greater stability —within an overall tendency of dynamic growth— to the exports of the developing countries, to reduce or weaken the sharp fluctuations in prices on international markets, and to defend the countries' purchasing power. It also includes the conclusion of international commodity agreements aimed at securing the same objective. The common fund and the commodity agreements are consolidated in the UNCTAD Integrated Programme for Commodities. These measures do not rule out any action that

developing exporter countries may wish to take through the organization of producers' associations. Such action could lead to understandings and co-ordinated export policies, designed to stabilize and improve export income.

At their meeting in Colombo, the non-aligned countries decided to give their full support to the Integrated Programme for Commodities proposed by the UNCTAD Secretariat. They also agreed to set up a special fund to finance buffer stocks in order to regulate the prices of raw materials if the negotiations on the common fund proposed by the UNCTAD Secretariat did not obtain satisfactory results in the short term.

The multilateral trade negotiations can mean a major opening-up of the markets of developed countries for the commodity exports of the developing countries in two ways: through the reduction of the high levels of agricultural protection applied in the first-named countries, and through the complete exemption from duties of imports of tropical products. In both cases, greater access to such markets would have a favourable effect on price levels and on the total export income of the developing countries.

f) *Action regarding trade*

On a more general level, it is necessary to consider all the actions tending to expand and diversify the developing countries' exports. A brief list would include the following:

i) A significant improvement in the existing generalized system of preferences in favour of the manufactures and semi-manufactures of the developing countries, through a greater range of products, an increase in the margins of preference, liberalization of the rules regarding origin, reduction of other non-tariff barriers, and other similar measures;
ii) Special concessions —within the framework of the multilateral trade negotiations— in favour of the developing countries' trade, particularly in the field of non-tariff barriers, the use of safeguard clauses, the application of compensatory duties, etc. These concessions would supplement (instead of offsetting, as often happens) the domestic efforts made by the developing countries through their programmes and policies to promote exports of manufactures and semi-manufactures;
iii) Measures to support regional and subregional integration processes;
iv) More liberal terms for the transfer of technology.

2. *Other aspects*

At their meeting in Colombo, the non-aligned developing countries formulated a programme of action in the economic field which adds a set of new proposals to those already made in other forums, particularly in the field of co-operation among developing countries.

The non-aligned countries have made a fresh appeal for collaboration among developing countries. In this spirit, they have decided to set up special expert groups to be responsible for the study of a possible common international currency for the developing countries and the establishment and operation of a developing country bank operating in the field of trade. They have also agreed to hold meetings of representatives of ministries of finance and central banks of the countries concerned, with a view to considering the establishment of a joint financial institution for promoting monetary and financial co-operation among the developing countries, the creation of a payments union among these countries, and possible forms of co-operation and association of their commercial banks. These meetings will also deal with the registration and co-ordination of information and other forms of co-operation in financial matters; the possible operation of interest

subsidy schemes; the creation of links between financial institutions of developing countries in order to finance large-scale projects, and possible additional arrangements as regards export credits and guarantees or insurance for such credits.

At the same time, and as another step towards still more comprehensive co-operation schemes, the non-aligned countries agreed to consider the establishment of monetary arrangements among developing countries which would include the strengthening of the existing payments clearance arrangements, the establishment of new arrangements —open to all the developing countries— at the subregional, interregional and regional levels, and the establishment of links between them.

3. *Latin America and the proposed solutions*

The special features of a substantial group of Latin American countries, which have been placed in the highest category among the developing countries, leaves them in an intermediate position where they cannot obtain concessionary financing resources but they cannot gain sufficiently flexible access to other forms of financing either. The fact is that most of the countries of the region have been excluded from the categories of the poorest or most seriously affected countries.

Within Latin America, as already noted in section II, the situation of the individual countries is not the same in all cases. While a few of them fall within the category of poorest or most seriously affected countries, many are excluded from this category in spite of their obvious need to continue receiving concessionary financing. One group of countries of the region already has some degree of access to private financing markets, but such access is still basically limited to short-term financing.

The international classifications of the developing countries, which divide them today into two categories, are not in line with the needs of Latin America and do not serve them. In the case of Latin America, a triple classification such as that suggested in section II could be much more useful and significant. In such a classification, the countries with more than US$ 300 of per capita income per year could be divided into two groups, taking into account not only the per capita income but also other characteristics. The latter should include the production structure and degree of industrial development, the effective export possibilities, and the countries' access to short- and long-term private financial markets. The group made up of those countries which are still dependent on the export of a few basic commodities and have only limited access to private financing markets could receive economic and financial co-operation along lines not very different from those of the aid Latin America received in the late 1960s. On the other hand, the countries of the region which have more diversified economies and have greater access to private sources of financing could receive a different type of international economic co-operation in line with their actual economic situation, with emphasis on financing involving a smaller concessionary element, whether from public or private sources, and with a strong emphasis on trade aspects.

For most of Latin America, it is particularly important to establish mechanisms to facilitate the countries' access to private sources of credit, such as multilateral guarantee schemes and secondary markets for bond issues, as well as the liberalization or elimination of restrictions on their access to the capital markets of the developed countries. As regards public sources of financing, the efforts of governments to help the Inter-American Development Bank to provide resources for Latin American countries which request its aid are of particular importance. Increasing the resources of the World Bank is also worthy of special attention, to the extent that this agency continues to support the region.

Another measure of particular interest for Latin America is the expansion of the resources of the United Nations Development Programme, which provides important assistance for the countries and requires a firm and stable financial basis for its activities.

The tendency towards a rapid increase in the proportion of Latin America's external financing which comes from private sources heightens the need to establish institutional machinery to help, on the one hand, to avoid abrupt fluctuations in such financing and, on the other to facilitate the region's access to such sources. At the regional level, such machinery should include measures designed to improve the solvency of the countries, such as the proposed financial safety net.

The growing importance of the private external financing referred to above raises the question of the possible desirability of establishing machinery which would make it possible, on an experimental basis, to bring in three important groups of participants: i) public and private sources of financial and technical assistance; ii) the recipient countries, and iii) institutions or individuals of very high technical calibre and intellectual independence. Machinery including these three groups of participants could facilitate joint financing from public and private sources and would give greater security for planning for the future. At the same time, it would make possible an objective appraisal of the performance of both creditors and debtors in the economic field.

From a more general point of view, a matter of special interest for the Latin American countries is that of measures designed to regularize the expansion of the Eurocurrency markets and make it less erratic. Such markets are generally outside the radius of action of national monetary authorities and do not benefit directly from the national rediscounting and other mechanisms which contribute to the fluidity of domestic credit. The establishment of collective rediscounting machinery, perhaps within a suitable international agency, would have the double advantage of promoting more stable functioning of the Eurocurrency credit market and facilitating natural supervision of the conditions on such markets. Such machinery could also give other international or regional agencies the possibility of investing part of their resources in shares of Eurocurreny credits aimed in the directions most compatible with the objectives of each agency.

Finally, the possible establishment of a refinancing facility could also be useful to an important group of Latin American countries. Such a facility could play an outstanding role if it proves impossible to achieve a really substantial increase in the resources of the IMF, to serve as an extra line of defence against external payments difficulties.

The above proposals put forward both for the developing countries in general and for Latin America take account of a broader framework: the new international economic order and, in particular, the reform of the monetary system. To the extent to which it proves possible to generate incentives for symmetrical adjustment by all countries, to regulate the creation of international liquidity, to establish machinery to distribute that liquidity in a manner more in keeping with the needs of the countries, and to avoid movements of real resources in undesirable directions, directing them instead to the areas where they are most needed, a decisive step will have been taken towards avoiding the resurgence of the problems observed in the external financial field.

If Latin American exports are considerably expanded, it will not be necessary to place so much emphasis on measures of a financial nature. It can thus be seen that such measures are closely linked with those that may be taken in the trade field.

The suggestions mentioned above could not only offer relief in the present situation, but also, if placed in a coherent general framework covering a broad range of aspects of international economic life, help to prevent serious imbalances from being created again in the future.

NOTES

[1] A better measurement of the external financing requirements would be the total of the current account deficit, the amortization payments on debts already contracted, withdrawals of capital, and desired variations in reserves. The latter could be determined by estimating the demand for reserves: a task which will be undertaken in another study. However, no figures are available on indebtedness gross of amortization payments, and capital movements in general are also expressed in net terms. Consequently, in order to analyse the *use made* of different forms of financing, we have preferred to add together only the deficit on current account and the variation recorded in the international reserves, regardless of whether this was desired or not. In contrast, as we shall see below, in order to seek an indicator of the *need* for additional external financing we have decided to add the current account deficit to the debt amortization payments. This procedure involves the assumption that *all* variations in the reserves are desired variations: an assumption which can only be eliminated when we have at our disposal the studies on the demand for international reserves.

[2] Address delivered by the President of the World Bank at the Thirty-First Annual Assembly of Governors, Manila, Philippines, September 1976.

[3] See note 1.

[4] Unless otherwise indicated, the figures used in this section refer to the officially guaranteed disbursed debt having a term of over one year; they do not include indebtedness with the International Monetary Fund.

[5] Partial data available on the Latin American non-oil-exporting countries indicate that their debt for a term of less than one year grew more than three-fold in 1974 compared with the average for 1972 and 1973.

[6] If we look at the net accumulated drawings of the non-oil-exporting countries of the region on the IMF, which represent only part of those countries' indebtedness with that institution, we see that between the end of 1974 and the end of 1976 they grew by over 120%, which, when considered in conjunction with what was said in note 5 above, indicates that the picture of the region's situation given above tends to underestimate the magnitude of the countries' indebtedness.

[7] The bank debt figures given below, unless otherwise indicated, include both guaranteed and non-guaranteed debt.

[8] The bank debt figures referred to in the previous note include the indebtedness of non-national financial centres only with United States banks. To the extent that these centres have debts with other banks, act as financial intermediaries, or reassign a substantial part of their debt to non-oil-exporting developing countries, especially those of Latin America, the effective bank debt of the latter will be greater than the figure given here.

[9] That is to say, it represented 63% of the total external debt of the region.

[10] The term "net resources" is used here to designate the balance between the debt with foreign banks net of amortization payments, and deposits and other assets of the countries in those banks.

[11] The London Interbank Offer Rate (LIBOR) and the New York prime rate.

[12] In the last quarter of 1976, LIBOR stood at its lowest value for the last 13 quarters.

[13] It may be recalled that the deficit projected for the coming years, although smaller than that of 1975, is still excessively high, particularly when compared with those registered before 1974. Furthermore, as already noted, there are two elements which tend to increase the gross financing needs: on the one hand there is the future increase in the cost of servicing the external debt, and on the other, there is the need of the Latin American non-oil-exporting countries to restore the levels of their inernational reserves.

[14] See *IMF Survey*, 22 August 1976, pp. 244 and 245.

[15] See ECLAC, *Possible features of a financial safety net for Latin America*, E/CEPAL/1009, Santiago, Chile, 31 July 1975.

[16] See ECLA, *Temas del nuevo orden económico internacional*, "Cuadernos de la CEPAL" series, No. 12, Santiago, Chile, 1976, pp. 71-73.

[17] *Manila Declaration and Programme of Action*, UNCTAD, TD/195, pp. 25 and 26. See also *Action Programme for Economic Co-operation*, Fifth Conference of Heads of State or Government of Non-Aligned Countries, Colombo, Sri-Lanka, 19 August 1976 (NAC/CONF.5/S/4).

[18] Resolution No. 4773 (75/136) of the Executive Directors, adopted on 1 August 1975, set up the Subsidy Account. Resolution No. 5144 (76/102)SA,of 12 July 1976, provided for the first payment of the interest subsidy.

[19] *IMF Survey*, supplement on the Fund, Washington, D.C., Fall 1975, p. 5.

[20] Fifth Conference of Heads of State or Government of Non-Aligned Countries, Colombo, Sri-Lanka, 19 August 1976, *Action Programme for Economic Co-operation, op.cit.*, p. 18.

[21] See UNCTAD IV, *New Directions and New Structures for Trade and Development*, Report by the Secretary-General of UNCTAD to the Conference, Nairobi, May 1976. In addition, the Secretariat of the Joint

Committee of the International Monetary Fund and the World Bank for Development has prepared some preliminary studies on the matter.

[22] ECLAC, *Possible features of a financial safety net for Latin America*, E/CEPAL/1009, Santiago, Chile, 1975.

[23] Manila Declaration and Programme of Action, Note by the Secretary-General of UNCTAD, *op.cit.*

[24] Latin American Economic System (SELA), *Informe de la Secretaría Permanente del SELA sobre el Tercer Período de Sesiones de la Conferencia sobre la Cooperación Económica Internacional* (Part Two), CL/0-II/Div.Nº 4/Add.1, 26 May 1976, p. 4.

[25] The Executive Director of the IMF has agreed to include in his regular consultations with the developed countries an appraisal of the progress made by the latter as regards liberalizing access to their capital markets.

[26] It is not always possible to distinguish clearly between the effects of domestic policies and those due to causes which are beyond the control of the authorities. For this reason, solutions appropriate to one of these cases are sometimes applied in order to try to solve cases of the other type.

World inflation and foreign debt: the case of the improper deflator

Carlos Massad and Roberto Zahler

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Writers on external indebtedness usually hold that debtor countries benefit from international inflation, since it reduces the real value of their external debt. Indeed, some studies assert that, in order to measure the real value of the debt, it is necessary to deflate its nominal value by an index of export or import prices.[1]

This article intends to demonstrate that the effect of international inflation on external indebtednees is to say the least uncertain, and that in certain circumstances inflation can increase the debt burden.

1. *The amount of debt*

The way in which the amount of debt is calculated is not satisfactory on several grounds. In the first place, the figure taken as a basis for calculation is the total nominal amount of credit obtained (or drawn) minus amortization payments made to date.[2] This total nominal amount of debt outstanding does not necessarily correspond to the present value of future amortization and interest payments, the latter being a more correct approximation to the amount of debt as measured from the point of view of its burden. The two approaches mentioned will normally yield different results due to the fact that the internal rate of return implicit in the stream of amortization and interest payments[3] and the discount rate actually used by debtor countries to obtain a present value of future payments will generally differ. In addition, from the point of view of the debtor countries, the present value of future payments (in terms of the real cost of servicing the debt) may differ from the net nominal amount of debt, if the social cost of foreign exchange does not remain constant over time.

The contractual interest rate on a loan is not always the same as the effective rate. The most important cause of any difference between the two is the time profile of amortization and interest payments. For example, if there is a grace period the effective rate, or the internal rate of return implicit in the loan, will be lower than the contractual interest rate. In other words, the effective rate equating the present value of the future amortization and interest payments with the net nominal value of the loan will differ from the contractual interest rate.

In turn, the effective rate will generally differ from the rate which a country regards as most appropriate for applying to future amortization and interest payments in order to obtain the present value of such payments. This difference is attributable to a variety of reasons: the risk considerations as perceived by the lender country may differ from those of the borrower; the relative scarcity of capital, and the social time preference in the two countries, will generally differ; and, finally the external inflation rate expected by the debtor country may differ from the rate expected by the creditor country, so that for a given nominal interest rate there will be different expected real rates. Of course, the expectations of inflation on the part of both the debtor and the creditor countries may fail to coincide with the actual inflation.

Thus, even if there are no concessionary elements in the loans, and no expectations of inflation, it can be seen that the present value of the future amortization and interest payments may differ from the net nominal value of the debt because of the different rates applied by the creditor and debtor countries for discounting purposes.

The assumptions needed to measure the present value of the future payments on a debt through its net nominal value are extraordinarily restrictive. In general, the present value of future payments will differ from the net nominal value of the debt.

From the point of view of the debtor country, its debt burden should be measured in terms of the cost the country faces in making the future amortization and interest payments. For example, for a country with a debt whose net nominal value is US$ 5 billion, the debt burden will be quite different depending on whether the debt is to be paid off over 10 years at an annual rate of interest of 3%, or over the same period but at a 10% annual rate. Assuming equal amortization payments in each case, and interest calculated on the unpaid balance, the present value of the future payments will be US$ 4 421 million in the most favourable case and US$ 5 980 million in the least favourable case.[4] Thus, for the same net nominal value the debt burden is completely different in the two cases —but this difference is concealed when the debt is analysed in terms of its net nominal value. This value would only be important (apart from the possible effect on the country's subsequent borrowing) if the debt had to be paid back immediately in a single sum, which of course is not an option to be considered here.

The sacrifice the country must make to meet its external commitments on the terms agreed is the relevant magnitude to measure in an analysis of the debt burden. As we have seen, this sacrifice is measured in terms more of future payments than of net nominal amount, and in measuring it the lower consumption or lower investment which are necessary in order to repay the debt must be taken into account.

In other words, the debt burden should be measured in the light of the real resources which a country must allocate for debt servicing by transferring them away from domestic consumption or investment and channeling them to the production of internationally tradeable goods with the aim of generating the surplus necessary to pay the debt. Thus the process consists of two stages: first, generation of the necessary saving; and second, conversion of these (domestic) resources into foreign currency.

The marginal cost of transferring resources to the production of tradeable goods is given by the social cost of foreign exchange. Consequently, in order to measure a country's future debt servicing commitments in terms of real resources, it is necessary to estimate the future trend of the social cost of foreign exchange.[5]

This last point is most important. Even if the internal rate of return of a loan coincided with the social discount rate used by the debtor country, a rise in the expected future social cost of foreign exchange will increase the present value of future payments on the debt in terms of real domestic resources, while if the social cost of foreign exchange falls, less real resources will be needed to pay the debt in the future; in other words, in the latter case a smaller amount of real resources will be channelled to serve the purpose of paying the debt.[6]

It is clear from all these considerations that there is a degree of uncertainty in estimates both of the cost of the real resources needed to make future payments in order to service the debt, and of the present value of future debt servicing payments. The expected future rate of international inflation may differ from the effective rate, and both the real social discount rate and the social cost of foreign exchange may change with time.

2. *The deflation procedure*

The effect of world inflation on the foreign debt of developing countries is generally taken into account by deflating the net nominal value of the debt in various years using an index of international prices, with the aim of measuring the cost of debt servicing in terms of real resources.

This operation makes it possible to estimate, at constant prices, the goods and services which could be purchased on the international market if the net nominal value of the debt was used for that purpose. What the debtor country is really interested in knowing, however, is the value of the real resources or the goods and services which it must channel towards future amortization and interest payments on the debt, and not what amount of goods and services might be purchased on the market of the creditor countries with the net nominal value of the debt.

A correct appproach to the problem of measuring the real burden of foreign debt would need to take into account mainly three effects of world inflation[7] on the real value of debt servicing payments. Firstly, it may modify future interest payments, so that for this reason alone the net nominal value ceases to be a sound indicator of external debt. It is also necessary to bear in mind, as was pointed out above, that world inflation has an impact on the nominal discount rate applicable to future debt service payments.

Secondly, world inflation affects the social value of foreign exchange, which is a vital variable in determining the real cost of servicing the external debt. Thus, multiplying the debt servicing payments in dollars by the social cost of foreign exchange gives the value of the debt servicing payments in terms of domestic resources.

Finally, world inflation may also affect the domestic sacrifice necessary to obtain the resources needed to make these debt servicing payments. This sacrifice (lower present and/or future consumption) made in order to service the external debt is, in the final analysis, the true cost incurred during each period in generating the resources required to service the debt.

Obviously, when a series expressed in nominal terms is deflated by a rising price index the real values obtained will be lower than the nominal values. What is not obvious is whether it is correct to apply such a procedure to the nominal amount of the debt. Let us imagine, for example, two consecutive periods during which the net nominal value of the debt remains constant. Let us also assume a world inflation rate of 10% which is fully reflected in the internationally prevailing interest rates applicable to the debt. If the amount of the debt is deflated using an appropriate price index it will be seen that in the second year, in real terms, the amount appears 10% smaller than in the first. As a result of the fact that the interest rates reflect international inflation, however, the present values of the future payments in real terms will be the same in both years and, consequently, the debt burden from the point of view of the debtor country will not have been altered by international inflation.

If the interest rate reflects expectations of inflation and these expectations do in fact correspond to the actual inflation, such inflation does not reduce the present value of the future payments on the debt, which remains constant. Only if the actual inflation is higher than the level reflected in the interest rate will there be a drop in the discounted value of the future payments on the debt (even though this would probably still be higher than the net nominal value). On the other hand, if actual inflation is lower than expected, there will be a rise in the present value of the external debt.

The same facts may be explained in another way. If actual inflation is higher than the level implicit in the interest rate for the loan, the rate at which the future payments will have to be discounted will be higher than the loan rate, and consequently the present value of future payments on the debt will fall. Note that this situation is due to the discrepancy between the expected and actual rates of inflation, and not to the mere fact that there is inflation. If the interest rate incorporates expected inflation, then the measurement of the debt burden (even if there is no concessionary element, nor any discrepancy between the discount rates of the debtor country and the rate of return implicit in the loan) obtained by deflating the net nominal value of the debt by some index

of international prices leads to an underestimation of the debt burden, which may be substantial.

In the past ten years the structure of the external debt of the developing countries has changed drastically, with a sharp drop in loans from official sources with some concessionary content and an increase in debt from private sources which are non-concessionary and bear floating interest rates revised every six months. This phenomenon, which has been particularly notable in the case of Latin America, underlines the importance of taking into account the expectations of inflation implicit in the interest rates when estimating the debt burden of a given country.

Strictly speaking, the burden involved in debt servicing in each period is composed of two elements: the saving (lower present consumption) or smaller investment (lower future consumption) required to serve the debt, and the conversion of this amount of domestic resources into foreign exchange. For this latter purpose, the social cost of foreign exchange is used.

In other words, in each period it is necessary to multiply the amount or foreign exchange to be paid by its social cost in order to obtain a correct assessment of the real domestic resources required to service the external debt. The discounted value of these flows (measured in constant currency units of the debtor country) corresponds to the real domestic resources which must be used to ensure future payments.

In most developing countries there are no reliable time series for the social cost of foreign exchange. Anyway, since the main point of interest here is the effect of world inflation on the real cost of servicing external debt, no account will be taken of a number of elements which are unconnected with the evolution of international prices but affect the value of the social rate of exchange, such as natural disasters (droughts, frosts, earthquakes), strikes in important export and import activities, changes in the net inflow of external capital, modifications in trade policy, and so on.

If during the process of world inflation domestic prices in the debtor country remain constant, and if there is no change in the terms of trade, the social cost of foreign exchange falls as a result of international inflation. If the rate of interest of the loans correctly reflect international inflation, debt service payments will rise with inflation, so that the value of the domestic resources used for that purpose will not change greatly.

If international inflation is accompanied by a deterioration in the terms of trade, welfare in the debtor country will fall. It should also be noted that, while international inflation reduces the social cost of foreign exchange, a deterioration of the terms of trade tends, in the short run, to increase it when the elasticity of import volume with respect to the unit value of imports, in absolute terms, is less than 1; in this case, the direction of change of the social cost of foreign exchange becomes uncertain. Nevertheless, in most cases the reduction in the social cost of foreign exchange due to world inflation will be less than proportional to the inflation rate, so that the domestic sacrifice required in order to service the external debt will tend to increase.

If international inflation is accompanied by an improvement in the terms of trade of the debtor country, it is obvious that in addition to an improvement in the general level of welfare in that country, there will be a fall in the burden of servicing the debt. The reason for this fall is that the social exchange rate falls because of world inflation and the improvement in the terms of trade, so that the proportional drop in the social cost of foreign exchange tends to be larger than the proportional increase in debt service. Thus the cost of servicing the external debt tends to fall.

It can be seen from the above that it is a serious error to try to measure the real value of the debt, with a view to identifying the debt burden for the debtor country, by deflating the net nominal value of the debt using an index of external prices for the debtor country.

It should be emphasized that what we should really attempt to measure is the use of real resources to service the debt. If the increase in prices largely takes the form of higher prices for goods imported by the debtor country, then in order to maintain the same level of national welfare it will be necessary to devote a greater volume of resources to export production, thus reducing present or future consumption in the debtor country and, as a consequence, its level of welfare. The problem may also be viewed as follows: in order to maintain the value of imports unchanged, it will be necessary to reduce their volume, thus also bringing down consumption and/or investment, and consequently the country's rate of economic growth. A similar (but in this case reverse) analysis applies if the world-wide rise in prices largely takes the form of an increase in export prices.

Consequently, the evolution of export prices is just as important as the evolution of import prices when estimating the net effect on the position of the debtor countries of a rise in prices in world markets. In particular, the fairly widespread practice of deflating external debt using an index of prices of the debtor country's imports involves two errors. Firstly, by taking the net nominal value of the external debt as an indicator of the debt, it fails to incorporate the effect on debt service of a probable increase in future interest payments. Secondly, with an index of import prices as a deflator, it takes no account of the evolution of export prices. If the current account of the balance of payments is in equilibrium[8] and export prices rise at a similar rate than import prices, the real value of the debt remains unchanged, whereas if export prices rise at a slower rate than import prices, this will tend to raise the cost of debt servicing. In both cases, however, the traditional deflation procedure results in an apparent substantial fall in the real value of the debt, while if export prices rise faster than import prices, the traditional approach understimates the reduction in the real value of the debt.

It would therefore appear that a more appropriate deflator (that is to say, one which incorporates less error) would be the terms-of-trade index of the debtor country. In this case (assuming that the value of the debt is measured "correctly"), "neutral" world inflation leaves the real value of the debt unchanged. When this deflator is used, a deterioration in the terms of trade raises the real value of the debt (which seems fairly reasonable for short periods), while an improvement in the terms of trade reduces the real cost of debt servicing.

It may be noted that the use of the terms-of-trade index as a deflator, together with proper measurement of the amount of the external debt, may not incorporate all the effects of world inflation on the real value of the debt but it does appreciably reduce the margin of error involved in the traditional calculations.

In general, when the international scenario is characterized by inflation and the industrialized countries adopt policies designed to check the rise in prices, the recessionary effect of such policies has a large impact on the prices of the primary commodities generally exported by the developing countries. Consequently, although world inflation may, while building up and accelerating, benefit many countries which export primary commodities, it is probable that the opposite occurs in the stabilization phase.

From this point of view, the industrialized countries' emphasis on stabilization policies, which is emerging as a characteristic of the world economy in the near future, does not bode well for developing countries.

Finally, we may ask why it is that almost all the studies on external indebtedness tackle the problem on the basis of the net nominal value of the debt and an export or import price index. There appear to be two reasons: one is that the problem has in many cases been approached from the point of view of the creditor countries, which suffer capital losses as a result of world inflation and assume, consequently, that inflation

benefits debtor countries; the other reason is that the discussion has referred to a period when the major part of the developing countries came from official (bilateral and multilateral) sources, with service payments fixed in nominal terms.

We may conclude from the above that the method of taking the net nominal value of the debt and deflating it using an international price index is not the most illuminating approach to the analysis of the real burden of external debt for the debtor countries in present circumstances. There are three major determinants of the burden of foreign debt which are not taken account of in the usual deflation procedure: the variations of the terms of trade of the debtor, the evolution of the social cost of its foreign exchange, and the change in the sources of external finance, with the consequent modifications in the term structure of the debt and the incorporation of expected inflation in interest payments.

With the sole aim of illustrating the quantitative importance of the factors mentioned above, we present below comparative figures for a number of Latin American countries showing the net nominal value of the debt deflated both by import price indexes and by terms-of-trade indexes.

3. *World inflation and the external debt of some Latin American countries*

In the period 1967-1974, the cumulative annual average nominal growth in Brazil's guaranteed external debt was 26.2%. If the total debt is deflated by an import price index, the growth rate falls to less than a third of that figure (8.3%). On the other hand, if it is deflated by Brazil's terms-of-trade index, the average growth is 18.9%, which indicates, firstly, that the terms of trade improved during the period in question, and secondly that the "real" annual average rate of increase in the guaranteed external debt was about 2/3 of that of the nominal increase, while the rate of growth of the debt obtained from simple deflation by and index of import prices is less than 1/3 of the rate of increase of the nominal debt.

A similar conclusion is obtained for Chile during the same perior. As can be seen from table 1, the "real" rate of growth of Chile's guaranteed external debt was very similar, on the average, to the rate of growth of the nominal debt. On the other hand, the

Table 1

EXTERNAL DEBT:[a] GROWTH RATES,[b] 1967-1974

(Percentages)

	GED	*GED/MP*	*GED/(XP/MP)*
Brazil	26.2	8.3	18.9
Chile	17.3	8.0	16.6
Honduras	21.4	9.8	23.5

Note: GED = guaranteed external debt;
MP = index of import prices;
XP = index of export prices.

[a] Net nominal value of the guaranteed external debt. World Bank figures.

[b] Annual averages (compounded).

Table 2

GROWTH RATE OF EXTERNAL DEBT, 1975

(Percentages)

	A *Net nominal value*			*B* *A/MP*[a]		*C* *A/(XP/MP)*[b]	
	Guaran-teed	*Not guar-anteed*	*Total*	*Guaran-teed*	*Total*	*Guaran-teed*	*Total*
Argentina	1.9	28.5	10.7	-10.3	-2.5	19.5	29.8
Mexico	31.6	41.6	35.3	20.4	23.8	31.2	34.8
Peru	15.2	15.7	15.4	3.3	3.4	30.4	30.5

[a] External debt deflated using an index of the unit value of imports.
[b] External debt deflated using an index of the terms of trade.

use of an index of import prices as a deflator leads to the conclusion that the external debt increased at an average annual rate of 8%, which is less than ½ of the rate of growth of the nominal debt.

The case of Honduras is even more interesting, as the "real" annual increase is *larger* than the increase in the nominal debt. While the nominal debt increased by an average of 21.4%, the rate of "real" growth reached 23.5%. In constrast, the rate of growth of the guaranteed external debt as deflated by the import price index was less than 10% a year.

Finally, it should be pointed out that the figure used for the value of the debt in these calculations is the net nominal value of the guaranteed external debt. In view of the changes in the breakdown by sources of Latin America's external debt, it is highly probable that both the amount and the rate of growth are underestimated as a result of the growing importance of non-guaranteed debt at floating interest rates. If this factor is not taken into account, the net nominal value of the debt underestimates the "correct" value.

Now, if we consider the year 1975 alone, we can see that the growth in the non-guaranteed component of the external debt of some Latin American countries was much larger than the increase in the guaranteed part, thus confirming the importance of using a present value approach to estimate the amount of foreign debt for the purposes of assessing its burden on debtor countries.

If non-guaranteed debt is taken into account, and a terms-of-trade index is used as a deflator, the results differ substantially from those obtained when an index of import prices is used to deflate the nominal figures.

For Argentina, Mexico and Peru, the guaranteed external debt increased in 1975 by 1.9, 31.6 and 15.2%, while the non-guaranteed debt grew by 28.5, 41.6 and 15.7% respectively (see table 2).

The effects of world inflation and of changes in the terms of trade on the pattern and growth rates of the debt are of great importance. In Argentina, while the total nominal debt increased by 10.7%, the debt when deflated by the index of import prices fell by 2.5% (the guaranteed external debt dropped by 10.3%, having grown in nominal terms, without deflation, by less than 2%). In contrast, if deflated by XP/MP, the growth of the total debt amounts to 29.8% (as against an increase of under 20% in the guaranteed external debt), a figure which is *higher* than the rise in the total nominal debt (TND).

In Mexico, the TND increased by 35.3%; deflated using MP the debt rose by 23.8%, while deflated using XP/MP it grew by 34.8%, or almost the same rate as the TND.

Finally, in Peru, while the TND rose by 15.4% and the debt deflated by MP rose by 3.4% (a rate 78% lower), the "real" debt increased by 30.5%, twice as much as the rise in the TND.

As in the analysis of the period 1967-1974, it should be borne in mind that the external debt figures used here show the net nominal value, and do not include the effect of floating interest rates, thus undoubtedly understanding the real value of the debt.

NOTES

[1] See, for example, World Bank, *World Debt Tables, External Public Debt of LDCs*, 31 October 1976, vol. I, and R. Aliber, *Perspectives on LDC External Indebtedness*, Conference on External Financial Policy, Santiago, 31 March-2 April 1977.

[2] This discussion does not deal with the degree of coverage of the present figures on external debt, nor with the measurement of such debt on the basis of disbursed or undisbursed outstanding debt actually used. For present purposes external debt is considered to be any commitment, with a known amount or method of determination, involving future payments abroad on specific dates.

[3] Leaving aside risk considerations, possible future renegotiations and deliberate insolvency.

[4] It is assumed here that the social value of foreign exchange remains constant over time.

[5] Some theoretical analyses of this topic, together with empirical estimates, may be found in E. Bacha and L. Taylor, "Foreign Exchange Shadow Prices: A Critical Review of Current Theories", *The Quarterly Journal of Economics*, vol. LXXXV, Nº 2 (May 1971), pp. 197-224, and A. Guadagni, *Los precios sombra en la evaluación social de proyectos de inversión*, Fondo Nacional de Preinversión, Junta Nacional de Planificación, Inter-American Development Bank, Quito, March 1976.

[6] As will be seen below, it is necessary to study the effect of world inflation on the social cost of foreign exchange together with its impact on the nominal amount of debt service (in current dollars).

[7] For present purposes, the international rate of inflation is defined as a weighted average of the rates of increase in prices in the countries with which the debtor country carries out transactions. The effect of variations in the exchange rates between the currencies of such countries and the intervention currency used by the debtor country on these prices should be eliminated, while the weighting coefficients should reflect the relative importance of each of the countries in transactions with the debtor country, including not only goods and services, but also capital movements.

[8] The annex also contains an analysis of a case where the current account of the balance of payments is in deficit.

ANNEX

The effect of world inflation on the social cost of foreign exchange

On the assumption that, over a period of time, the absolute price level of internationally traded products follows an upward trend, the following analysis is designed to assess the effect of such trend on the social cost of foreign exchange.

For the purposes of this analysis, the concept of the social cost of foreign exchange is defined as the price of foreign exchange that would prevail under free international trade conditions.

It will be assumed that the net flow of foreign currency from sources other than the current account of the balance of payments is constant, and, in particular, that such flow is independent both of the rate of international inflation and of the evolution of the terms of trade of the debtor country.

If

D = flow demand for foreign currency per unit of time

O = flow supply of foreign currency per unit of time

Then

$$D = D\ (pi,\ t/p,\ y) \tag{1}$$

$$O = O\ (pe,\ t/p,\ y) \tag{2}$$

Where

pi = unit value of imports

t = nominal equilibrium exchange rate under free trade conditions

p = domestic price level

y = real income (including the effect of the change in the terms of trade)

pe = unit value of exports.

Total differentiation of (1) and (2) gives

$$dD = \frac{\delta D}{\delta pi}\,dpi + \frac{\delta D}{\delta (t/p)}\,d\ (t/p) + \frac{\delta D}{\delta y}\,dy \tag{3}$$

$$dO = \frac{\delta O}{\delta pe}\,dpe + \frac{\delta O}{\delta (t/p)}\,d\ (t/p) + \frac{\delta O}{\delta y}\,dy \tag{4}$$

$dD = dO \longrightarrow$

$$d\ (t/p) = \frac{\frac{\delta D}{\delta pi}\,dpi + \frac{\delta D}{\delta y}\,dy - \frac{\delta O}{\delta pe}\,dpe - \frac{\delta O}{\delta y}\,dy}{\frac{\delta O}{\delta (t/p)} - \frac{\delta D}{\delta (t/p)}} \tag{5}$$

If we ignore the effect of the change in the terms of trade on national income, we may deduce from (5) that:

$$(t/p) = \frac{piqi\ (1 + N)\ \frac{\dot{p}i}{pi} - peqe\ (1 + E)\ \frac{\dot{p}e}{pe}}{\frac{\delta O}{\delta(t/p)} - \frac{\delta D}{\delta(t/p)}} \qquad (6)$$

Where

$\dot{x}$ = is the total derivative of x with respect to time
qe = quantum of exports
qi = quantum of imports
N = partial demand elasticity of the volume of imports with respect to its unit value
E = partial supply elasticity of the quantity of exports with respect to its unit value.

I. Assuming that the current account balance is in equilibrium, defining VI = piqi; VE = peqe (VI = VE = Vo), and expressing the denominator of equation (6), which is positive, as H, we obtain:

$$(\dot{t/p}) = [\frac{Vo}{H}] \left\{(1 + N)\ \frac{\dot{p}i}{pi} - (1 + E)\frac{\dot{p}e}{pe}\right\} \qquad (7)$$

From equation (7) it can be seen that

(i) If $/N/ \geqq 1$ and $(\dot{p}e, \dot{p}i > O)$, $(\dot{t/p}) < O$

(ii) If $\frac{\dot{p}i}{pi} = O$, $(\dot{t/p}) < O$

(iii) If $\frac{\dot{p}i}{pe} = O$, $(\dot{t/p}) \gtreqless O$ if $/N/ \lesseqgtr 1$

Finally, if

$$\frac{\dot{p}i}{pi} = (1 + a)\ \frac{\dot{p}e}{pe} \qquad (8)$$

where $a \geqq -1$, the following basic situation may be distinguished:

(A) $a = O$

Thus (7) may be expressed as

$$(\dot{t/p}) = [\frac{Vo}{H}]\ (\frac{\dot{p}e}{pe})\ \left\{N - E\right\} \qquad (9)$$

Since $E \geqq O$ and $N \leqq O$, it may be deduced from (9) that *if there is world inflation and no change in the terms of trade, the social cost of foreign exchange will fall on the inflation.*

(B) $a \neq O$

In this case (7) may be expressed as

$$(\dot{t/p}) = (\frac{Vo}{H})\ (\frac{\dot{p}e}{pe})\ \left\{(1 + N)\ (1 + a) - (1 + E)\right\} = (\frac{Vo}{H})\ (\frac{\dot{p}e}{pe})\ S \qquad (10)$$

Whence $(\dot{t/p}) \gtreqless O$ if $S \gtreqless O$

(B.1) $a > O$

$S \gtreqless O$ if $(1 + N)\ (1 + a) - (1 + E) \gtreqless O$

$(1 + N)\ (1 + a) \gtreqless (1 + E)$

For $/N/ < 1$, $(1 + N) > O$, and so,

$$S \gtreqless O \text{ if } (1 + a) \gtreqless \frac{1 + E}{1 + N}$$

$$(\dot{t/p}) \gtreqless O \quad \text{if } a \gtreqless \frac{E - N}{1 + N}$$

To sum up, if together with world inflation there is a worsening in the terms of trade (but $\dot{p}i > O$ and $\dot{p}e > O$), the social cost of foreign exchange will tend to rise with inflation only[a] if two conditions are met simultaneously: that $/N/ < 1$, and that the unit value of imports is growing at a percentage rate $\frac{E - N}{1 + N}$ times higher than the rate of growth of the value of exports.

(B.2) $a < O$ (and $a \geqq -1$)

$S \gtreqless O$ if $(1 + N)\ (1 + a) - (1 + E) \gtreqless O$

Since $(1 + a) \geqq O$, then if $/N/ < 1$

$$S \gtreqless O \text{ if } 1 + a \gtreqless \frac{1 + E}{1 + N}$$

$$S \gtreqless O \text{ if } a \gtreqless \frac{E - N}{1 + N} \qquad (11)$$

But as $(E - N)$ and $(1 + N)$ are positive, and as *a* is negative, it may be deduced from (11) that $(\dot{t/p}) < O$, if $a < O$ for any value of N and E.

To sum up, *if together with world inflation there is an improvement in the terms of trade, the social cost of foreign exchange will necessarily fall.*

II. If we assume that the current account balance is negative and constant,

$$Vi = Ve + Z \tag{12}$$

where $Z > O$

From equations (6) and (12) we obtain:

$$(\dot{t/p}) = \frac{Ve\left\{(1+N)\frac{\dot{p}i}{pi} - (1+E)\frac{\dot{p}e}{pe}\right\} + Z(1+N)\frac{\dot{p}i}{pi}}{H} \tag{13}$$

From equation (13) we observe that

(i) If $/N/ \geqq 1$ and $(\dot{p}e, \dot{p}i > O)$, $(\dot{t/p}) < O$

(ii) If $\frac{\dot{p}i}{pi} = O$, $(\dot{t/p}) < O$

(iii) If $\frac{\dot{p}e}{pe} = O$, $(\dot{t/p}) \gtreqless O$ if $/N/ \lesseqgtr 1$

In turn, if

(A) $a = O$, we obtain from equation (13):

$$(\dot{t/p}) = \frac{(1+N)\frac{\dot{p}i}{pi}Vi - (1+E)\frac{\dot{p}i}{pi}Ve}{H}$$

Accordingly,

$$(\dot{t/p}) \gtreqless O \text{ if } \frac{Z}{Ve} \gtreqless \frac{E-N}{1+N} \tag{14}$$

From (14) we may deduce that if there is no change in the terms of trade and if $/N/ < 1$, world inflation produces a rise/no charge/a fall in the social cost of foreign exchange *if the current account deficit expressed as a percentage of exports* is higher than/equal to/lower than the quotient of the sum of the absolute values of elasticities E and N, and the sum $N + 1$.

Alternatively, since $/N/ < 1$, if $a = O$, the probability that $(\dot{t/p}) > O$ is a direct function of the size of the current account deficit and is an inverse function of the value of E.

(B) $a \neq O$

In this case (13) may be expressed as

$$(t/\dot{p}) = \frac{\dot{p}^e}{pe}\left\{(1+N)(1+a) - (1+E)\right\} + Z(1+N)(1+a)\frac{\dot{p}^e}{pe}$$

$$(t/\dot{p}) = \frac{\dot{p}^e}{pe}\left\{Vi(1+N)(1+a) - Ve(1+E)\right\} \qquad (15)$$

Whence, if W is defined as $W = Vi(1+N)(1+a) - Ve(1+E)$

$$(t/\dot{p}) \gtreqless O \quad \text{if } W \gtreqless O$$

(B.1) $a > O$

For $/N/ < 1$, $W \gtreqless O$ if $1 + a \gtreqless \frac{Ve(1+E)}{Vi(1+N)}$

$$1 + a \gtreqless \left(1 - \frac{Z}{Vi}\right)\left(\frac{1+E}{1+N}\right)$$

Or,

$$(t/\dot{p}) \gtreqless O \text{ if } a \gtreqless \frac{E-N}{1+N} - \frac{Z}{Vi}\left(\frac{1+E}{1+N}\right)$$

It may be seen that in this case (in comparison with the situation where $Z = O$), a smaller deterioration in the terms of trade is needed, where $/N/ < 1$, for world inflation to produce and increase in the social cost of foreign exchange.

(B.2) $a < O$ $(a \geqq -1)$

As $(1 + a) > O$, if $/N/ < 1$

$$W \gtreqless O \text{ if } (1+a) \gtreqless \frac{Ve}{Vi}\frac{(1+E)}{(1+N)}$$

As $(1 + a) < 1$, a sufficient condition for $W < O$, is that

$$\frac{Ve}{Vi}\frac{(1+E)}{(1+N)} \geqq 1$$

$$\text{Or } \frac{Z}{Ve} \geqq \frac{E-N}{1+N}$$

Similarly, a necessary condition in these circumstances for $W \geqq O$ is that

$$\frac{Z}{Ve} > \frac{E-N}{1+N}$$

Values of the coefficient: $\frac{Z}{Ve}$

	1974	*1975*	*1976*	*1974/1976*
Brazil	0.84	0.71	0.54	0.70
Chile	0.18	0.38	-0.02	0.18
Honduras	0.38	0.44	0.31	0.38
Argentina	-0.24	0.37	-0.13	0.07
Mexico	0.46	0.66	0.49	0.54
Peru	0.41	0.92	0.60	0.64

It can be seen that, in general, the coefficient does not rise above 0.7 as indicated above. This result should be in some of the cases studied, compared with $\frac{E - N}{1 + N}$ ($/N/<1$), in order to deduce the change in the social cost of the currency. If $N = -\frac{1}{2}$ this means that in order for $0.7 \gtreqless \frac{E - N}{1 + N}$; $E \lesseqgtr 0.85$.

NOTE

[a] A deterioration in the terms of trade may reduce (or even reverse) the net capital flows towards the country in question. This is due to the fact that such a deterioration may create expectations (correct or incorrect) of a devaluation. As a result there is an increased probability that a worsening in the terms of trade will raise the social cost of foreign exchange.

Oil-exporting countries' investment portfolio: diversification toward Latin America

Carlos Massad

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I
Introduction

The oil-exporting countries are extracting wealth from the ground to secure a future stream of income. Instead of investing by leaving oil underground, they are extracting enough oil to maintain a given level of consumption and make other investments. Placement of funds in the monetary and financial markets as well as acquisition of real assets are part and parcel of this policy. Yields in different financial markets, including allowances for exchange rate movements and risks tend rapidly to attain equality, since financial resources can move easily from one market to another. The composition of a given portfolio of financial investments will be very influenced by the investor's possibility of predicting, better than the market, future variations of exchange and interest rate.

This is not so where the acquisition of real assets is concerned. Rates of return on investments in real assets differ among countries tending to equality with extremely long delays, while the variability of those returns also differ from country to country. Commodities, labour technology, and capital goods do not move with the same ease as financial resources, and natural elements such as climate, land quality, altitude, etc., are extremely expensive to reproduce in a different environment. The composition of an investment portfolio in real assets is influenced by a large number of factors, from religious and cultural considerations to economic and security factors. This is not necessarily so in the case of financial investments, since the cost of changing the portfolio composition in such a case is not substantial. The cost of changing the composition of a real assets investment porfolio is usually higher, so that such composition will be more influenced by long-run considerations.

The purpose of this chapter is to explore the economic advantages for Arab oil-exporting countries to internationally diversify their real assets investment portfolio by giving higher importance to investments in Latin America. The first part of the chapter examines the use of foreign savings in Latin American development and the main factors that have tended to increase the area's reliance on resources from abroad and hence Latin American demand for foreign savings. The second part explores the possibility of international diversification of investments of Arab oil-exporting countries and the economic advantages of increasing the share of their investments in Latin America. It also examines briefly other areas of financial co-operation and some possible institutional channels to facilitate investment diversification of the investing countries.

II
Domestic and foreign savings in Latin America

1. *Past and present trends*

The non-oil-exporting countries of Latin America have been traditionally net users of foreign savings. Their balance-of-payments current account have been persistently in deficit, which reached a yearly average for the group of around US$ 2 billion in 1965-

1970. This was a complement to domestic savings and ensured investment levels high enough to contribute to an economic growth rate of 6% as an average for the period, and slightly lower than that for the decade of the 1960s. During this period, domestic savings were used to finance 85% of gross domestic fixed investment, while deficit in the balance-of-payments current account covered the rest.

The balance-of-payments disequilibrium referred to above, which represented about 16% of total exports of goods and services, did not create generalized balance-of-payments problems. Exports were growing rapidly, while the financing of the current imbalance came from direct foreign investment, borrowing from official and private sources in approximately equal shares. Since borrowing from official sources usually involves medium- or long-term debt, the form taken by foreign financing did not create an excessive burden in any particular future period and the foreign debt profile of the region showed an adequate distribution of debt repayments through time.

The second half of the 1960s and the early 1970s witnessed an impressive expansion of foreign trade by non-oil-exporting countries in Latin America. Total exports grew at an annual average rate of almost 17% through aggressive efforts in most countries to gradually open their economies and expand exports at the subregional, regional, and world levels. Such efforts included the application in some inflation-ridden countries of smaller and frequent adjustments in the nominal echange rate to avoid sharp fluctuations in the real rate. Multiple exchange rate practices were substantially eliminated in most countries and a general environment of openness in trade substituted the highly protectionist trends prevailing in the previous decade. Sustained expansion of

Table 1

NON-OIL-EXPORTING DEVELOPING COUNTRIES OF LATIN AMERICA:[a] CURRENT ACCOUNT FINANCING

(Billions of dollars)

	1966-1970	*1974-1976*	*1977*	*1978*	*1979*
Current account deficit[b]	-2.0	-13.6	-7.9	-10.5	-18.0
Variation of reserve assets	0.4	0.7	3.9	7.6	5.5
Requirements	**2.4**	**14.3**	**11.8**	**18.1**	**23.5**
Net external financing	2.5	13.6	12.7	16.3	24.4
Direct investment	0.7	2.1	2.3	3.0	3.0
Grants	0.1	0.1	0.2	0.2	0.2
Net borrowing	1.7	11.4	10.2	13.1	21.2
Official sources	0.9	2.0	2.2	2.9	3.0
Multilateral	0.4	0.9	1.2	1.5	1.5
Bilateral	0.5	1.1	1.0	1.4	1.5
Private sources	0.8	9.5	8.0	10.2	18.2
Suppliers credits	0.4	0.5	1.2	2.2	1.0
Private banks	0.3	8.0	4.7	5.8	18.0
Other sources and errors	0.1	1.0	2.1	2.2	-0.8

Source: ECLA, "Balance of Payments", on the basis of data published by *International Monetary Fund* (IMF), September 1981; IDB, "External public debt of the Latin American Countries" (Washington, D.C., July 1981); BIS, "Annual Reports" and "Supplements", and ECLA estimates.

[a] Includes Mexico and Peru.

[b] Net total balance on goods and services, and private transfers.

Table 2

NON-OIL-EXPORTING COUNTRIES IN LATIN AMERICA: FOREIGN AND DOMESTIC FINANCING OF GROSS DOMESTIC FIXED INVESTMENT[a]

(Percentages)

	1960-1961	*1969-1970*	*1974-1975*	*1978-1979*
Domestic savings	85.8	91.6	78.1	84.9
Current account deficit	14.2	8.4	21.9	15.1
Total	100.0	100.0	100.0	100.0

Source: ECLA, "Balance of Payments" and "National Accounts", on the basis of data provided by the IMF and reporting countries, September 1981.

[a]Calculated by converting national currencies to dollars, through applying conversion factors published in IMF, *International Financial Statistics*, various issues.

the world economy with relative price stability in the latter part of the 1950s and through the 1960s provided the appopriate framework for outward growth of most Latin American countries.

Through this period, increasing demand for foreign reserves in Europe and Japan provided a counterpart to persistent deficits in the U.S. balance of payments. The monetary system of Western countries worked smoothly and international money and capital markets reappeared after the collapse that followed the Great Depression of the thirties. As their external economic relations expanded, the larger countries in Latin America —and some of the smaller ones— found increasing access to private foreign banks as sources of credit. Latin American trade expansion helped in this direction, but the ground was set by the rapid growth of European currency markets (see tables 1 and 2).

In the early 1980s, the continued deficit in the U.S. balance of payments together with the growth of European currency markets gave rise to the expectation that some European currencies would be revalued against the dollar. Such expectation produced sizable capital movements which countries were unable to control. Economic circumstances thus compelled important industrial countries to float their currencies, marking the beginning of a new state of adjustment in the world economy. Inflationary tendencies already present in the late 1960s became more evident and proved more stubborn than in the past, so that anti-inflationary policy resulted more in a weakening of the growth rate of the world economy than in a substantial alleviation of rapidly increasing prices.

Oil price increases at the end of 1973, a consequence of such trends accentuated them and contributed to a modification of the traditional structure of world balance of payments. The current account deficit of non-oil-exporting countries in Latin America, which had already doubled to about US$ 4 billion in the early 1970s, increased substantially to an average of US$ 13 billion in 1974-1979. Industrial countries, which traditionally registered a current account surplus, showed a substantial deficit in 1974, which gave additional stimulus to the application of restrictive economic policies.

As a consequence of this situation the increase in the external gap of non-oil-exporting countries in Latin America was accompanied by a substantial reduction in the relative importance of direct foreign investment and borrowing from official sources, while borrowing from commercial banks increased markedly to fill the gap. Borrowing from commercial banks abroad in the second half of the 1970s was 32 times larger than

the yearly average of the second half of the 1960s. At the same time, loan terms deteriorated: the concessionality factor decreased by almost 73% in 1969-1979 (see table 3). The increased current account imbalance induced non-oil-exporting Latin American countries both to look for additional financing and to adopt adjustment policies to avoid excessive sacrifice in terms of their growth rate.

The general outcome of these policies is one of success. The current account deficit increased again after 1978, but economic growth rates, even though lower than early in the decade, were higher than those registered in other areas of the world. The region also kept high investment rates to ensure a sustained growth in the future. Investment rates in 1975-1976 were higher than in any year since 1966. The policy mix of adjustment and financing in Latin America resulted in a reduction in the external imbalance without sacrificing either investment rates or future growth rates. ECLAC data show that investment rates over gross domestic product, which were 17.6% in 1966, grew steadily to an average of 21.7% in 1975-1980.

2. *Adjustment, financing, or both: the picture of the near future*

The level of current account external imbalance of recent years will probably be lower in the future. Oil-exporting countries' imports are expected to continue growing rapidly. Policies in industrial countries will probably be more successful than they have been in diminishing substantial imbalances among them, so that the sum total of surpluses in the world economy should decrease, with a corresponding decrease in deficits.

It is unlikely that imbalance figures will go back in the near future to the magnitudes registered before 1974. Between 1967 and 1973, the sum total of current account deficits of IMF member countries reached an annual average of US$ 13 billion, which jumped to an average of over US$ 82 billion in 1973-1980. If this figure were to decrease continuously at a rate of US$ 10 billion per year, a rate high enough to be rather improbable, it would take six to seven years for the annual figure to return to the 1967-1973 average. Most probably, the time required would be even longer.

Table 3

DAC MEMBER COUNTRIES AND MULTILATERAL AGENCIES:[a] GEOGRAPHIC DISTRIBUTION OF NET FINANCIAL FLOWS TRANSFER TO NON-OIL-EXPORTING DEVELOPING COUNTRIES

(Billions of dollars)

	1969			*1975*			*1979*		
	Total	*Concessional*	*2/1*	*Total*	*Concessional*	*2/1*	*Total*	*Concessional*	*2/1*
Latin America	2.64	0.81	30.5	7.19	1.07	14.9	18.62	1.55	8.3
Africa[b]	2.08	1.35	64.8	6.51	3.91	60.0	16.60	8.70	52.4
Asia[c]	3.86	2.49	64.5	6.57	3.94	60.0	17.74	9.28	52.3
Europe[d]	1.41	0.31	22.3	3.57	0.63	17.7	8.33	1.99	23.9
Other	0.28	0.22	80.7	0.68	0.61	90.7	1.01	0.88	87.1

Source: OECD, "Geographical distribution of financial flows to developing countries, 1969-1975" (Paris, 1977); and OECD, *Development Cooperation Review* (1980).

[a] Multilateral agencies with concessional component in their lending of less than 25% are not included.

[b] Excludes Gabon, Nigeria and Argelia.

[c] Excludes Middle East, Israel and Indonesia.

[d] Includes Portugal, Cyprus, Gilbraltar, Greece, Malta, Spain, Turkey, Yugoslavia and Israel.

Table 4

NON-OIL-EXPORTING DEVELOPING COUNTRIES OF LATIN AMERICA: RESERVES AS A PROPORTION OF IMPORTS-SELECTED COUNTRIES AND PERIODS

(Percentages)

Country	*1951-1955*	*1956-1960*	*1961-1965*	*1966-1970*	*1971-1973*	*1974-1980*
Argentina	40.0	24.2	15.7	34.9	29.4	64.1
Bolivia	19.9	5.7	12.6	20.7	22.9	22.1
Brazil	29.7	27.7	23.1	23.1	71.3	41.1
Colombia	30.7	27.9	14.7	16.9	26.7	72.6
Chile	16.8	17.0	12.8	25.2	13.3	35.1
Ecuador	37.3	24.2	27.4	24.6	34.6	32.3
Guatemala	45.8	37.0	29.0	23.2	34.4	37.5
Mexico	29.7	33.5	29.5	24.2	27.8	17.7
Uruguay	112.2	84.7	86.7	74.0	65.8	65.6

Source: IMF, *International Financial Statistics* (May 1978); ECLA, "Balance of Payments", on the basis of data published by the IMF, September 1981.

As a byproduct of this general picture, non-oil-exporting developing countries, including those of Latin America, will register a sustained deficit in their current account balance of payments for a relatively long time. If deficit countries as a whole made efforts to eliminate the deficit, they would only succeed in transferring it elsewhere. In so far as there remain sizable surpluses in the world, they must have a counterpart in the form of deficits. The only alternative would be a substantial reduction in world income, an option rejected by all concerned.

Latin American non-oil-exporting countries —and maybe some oil-exporting ones— will register a deficit in their current account balance of payments and will continue to demand foreign savings, under one form or another, for some time to come. This would not be so, or at least not in the same magnitude, if these countries were to reduce their income and investment level and/or if they were in a position to accept a substantial reduction in their external reserves. Latin American countries are making efforts to reduce their external disequilibrium to more manageable proportions, and the question is whether the world economy is interested in providing foreign savings to prevent *excessive* adjustment policies in Latin America. I think the answer to this question must be positive.

Even though some countries of the region have accumulated external reserves which are substantial in absolute magnitude they are not higher as a proportion of imports than they were in 1951-1955, also a period of high reserves by historical standards (see table 4). The fact that there is easier access to short-term financing in the European currency markets acts toward reducing the amount of reserves needed; but terms of trade have shown a volatility in the 1970s that justifies additional prudence in reserve management.

Reductions in income and investment will endanger the future growth rate of the countries, while producing negative effects on the world economy. Non-oil-exporting countries in Latin America comprise a market of more than 360 million people with an average per capita income of about US$ 1 600. For the United States, these countries are more important than the European Economic Community or Japan as consumers of

equipment and chemicals, and for the European Economic Community their purchases of those products are nearly as important as those of the United States and more important than those of Japan. Latin America is not negligible as a market for industrial nations; a reversion or substantial weakening of growth rates in the region would affect the world economy. As a consequence of such effect, Latin America would be contributing to unemployment and stagnation in the world economy, which would also affect oil-exporting countries. This effect is small, but it is there. From the point of view of balanced growth in the world economy, current account deficits which are the counterpart of surpluses that would remain as such for a long time, should be financed.

The net amount of resources required is not negligible, since it may involve some US$ 20 to US$ 30 billion per year for non-oil-exporting countries of the region, if allowance is made for the need to increase foreign exchange reserves. These figures do not take into account repayments of foreign debts. If such repayments were included, the figure of gross financial requirements would approach and perhaps exceed US$ 50 billion per year.

These figures, if obtained through borrowing abroad, would imply an increase in global debt (public and private, guaranteed or not) of some 20% per year. Up to now the monetary and financial world markets have been able to absorb amounts even higher than these. However, two important points are to be noted. First, the amount of debt a country can manage is not unlimited, and it is lower the shorter the average repayment period; increasing reliance on private bank borrowing will tend to shorten such period. Second, the role industrial countries have played in the supply of financial resources has changed. In the 1960s and early 1970s they transferred abroad part of their own net savings, since they experienced a sustained surplus in their current account balance of payments. In recent years they have functioned as intermediaries for net savings from oil-exporting countries and from a few industrial nations, transferring those savings among themselves and between them and other areas of the world. The figures suggest that recycling foreign savings among themselves is substantially more important than between them and other areas of the world. The latter may be a residual, more volatile figure. Table 5 illustrates this assertion.

Table 5

ESTIMATED USES OF OPEC'S NET CONTRIBUTION TO THE EUROPEAN CURRENCY MARKET

(Percentages)

	1975	*1976*	*1977*	*1978*	*1979*	*1980*
Developing countries	11	10	1	1	14	32
Eastern Europe	36	40	48	74	45	34
Developed countries and rest of the world[a]	53	50	50	25	41	34
Net OPEC contribution	100	100	100	100	100	100
(Billions of dollars)	29	36	38	30	51	76

Source: Estimated on the basis of data obtained from BIS, *Annual Report* 48 (12 June 1978); *Annual Report* 51 (June 1981).

[a] Rest of the world includes off-shore banking centres and unallocated. In so far as off-shore banking centres orient part of their resources to developing countries, the relative importance of the latter would increase, and that of the developed countries would diminish.

Table 6

NON-OIL-EXPORTING DEVELOPING COUNTRIES IN LATIN AMERICA: RATIO OF DEBT SERVICE TO EXPORTS AND EXPORT GROWTH RATES

(Average of annual ratios, 1971-1979)

Country	*Ratio of official debt service to exports*	*Ratio of total debt service to exports*	*Rate of growth of export*
Argentina	19.7	32.0	20.2
Brazil	20.5	48.8	22.5
Colombia	12.3	22.8	21.6
Costa Rica	12.8	25.1	18.3
Chile	23.7	43.0	19.3
Dominican Republic	6.9	16.3	18.5
El Salvador	4.8	13.0	21.5
Guatemala	3.8	9.9	20.2
Guyana	10.3	12.4	8.5
Honduras	6.0	15.1	18.3
Jamaica	9.9	11.4	10.5
Mexico	34.6	41.1	22.6
Nicaragua	13.3	16.3	13.9
Panama	16.5	15.3	13.1
Paraguay	9.9	18.2	25.5
Peru	24.6	42.2	18.2
Uruguay	29.5	33.5	21.5

Source: ECLA, "Balance of Payments", on the basis of data provided by the IMF, September 1981; IDB "External Public Debt of the Latin American Countries" (Washington, D.C., July 1981).

This analysis is a clear indication that while it is in the interest of Latin America and the world community to finance current account disequilibria of the former group of countries rather than to rely on excessive adjustment, it is also in the interest of all concerned to take a careful look at the form this financing may take. Aside from a reduction in gross reserves, there are two main ways of financing a current account deficit: straight borrowing and direct foreign investment.

3. *Borrowing as a form of obtaining financial resources*

Latin America has increased its reliance on private bank borrowing with the effect of increasing its cost and reducing the repayment period as compared with the situation prevailing in the 1960s. Latin America's recourse to borrowing from official sources, both national and international, has decreased substantially. This change is perhaps irreversible, since there is growing interest in the world to orient low-cost resources to least developed countries of which, according to UN definitions, there is only one in Latin America.

Bank borrowing by developing countries is coming under closer scrutiny, as some banks reach portfolio compositions which include a sizable component of lending to such countries. This development includes the application of some indices to measure credit-worthiness of borrowing countries. The most commonly used indicator of credit-worthiness is the ratio of debt service to exports. The classification of Latin American countries by this indicator shows that countries which register a high ratio of debt service

to exports are also among those that enjoy better acceptability as debtors in private financial markets (Argentina, Brazil, Chile and Uruguay). These data also indicate that countries with high export growth can sustain, unimpaired, a high ratio of debt service to exports.

This particular indicator of creditworthiness, despite its popularity, does not give an appropriate perpective. It is static and says nothing about export prospects. In the case of most Latin American countries, this indicator might be better interpreted as one of access to foreign credit than as an advanced warning of future trouble (see table 6).

No single indicator, short of a global evaluation of the economic perspectives of a particular country, can give a balanced picture of creditworthiness. The capacity shown by Latin American countries to weather the difficult economic conditions of the mid-1970s together with their development potential are better clues to the future.

There is a form of borrowing which is becoming increasingly important for a few countries in the region and which is better adapted to their present external financial situation: long-term borrowing from private capital markets through the sale of bonds. This form of borrowing was already well known in the nineteenth century and developed progressively until the crisis of the 1930s. In recent years only Argentina, Brazil, Mexico and Venezuela in Latin America have made some use of this means of borrowing. A rapidly growing debt is not a situation Latin American countries consider desirable. Hence, they are increasingly interested in other forms of obtaining financing, including direct foreign investment.

The preceding discussion can be summarized as follows: non-oil-exporting countries of Latin America have deficits in their current account balance of payments which are substantially larger than those prevailing in previous decades; these deficits are expected to decrease, but still to remain at relatively high levels for several years. Hence, there is a demand for foreign saving both in the form of borrowing and of direct foreign investment. Latin American countries have had, and continue to have, open access to bank borrowing, but these countries would not like to see a foreign debt which continues to rise rapidly and to shorten in terms of maturity. So there is a demand in Latin American countries for longer-term, bonded debt, as well as for direct foreign investment.

Latin America's demand for direct foreign investment is there. The next question to explore is whether it might be interesting to Arab oil-exporting countries to consider expanding their investment portfolio in Latin America. From an economic point of view, direct Arab investments in Latin America could be attractive because of their yields and/or because of their effect on the variability of returns on their investment portfolio as a whole.

III

Investment portfolio diversification: the case for increased investments in Latin America

1. *International portfolio diversification: economic advantages*

Portfolio diversification to minimize the variance of returns at any given level of the rate of return is common practice. Several models have been developed to provide guidance for the optimal composition of an investment porfolio.[1] International diversification of portfolios is an important dimension of diversification. Rates of return on investment in particular countries will tend to be influenced by the latter's general economic picture. A change in the economic growth rate of any one country will affect rates of return on

investment generally. Such influence need not imply perfect correspondence of rates of return in different sectors of the economy. Therefore, there is an advantage in investment diversification even within a country's boundaries.

The fact that different countries' economic growth rates do not move exactly in unison is an indication that rates of return on investments will not all move in the same magnitude or even in the same direction. Even if the average rate of return on investments for all countries were the same, if their movements over time were different, there would be an advantage to international diversification of investments. Such diversification would result in a reduction of the variability of returns on the diversified portfolio for the same level of average returns.

It is general practice in the economic profession to assume that there is a cost attached to uncertainty, so that given any level of returns the investor will prefer lower variabiliy to a higher one. The same argument can be carried over to the situation of a country as a whole. This seems particularly reasonable for countries which are transforming an exhaustible natural resource into a stream of future income. For any given average level of such income, less variability would be preferable to more.

If in order to get higher rates of return on investment, a country had to accept larger variability of returns, the choice between possible combinations of average returns on investment and variability would not be obvious. To obtain a higher return, a country would have to accept more variability, and the particular selection would depend on the country's preferences regarding returns and variability as well as on the market opportunities to exchange average return for lower variability. In a case like this it might be advantageous to a country to accept a lower rate of return on its investment portfolio, if that were the cost of a substantially reduced variability of returns. However, if a country or group of countries could obtain higher returns on their investments with the same variability or lower, such a course would be unambiguously preferable to one with lower returns and the same or higher variability.

2. *Average return and variance of a diversified portfolio*

Rates of return on investments in different sectors and countries, developed and developing, have not been at my disposal while writing this chapter. However, as indicated above, a country's economic growth rate exerts a general influence on the rates of return on investment, so that growth rates can be used as a proxy for the rates on investment. Economic theory indicates that under certain circumstances the rate on investment will equal economic growth rate in long-run equilibrium.[2]

Data published by the OECD show that the economic growth rate of member countries as a whole for 1960-1980 reached an average of 4.1% per year. On the other hand, data published by ECLA show that the economies of the non-oil-exporting countries of Latin America as a whole grew at an average rate of 5.6% per year during the same period.[3] If averages per decade are taken, the growth rate of Latin American non-oil-exporting countries was consistently higher than that of OECD countries for the three periods included, the 1950s, 1960s and 1970s. The variability of the growth rate as measured by the variance was 2.9 for the non-oil-exporting countries of Latin America and 3.7 for OECD during 1950-1980 as a whole. The covariance was 0.25 (see table 7).

With these results, it is possible to calculate the average rate of return as well as the variance of a combined portfolio of investments in both areas of the world. Since the average rate of return, as measured by the economic growth rate, is higher for Latin America than for OECD, the combined portfolio will show a higher rate of return than an exclusively OECD portfolio. This is true whatever the relative importance of investments

in non-oil-exporting Latin American countries, as long as such relative importance is greater than zero. On the other hand, the variance of the combined portfolio will be smaller, the smaller the covariance of the two series of rates of return.[4]

Assume for example a portfolio in which investments in OECD countries comprised 80% of the total, while investments in Latin American countries comprised the remaining 20%. The average return on this portfolio would be 4.4 while its variance would be 2.6, which is lower than the variance of both OECD (3.7) and non-oil-exporting Latin American countries (2.9) taken separately. Hence, a diversified portolio would have a higher yield and a lower variance than an exclusively OECD portfolio. So a diversified portfolio would be unambiguously preferable to a non-diversified OECD one. As the importance of investment in Latin America increases in the combined portfolio, the average return will increase continuously, while the variance will decrease to some miminum point and then increase again.[5]

Table 7

GROWTH RATE OF REAL GDP AND ITS VARIABILITY: OECD AND NON-OIL-EXPORTING COUNTRIES IN LATIN AMERICA

(Percentage changes)

Year	*Area*		*Year*	*Area*		*Year*	*Area*	
	OECD	*Latin America*		*OECD*	*Latin America*		*OECD*	*Latin America*
1951	7.6	5.7	1961	4.3	6.8	1971	3.7	7.0
1952	3.6	2.6	1962	5.3	3.9	1972	5.4	7.2
1953	4.6	4.7	1963	4.7	3.1	1973	6.1	8.3
1954	1.1	6.0	1964	6.0	7.3	1974	0.6	7.4
1955	7.2	6.2	1965	5.3	5.3	1975	-0.3	3.5
1956	3.2	3.8	1966	5.6	4.6	1976	5.1	5.2
1957	2.8	5.8	1967	3.6	4.3	1977	3.6	4.6
1958	0.6	5.2	1968	5.5	7.0	1978	3.8	5.2
1959	5.6	1.6	1969	4.7	7.4	1979	3.3	6.9
1960	4.5	8.2	1970	3.1	6.9	1980	1.3	6.4
Aver-age 51-60	4.1	5.0	Aver-age 61-70	4.8	5.7	Aver-age 71-80	3.3	6.2

	1950-1980	
	OECD	*Latin America*
Average (percentages)[a]	4.1	5.6
Variance	3.7	2.9
Covariance	0.25	
Correlation coefficient	0.08	

Source: OECD, *Economic Outlook* (December 1972, 1977, July 1981); ECLA, on the basis of data provided by the reporting countries, as of September 1981.

[a] The difference in the averages is statistically significant.

3. *Optimun composition of the investment portfolio*

Using the rates of return, variances, and covariances obtained from growth rate, it is possible to determine the composition of the portfolio that would achieve miminum variance. Such a portfolio would be composed of 44% of investment in OECD countries and 56% of investments in Latin America, with a variance of 1.7 and an average yield of 4.9%. As the importance of Latin America in the investment portfolio continues to increase above 56%, the variance would start increasing again from the minimum of 1.7 reached, but it would still be lower than the variance of an investment portfolio in any one of the two areas, until investments in Latin America comprised 100% of the total. At that point the variance of the portfolio would be that of returns on investments in Latin America, while the average rate of return would also be that of investments in Latin America.

From the minimum variance portfolio on, further increases of relative importance of investments in Latin America will, as indicated, increase the variance of the combined portfolio, but the rate of return of the portfolio will also increase. So the selection of a particular portfolio composition would depend on relative preferences between rates of return and variances in the investing countries. Instead, the selection of a portfolio composition including investments in Latin America with a relative importance equal to or lower than 56% would be unambiguous. Within this limit, a portfolio containing more investments in Latin America would be unambiguously preferred to one containing less, since the former would yield a higher return and a lower variance than the latter.

That data on growth rates that have been used as a proxy for the rates of return on investment conceal several important aspects which should be taken into consideration for an investment decision. First, growth rates in any particular country represent an average of different sectors of the economy. An investor would like to consider the whole set of rates of return rather than only an average, since he might select sectors or projects for his investment among the best available in the economy. Since this is true in both OECD and Latin American countries, the argument for international diversification of the investment portfolio still applies.

Second, the growth rate may be a good proxy of the rate of return on investment in general, including investments such as road construction, education, and other sectors closed to foreign investors. One way to find out whether the growth rate is a reasonable proxy of the rate of return on investments open to foreign investors is to see whether the scanty data available on rates of return on foreign investment behave in a way similar to the growth rates.

The U.S Department of Commerce publishes figures of the U.S foreign investment position in different countries and areas of the world, and earnings (after taxes) from those investments from 1967 to 1979.[6] These data should be viewed with care, since earnings can be shifted among affiliates of the same companies in different countries through pricing of products sold or bought among affiliates. This would imply that the variability of earnings appears greater the smaller the amount of investments considered as separate from the global portfolio. Therefore, it should be expected that the variance of the rate of earnings in Latin America, calculated using these data, would increase relative to that of developed countries.

Rate of return calculated using the U.S Department of Commerce data show that the average rate on U.S non-oil direct investment abroad is higher for Latin America (13.6%) than for developed countries (12.8%), while the variances are 5.9 and 6.5 respectively. The covariance is 3.96. Since the rates of return are not corrected for world inflation, they tend to overestimate the real rates.

The variance of the portfolio composed of 80% investment in developed countries and 20% investments in Latin America would have a rate of return of 13%, higher than that of developed countries, and a variance of 5.7, lower than the variance of rates of return on investments in developed countries. The minimum variance portfolio would be comprised of 54% investments in Latin America and 46% in OECD, with an average yield of 13.2% and a variance of 5.1. Again, as investments in Latin America are increased to over 54% of the portfolio, the average return of the portolio would increase continuously, but the variance would increase also, approaching that of a portfolio composed of investments in Latin America only.

There is an unambiguous advantage to portfolio diversification in favour of Latin America until its participation in the total portfolio reaches 54%. From there on, there might also be an advantage, but it would not be unambiguous: it would depend on relative preferences of investing countries between rate of return and variance. The general conclusions obtained using growth rates data as proxy for rates of return on investments are thus strengthened.

Table 8

RATES OF RETURN ON U.S. NON-OIL DIRECT INVESTMENT ABROAD: DEVELOPED COUNTRIES AND LATIN AMERICA

(Percentages)

Year	*Developed countries*	*Latin America*
1967	9.2	11.3
1968	10.1	12.7
1969	11.4	12.9
1970	10.6	10.8
1971	11.3	9.3
1972	13.0	11.5
1973	15.9	13.5
1974	14.1	16.3
1975	11.7	16.1
1976	12.9	15.0
1977	12.2	14.8
1978	15.6	16.2
1979	18.1	16.7

	1967-1979	
	Developed countries	*Latin America*
Average (percentages)[a]	12.8	13.6
Variance	6.5	5.9
Covariance	3.96	
Correlation coefficient	0.64	

Source: Calculated on the basis of U.S. Department of Commerce, *Survey of Current Business* (August 1977-1980). Adjusted Earnings divided by the average of the beginning of and end of year Direct Investment Positions.

[a] The difference in the average is statistically significant.

4. *Political risks and the "mutual advantages" approach*

Third, neither rates of growth nor of return give a measure of political risks, including capital losses from expropriation. The analysis of the convenience of international portfolio diversification takes into account economic costs and benefits and does not allow for cost arising from political instability. The latter's effect on the rate of return on investments, as distinct from the general effect already reflected in the economic growth rate, boils down to the so-called stability of the rules of the game.

There are two main ways which are not mutually exclusive, to obtain stability of treatment of foreign investment. One is to have enough influence on the host government so that it will resist pressures for the modification of rules. The other is to make it advantageous for all parties involved not to change the rules. The first way does not operate efficiently, since political power may change hands once in a while in host countries, and foreign influence may become a conflictive issue —as has in fact happened. So the potential influence approach to stability of the rules of the game may be unstable in itself.

The mutual advantage approach has a lot to offer. It uses the criterion of mutual advantage as one important element in the selection of investment projects that can provide such an advantage. For example, development of projects which enhance production in the host country of products that find a market in the investing country or countries may be an important inducement for stability of the rules of the game. The investing country provides both financial resources and markets, so that any element that might negatively affect the investment may also have a negative effect on the buyer markets.

Joint projects undertaken with some equity participation of the host country or countries, and which include international complementarity in production, may also satisfy the criterion of mutual advantage. This latter type of projects implies production of components in more than one country, including the main investor country; it also implies final assembly in more than one country. Though more complex to develop, these projects facilitate access to both the Latin American and the investor countries' markets and permit the undertaking of projects of greater scope, while still satisfying the mutual advantage criterion.

Arab investment providing both financial resources and markets will be less vulnerable than if the provision of only financial resources were involved. This vulnerability would be reduced even further if a mechanism could be established for Arab oil-exporting countries to invest as a group rather than individually. By acting as a group, since Arab countries have different political orientations, they would offer the host countries a possibility of diversification of their political portfolio, thus reducing the political risks that come as a byproduct of political conflict. From the point of view of Latin America, a wider nationality diversification in foreign investment would certainly be welcome.

5. *The magnitudes involved: are they bearable?*

At present annual investment rates, non-oil-exporting countries of Latin America are investing some US$ 100 billion annually, of which less than 5% represents direct foreign investment. If Arab oil-exporting countries decided to invest in Latin America one-fifth of their flow of long-term investment abroad per year, this would mean about one-eighth of their current account surpluses and about 4% of total annual investment in Latin America.[7] Figures of this order of magnitude should not create any absorption problem in the area unless they were concentrated in one or two countries. This latter possibility does

not necessarily maximize the benefits of international portfolio diversification. So the global magnitudes of investment that would help obtain the benefits of international diversification of the portfolio do not seem, at least from a global point of view, difficult to assimilate in the area.

The next question is whether there are specific investment opportunities which could provide the advantages of diversification from the Arab countries' point of view and which would also be advantageous from a Latin American point of view, while containing elements which could induce stability in the treatment of foreign investment in the host countries. An answer to this question would require a more detailed look at the economy of various Latin American countries, and this is beyond the scope of this chapter. However, a general review of these problems may disclose the existence of areas of common interest.

One of the most difficult problems Latin America continues to face is an accelerated rate of rural-urban migration. This tends to aggravate both economic and social problems: urban unemployment is high, while housing, transportation, sanitation, and other services are overburdened by the rapid increase of population. At the same time, an abundant resource in the region is left underutilized: agricultural land.

The development of agricultural and agroindustrial production exports is of substantial interest for Latin America. The production of wheat, corn, soybeans, beef and mutton, sugar, coffee and tobacco, as well as fruits, vegetables, and their pulps and juices, could be advantageously expanded. Timber, wood products, pulp and paper, shoes, and cotton and wool textiles are among other interesting possibilities. Taking advantage of the mineral raw materials existing in the region, several products such as copper wire and pipes, and a wide variety of goods in the light industrial field, could be advantageously manufactured in the area. All these products could find a market in oil-exporting countries and other countries in the Arab world.

Latin America needs both financial resources and foreign markets to continue growing, and the Arab oil-exporting countries could provide both. A programme of co-operation involving Arab investment in the production of commodities destined to Arab markets could benefit all parties involved. For Latin America the advantages would be in the further development of its agriculture and industry, thus helping to stop the fast rate of rural-urban migration and alleviating unemployment or hidden unemployment; assisting in the continued diversification of exports, thus increasing both the level and stability of foreign exchange inflows with a positive effect on the stability of foreign finances and of the economy as a whole; and contributing to sustained overall economic growth. For Arab oil-exporting countries the economic advantages would be in the security of supply of a wide variety of products and the attractive rates of return on investments in the market where such products come from. Analysis of the political advantages is outside our present scope.

6. *Institutional arrangements for co-operation*

Apart from direct investments there are many other areas of financial co-operation between Arab oil-exporting countries and Latin America. Latin America is interested in longer-term borrowing, so that an expanded access of Latin American countries to the capital markets of oil-exporting countries would certainly be welcome. However, this area of co-operation may be more difficult to develop, since the differential rates of return for investing countries of Latin America or other financial investments would not be substantial. Here the main advantages would be, from the investor's point of view, in spreading political risks, a subject not explored here.

Oil-exporting countries have already been contributing to facilities in the IMF and the World Bank, and such contributions are also important to Latin America. There is an important gap at present in financial facilities available to Latin American countries, which is the lack of arrangements that supply credit in the five to ten years maturity range. This gap could be filled either through contributions to the IDB or through setting up a special facility for the purpose.

Our main conclusion is that it would be in the interest of Arab oil-exporting countries to diversify their direct investment portfolio toward Latin America. This requires a conscious effort of exploring specific investment opportunities in particular areas in different countries. Despite the fact that in most Latin American countries Arab immigration has been important in the past, information on investment opportunities which might be of interest to Arab countries is not easily available. Hence, if there is a decision to diversify their investment portfolio, it should be accompanied by a systematic effort to find the specific investments or projects which would be undertaken. Such effort requires organization.

The recent establishment of the Arab Latin American Bank with capital from several Arab and Latin American countries may provide a base to undertake the required studies. Arab contributions to the bank come from only a few countries, and that might be a somewhat narrow base. A special project under UN auspices could perhaps provide a wider base to explore investment possibilities of mutual interest to Arab and Latin American countries. Whatever the arrangements, the important aspect to be underlined is that investment portfolio diversification cannot be achieved without the cost of a systematic effort of exploration of investment opportunities.

NOTES

[1] See H.G. Grubel, "Internationally Diversified Portfolios: Welfare Gains and Capital Flows", *American Economic Review* 58 (1968): 1 299-1 314.

[2] See Harry G. Johnson, *Macroeconomics and Monetary Theory* (London: Lowe and Brydone, 1971), ch. 20.

[3] These figures correspond to a weighted average of the growth rate of gross domestic product of each country, using the GDP as weights.

[4] The variance of the combined portfolio is obtained from: $S^2(A,B)=a^2S^2(A)+(1-a)^2S^2(B)+a(1-a)S(A)(B)$, were $S^2(A)$ and $S^2(B)$ are the variances of each of the series of returns and $S(A)(B)$ is the covariance. The weights are a and (1-a).

[5] This chapter takes broad economic areas as a whole without exploring diversity within them. This approach, which would be erroneous if one attempted to describe the areas in question, is still useful to tackle problems of international diversification of investments. The fact that each area is composed of different economic units that behave differently is already taken into consideration in the calculation of the average growth rate and of variances and covariances. Obviously, if economic policy decisions were taken by each area as a unit, their interaction would be higher than it is at present and the covariance calculated would also be higher, reducing the advantages of international investment diversification.

[6] U.S. Department of Commerce, *Survey of Current Business*, August 1977, table 12; August 1980.

[7] These figures assume a flow of long-term investments abroad by Arab oil-exporting countries of US$ 20 billion per year, and a current account surplus of US$ 32 billion.

International capital movements

Ricardo H. Arriazu

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I
Introduction

The study of international capital movements figures prominently in today's economic literature. It has received growing attention in recent years as a result of the intensification of capital movements and, since 1971, the widespread practice of basing national exchange rate systems on floating currency rates.[1]

One of the topics to which a great deal of attention and research has been devoted is the interrelationship between capital movements and the development efforts of the less advanced countries. Numerous papers have been published which provide detailed discussions of such factors as the foreign exchange needs entailed by a development process, the problems stemming from insufficient domestic savings and foreign exchange shortages, the need for official transfers of real resources to the developing countries, the problems caused by the external debt and how this affects the selection of development strategies, the terms for gaining access to the developed countries' capital markets, etc. All such efforts have been positive to some degree, inasmuch as they have added to the overall body of knowledge concerning the various aspects of this subject and to the available statistical information.

The subject has awakened particular interest in Latin America because many countries of the region depend heavily upon international capital movements to finance and maintain their consistently rapid rates of economic development. For this reason, efforts have been made at the international level to study the subject more thoroughly, and a call has been made for an examination of this matter at the highest political level, on an equal footing with other aspects of international monetary reform. The fact that a number of countries in the region are either currently facing external debt problems or are on the verge of doing so has also been an incentive to conduct such studies. The creation of an international committee at the ministerial level (the Development Assistance Committee of the IMF and the World Bank), whose main purpose is to look into the transfer of real resources from the developed to the developing countries, and recent debates in various forums concerning the developing countries' debt problems are a direct consequence of these efforts and demonstrate the importance —and timeliness— of the subject.

Unfortunately, most of the studies on capital movements to and from developing countries focus on their institutional aspects while paying little or no attention to the causes of non-compensatory international capital movements. At the same time, the growing number of recently-published analytical studies refer only to capital movements between developed nations, and are therefore of little help in analysing the experiences of developing countries, which have been subject to much greater distortions than the developed countries have. There is thus a clear need to expand the analytical scope of studies relating to the developing countries and, especially, to conduct a more thorough analysis of the determination of the policy variables which have such a strong influence on international capital movements. Studies of this type would not only lead to a better understanding of past events, but would also make it possible to project future movements more accurately, thereby contributing to a better planning of economic policy in general and of external sector policies in particular. The main objective of this study is

therefore to evaluate the progress which has been made in the analysis of capital movements and to adapt such analyses to the economic and institutional realities of the region with a view to pinpointing the main factors influencing capital movements to and from Latin America.

In section II, a brief description is given of the theoretical models underlying the development of the "simplified combined model" upon which the empirical estimates are based. In section III, which is markedly empirical in nature, the main economic variables accounting for the behaviour of capital movements are specified, and mention is made of the measurement problems encountered throughout the study as regards the quantification of such variables. The final part of this section contains an assessment of the empirical results obtained for the various countries of the region considered in this study. A summary and the main conclusions of the study are presented in section IV; in this section, special emphasis is placed on the conclusions which can be drawn from the study with regard to economic policy in the hope that they may contribute to the design of policies for the external sector. The study includes a statistical appendix which describes the methodologies used to reconstruct the data series employed in the empirical assessment; these series have also served as the basis for the estimates that are made of non-residents' private holdings of external assets. The basic statistical material is presented in a second appendix.

II
The model

The techniques used to evaluate international capital movements have developed in parallel with the advances made in other fields of economic thought. Specifically, most recent studies have been based on the models for portfolio selection under risk conditions introduced by H. Markowitz,[2] or are directly derived from what has been called the "monetary approach to the balance of payments".[3]

1. *Portfolio selection models*

The models for portfolio selection under risk conditions based on the work of H. Markowitz deal with the general problem of allocating available investment funds among various options where the rates of return on assets are differentiated and uncertain. These models represent an attempt to identify that combination of solutions which will maximize the anticipated rates of return while minimizing risk by eliminating obviously lower-yield investment opportunities and establishing selection criteria for those requiring a clearer specification on an individual basis of preferences between rates of return and risk. In a recent article, Rolf Mantel mentions the methods which have been used, or suggested, for solving this problem:

1. Approaches based on the theory of inventories and on dynamic programming.
2. Baye's theorem (and the theory of sequential decisions).
3. Simulation.
4. Two-stage aleatory programming.
5. Programming with probabilistic constraints.
6. Quadratic programming.
7. Markowitz' portfolio selection theory (1959), as in the Cheng model (1962).
8. Multistage aleatory programming, using the Dantzing and Wolfe principle of primal decomposition, as in the Bradley and Crane model (1972).[4]

The model can very easily be adapted for use in accounting for international capital movements merely by including external assets (foreign exchange, deposits, direct investment, public bonds, etc.) among the investment options.[5] Under these circumstances, external assets are in competition with domestic assets, and any change in the composition of domestic and external investment portfolios can give rise to international capital movements. There are thus two sources of such capital movements: i) altered conditions with respect to anticipated profitability or risk leading to changes in portfolio selection which affect holdings of domestic and external assets, thereby giving rise to capital movements; and ii) the allocation of increases in investment funds among the various options; this can also generate capital movements even when the conditions as regards profitability or risk remain unchanged.

Any empirical study of capital movements based on the portfolio selection model necessarily involves the use of simplifying assumptions. In the real world, the range of investment options and their different variations, in combination with the factors of risk, liquidity, associated operations, etc., which are usually considered when taking an investment decision, is so vast that it exceeds any model's specification capacity, especially if the number of statistical observations is very limited. The best approach in this case (in view of the main objective of the study) is to confine ourselves to a few domestic and external investment options which, by virtue of their importance, can serve as representative variables for the remaining alternatives as regards investment in domestic and external assets. Thus, the simplest procedure is to regard all domestic assets as homogenous items whose rate of return is represented by "the" interest rate on the domestic market and to regard external assets as being homogenous as well, with a rate of return which is represented by "the" external interest rate. Capital movements would therefore be determined by the differential between the domestic and external interest rates.

This functional relationship between capital movements and the differential between domestic and external interest rates was the most frequently used method of incorporating the subject of international capital movements into the various open-economy macroeconomic models prior to the development of the portfolio selection models.

Of course, this model oversimplifies reality; all products cannot be dealt with as if they were homogenous (a direct investment cannot be treated as if it were similar to a short-term financial investment). Moreover, the model entirely ignores other relevant factors, such as risk, and such aspects as liquidity preferences, the degree of international acceptance of various assets, etc. The problem becomes even more serious, however, with the widespread use of floating currency exchange rates because exchange risk then takes on a vital importance which is equal to or greater than that of the nominal rate of return. A number of recent studies have attempted, quite successfully, to modify this simple model in order to bring it into line with actual market conditions while retaining its basic simplicity.[6]

In the case of some Latin American countries, however, even these modified models are not entirely useful due to the high level of government intervention in exchange and financial markets. Such intervention has completely distorted the representativity of "the" interest rate as a means of measuring profitability and, through the intensive use of control mechanisms, has also distorted (but not prevented) capital movements themselves. Nonetheless, a correct definition of the various components of the concept of the various investment options' "effective yields" should permit an empirical verification of the overall validity of the model used and of the importance of the role played by portfolio selection mechanisms in the generation of international capital movements.

2. *The monetary approach to the balance of payments and capital movements*

The model for portfolio selection under risk conditions is extremely useful for studying capital movements in imperfect markets, but it has some limitations with respect to international capital markets which are functioning flexibly and efficiently. In the latter case, tiny variations in the conditions on domestic financial markets would tend to bring on large-scale capital movements which would soon eliminate any interest rate differential. Under these circumstances, it would be virtually impossible to verify the existence of a significant relationship between interest rate differentials and capital movements on an empirical basis. On the other hand, it is important to note that the portfolio selection model is based on the definition of differences in effective yields as an explanatory variable; in the above case, however, it cannot be used to draw conclusions with respect to economic policy because that definition does not allow researchers to infer the determinants of differentials in effective yields, which are, in essence, the factors that give rise to capital movements.

The "rediscovery" of what has been called the "monetary approach to the balance of payments" sparked a wide range of new research projects in connection with the balance of payments, including the study of capital movements in the light of this new approach. Although it is an over-simplification, the "monetary approach to the balance of payments" basically maintains that any disequilibrium in the balance of payments is the result of disequilibria in domestic monetary markets, i.e., assuming a perfect mobility of goods and capital, the internal creation of money in excess of the incremental demand required by the economy would simultaneously give rise to a surplus demand for goods and a surplus supply of money which would lead to a deterioration in the current account of the balance of payments and to an outflow of capital brought on by a temporary reduction in the domestic interest rate *vis-a-vis* external rates. The existence of a "monetary imbalance" would therefore account for the temporary existence of interest rate differentials and, in the final analysis, would constitue the true cause of capital movements.

3. *Limitations on capital movements*

There is a basic difference between the models discussed above: the model based on the "monetary approach to the balance of payments" assumes that there is a high elasticity of substitution between domestic and external assets (in the pure model, the substitution elasticity between domestic and external assets is infinite) whereas in the portfolio selection model, the substitution elasticity may vary as a function of market imperfections and rigidities.

Experience with respect to capital movements indicates that differentials in effective yields between countries often continue for prolonged periods without giving rise to a large enough volume of capital movements to eliminate them; moreover, on some occasions, capital movements tend to become a destabilizing factor. In most such cases, the inefficient operation of adjustment mechanisms stems from the risk factor; this is not taken into due consideration by the monetary approach, but does play a leading role in the portfolio selection approach. There are two clearly differentiated aspects of the identification of the "risk" element in so far as its influence on international capital movements is concerned: firstly, there is the particular risk of an investment in a given asset, and this risk can be compared with that of other investment options, whether they involve domestic or external assets; secondly, there is the risk associated with any

operation involving a given country's assets. In other words, in conjunction with the risk inherent in each particular asset, there is an element of risk which is common to all the assets of a given country.

The first of these elements can only be partially taken into account when estimating the anticipated effective yields of domestic versus external assets; in an empirical study, adequate specification is impossible due to the problems involved in attempting to isolate each element of individual risk. The degree of collective risk (the second aspect of risk) can be more easily identified than the first by using risk-assessment variables, which are commonly employed in international financial markets; these variables are intended to provide simple and comparable measurements of the degree and nature of the risk associated with financial operations in a given country. Examples of such commonly used variables are the level of international reserves, the ratio between reserves and the amount of imports, the level of external debt, the ratio between the debt service and exports, etc. None of them is really reliable as a measurement of the levels of risk; nonetheless, in view of their widespread use in international financial markets, these variables serve extremely well as measurements of their own effects (as tools for measuring levels of risk) on capital movements.

Other institutional elements also have a marked effect on the elasticity of capital movements' response to variations in effective yields. These elements include administrative restrictions, distortions in domestic financial markets, political instability, non-economic transfers, etc. To a greater or lesser degree, all these elements affect capital movements and should be taken into consideration in theoretical and empirical assessments of such movements.

4. *A simplified combined model*

The diversity of the Latin American countries' economic experiences prevents the widespread use of simple models, making necessary the specification of more complex models capable of reflecting the particular features of the different countries. The identification of a model which fits each country is far beyond the scope of this study inasmuch as it would require an enormous amount of research into each nation's economic history.

An intermediate solution can be based on the possibility of combining the models described in sections 1 and 2 while adding some of the variables suggested in section 3 plus a few highly significant variables corresponding to each country. Basically, this model is derived from an analysis of the monetary approach to the balance of payments. It is based on the hypothesis that, in a small economy having a system of fixed exchange rates and totally open to movements of capital and goods, domestic "monetary imbalances" are the main source of capital movements. In theory, this simple scheme should provide an adequate explanation of capital movements; however, any market imperfection which prevents or delays an immediate adjustment of monetary imbalances through the exchange markets will have an impact on domestic markets and will affect the scale and nature of capital movements and, hence, the functional relationships between monetary imbalances and capital movements. Under these circumstances, the existence of a monetary imbalance will affect the balance-of-payments and capital movements in the manner described in the preceding paragraph, but it will also tend to affect domestic interest rates, thereby having an impact on the overall economic equilibrium of the economy and generating additional capital movements in response to interest rate differentials. If observations are spaced far enough apart, then the original model will yield satisfactory results; but if observations are made during brief periods (or

if the adjustment is slow), then the original model will not be adequate. It would then have to be modified by incorporating a new explanatory variable to measure the influence of interest rate differentials.

Interest rate differentials may also be caused by factors totally unrelated to monetary imbalances and, in general, may be linked to economic policy decisions that distort financial and exchange markets. In such instances, a variable must be incorporated which reflects the effects of differentials in the effective yields of domestic versus external assets.

The final element needed to complete this "simplified combined model", as noted in the preceding section, is the incorporation of a variable that reflects the degree of overall risk associated with the country in question (e.g., the level of reserves, the level of debt). Thus, the use of these three variables ("monetary imbalance","differentials in effective yields" and "the level of reserves"), together with statistical adjustments to correct such factors as seasonal fluctuations and/or trends, should suffice to produce satisfactory empirical results in the case of most countries not subject to great distortions.[7] However, the economies of some of the countries in the region have been either continuously or sporadically subject to a wide range of direct and indirect controls; in the case of such "complex" economies, the above model is not adequate and must be expanded. In order to do so, an in-depth understanding of these countries' economic history is needed so that the policy variables which may have influenced capital movements can be identified. Examples of such policies are those providing for direct controls on capital movements (exchange controls), subsidies on the entry of financial loans (swap operations), the existence of parallel foreign exchange markets, etc.

The empirical aspects of this study are presented in the following section, which contains a detailed description of the main variables used in each case, including those mentioned here.

III

An empirical evaluation of international capital movements: the experience of some Latin American countries

1. *A general description of the study*

In dealing with the empirical aspects of this study, it was felt that the first step should be to focus the overall analysis on the particular case of one country in the region for which extensive statistical and economic information was available. By using this procedure, it was then possible to extend the analysis to include other countries of the region with a minimum of adaptation based on the experience that had been acquired.

In view of the author's greater experience with economic policy regulations in the countries of the Southern Cone, particularly Argentina, most of the "exploratory" work was based on the available information for that country. The specification model which emerged from the study of Argentina's experiences was subsequently used, with slight modifications, to identify the main causes of capital movements in such countries as Brazil and Chile. The results were satisfactory due to the great similarity among the economic policies applied throughout the history of these three countries.[8]

In selecting the countries upon which the empirical study was to be based, the availability of statistics was only one of the factors taken into account; others were the need to include both large and small countries, closed and open economies, countries with a great deal of experience in the use of restrictions on capital movements and countries

without such experience. Argentina, Brazil, Chile and Guatemala exhibit these characteristics and provide a varied sample of experiences which constitute an ideal cross-section for testing how well the combined model fits various sets of circumstances and for drawing conclusions with respect to the identification of the causes of international capital movements.[9]

One of the greatest difficulties encountered during the empirical study of capital movements was that the number of observations (at intervals of one year) was very small, which limited the opportunities for a simultaneous analysis of all the relevant variables.

Three different methods were used to solve this problem. The first was to carry out a number of multiple regressions for each country; in each regression a small number of variables, which always included the main elements of the "simplified combined model", were combined with a small number of variables intended to reflect the individual features of each country. In successive runs, those variables which the results showed to be of little significance were gradually discarded, the end result being that the final regressions were confined to a few significant variables, with a view to increasing the number of degrees of freedom.

The second method consisted in combining the analysis of time series and of cross-sections in a single regression, treating all the basic data on different countries as if they corresponded to a single nation. The main disadvantage of this second method is that it entails an assumption that the regression coefficients of the different variables are equal for all countries. Some improvements in the significance of the results were achieved using this method, but these improvements were not incorporated into this study because the results for each individual country do not provide grounds for assuming that the coefficients are equal.

The third —and perhaps most suitable— method was to base the work on quarterly data. This not only made it possible to increase the number of observations and degrees of freedom, but also made it much easier to reflect the effects of variables which constantly fluctuate over time. The use of quarterly data is undoubtedly the most suitable method for most purposes; unfortunately, the possibility of using such data is severely limited by the fact that only a very few countries have quarterly series which permit the quantification of the main relevant variables as regards balance-of-payments data and other variables, including the flow of private holdings of internationally liquid assets.

2. *Specification of the main variables used in the "simplified combined model"*

a) *The concept of capital movements*

Over the past fifteen years, various institutions have made a considerable effort to refine and systematize balance-of-payments data, especially as regards the format for the main entries relating to capital movements.

i) *Entries included in official balance-of-payments information:* In the traditional balance-of-payments format, capital movements are classified into two major groups: official transfer payments and autonomous —or non-compensatory— capital movements, on the one hand, and compensatory financing, on the other hand. The first group includes both short- and long-term (private and official) non-compensatory capital movements, while the second heading includes loans and other capital inflows obtained by the authorities for the sole purpose of financing balance-of-payments deficits and offsetting movements of international reserves.

Non-compensatory capital movements merit special attention from an analytical standpoint because they are much more difficult to predict than are compensatory movements and, for the most part, they are beyond the direct control of monetary authorities. Moreover, non-compensatory capital movements are precisely the type of operations that conforms to the model set forth in this study, since compensatory movements, as their name would indicate, are intended to compensate for the effects of the variables relating to non-compensatory capital movements described above. The basic information on these non-compensatory movements is given in appendix B for the countries covered in the empirical assessment; this information is given in the same form in which it was provided by the countries themselves in their balance-of-payments reports.

ii) *Unrecorded capital flows:* The main difficulty in evaluating non-compensatory capital movements is that the available information covers only officially-recorded capital movements and therefore does not reflect all the non-compensatory movements which have occurred, in many cases. It is important to point out that a country's balance-of-payments data do not necessarily reflect the external payments of that country as a whole, but only those of its monetary authorities. This means that it is quite possible (and, actually, it is quite common) for a country's overall balance of payments to show a surplus while the same country's official balance shows a deficit, or vice versa. This situation arises each time the private (non-banking) sector of a country decides to increase its holdings of internationally liquid assets by acquiring them on the market either legally or illegally; in the final analysis, this has implications for the monetary authorities.

The possibility that a country, as a whole, might have a payments surplus while at the same time having a deficit on its official balance of payments (or vice versa) means that the concept of the balance of payments must be redefined for the purposes of this analysis.

From a theoretical point of view (particularly in relation to such problems as the determination of overall international liquidity needs, the stability of the international monetary system and the establishment of a widely-used system of convertibility), greater accuracy can be achieved by using a broad definition which includes unrecorded private flows both in the balance of payments and in the definitions of international liquidity. However, from the standpoint of the selection of economic policy tools and the assessment of possible development strategies, it would seem more suitable to focus the analysis on the official definition of the balance of payments while adjusting the respective concepts to take unrecorded capital movements into account.

Adjusting the official figures in order to include unrecorded capital movements is a long and tedious job, but an essential one if the results are to be of some use. Unrecorded capital movements often total more than recorded movements and frequently follow trends that are opposite to those of recorded capital. Such movements are particularly marked in economies where exchange controls are used extensively.

Clearly, it is impossible to identify all unrecorded capital movements; fortunately, however, quite detailed data can be obtained on some such movements, which makes it possible to upgrade the available information. The most accessible source of information in this regard is the "errors and omissions" entry in the balance of payments. The operations included in this category should be reclassified as either transactions on current account or as non-compensatory capital movements. However, a detailed examination of the "errors and omissions" entry in order to reassign all the operations recorded under this heading correctly, although possible, goes beyond the scope of this study. Here, a less rigorous but more easily-applied approach will be used, such as that of treating the entire "errors and omissions" entry as non-compensatory capital

movements, while compariang the behaviour of the adjusted data with that of the official data in the regression analysis. Appendix B contains the relevant information. An improvement in the empirical results should be regarded as the only valid evidence that this procedure is a suitable one.

In order to conduct the empirical assessment, another adjustment of the data must be made to take into account changes (flows) in private holdings of internationally liquid assets. Although it is difficult to establish the existing relationship between internationally liquid private holdings and international capital movements, it can be deduced from the observation of normal practices in the exchange and capital markets. In markets where no restrictions are placed on capital movements (as regards both the purchase and sale of foreign currency), changes in private liquid holdings are channelled through the purchase and sale of those assets in official markets, and they are therefore usually recorded as non-compensatory capital movements.[10] However, when a system of exchange controls does not allow the purchase of foreign exchange for purposes of hoarding, foreign exchange is usually accumulated through the common practice of over-invoicing imports and under-invoicing exports and through false movements on the accounts included in the "services" heading (tourism, dividends, bonuses, port costs, etc.).

All the available information on private holdings of internationally liquid assets is given in appendices A and B on both a quarterly and an annual basis; unfortunately, however, this information is not sufficient for the purposes of this study, and it was necessary to reconstruct the required series based on the existing data.[11]

b) *Differentials in effective yields*

Theoretical inputs and the available empirical evidence regarding developed countries both indicate that differentials in the effective yields of domestic and external assets are one of the main determinants of international capital movements. The term "effective yield" is defined in the broadest possible sense and includes such concepts as interest rates, variations in the capital value of an asset, tax advantages, etc.

If financial and exchange markets were efficient, the task of quantifying these effective yields for both direct investments and financial investments would be tremendously simplified. However, the widespread use of controls and restrictions in capital and exchange markets makes the quantification of such yields very difficult indeed.

Most of the empirical or theoretical studies on the subject have focused almost exclusively on differentials, between interest rates, these being considered as representing differentials in "effective yields". Since the use of floating exchange rates has become widespread, however, these studies had tended to include variations in the value of an asset occasioned by changes in exchange rates in their definition of "effective yield" as well.

In small countries with unrestricted financial and exchange markets whose exchange systems are based on fixed exchange rates, the practice of associating the concept of "effective yield" with the interest rate in the market place should provide satisfactory results; this, in turn, would tremendously simplify the task of quantifications. In countries with unrestricted markets but whose exchange systems are based on a floating rate, the quantification of the concept of "effective yield" would require no more than the inclusion of values reflecting expectations of changes in the exchange rate. The frequent use of exchange and financial restrictions and controls and the recurring exchange crises in most Latin American countries, however, rule out the use of simple procedures and call for more complex quantification methods capable of adequately reflecting the differentials in effective yields. Moreover, interest rates are not always representative of the rate of return on direct investments.

In the various countries of the region, interest rates have generally been subject to differing degrees of government control thus giving rise to informal markets. Not only does the quantification of the concept of "yield" in regard to financial assets become more difficult under such circumstances, but it also becomes impossible to substitute financial interest rates for a variable measuring the marginal yield of capital. In addition, short-term financial flows are seriously affected by interest rates and official exchange movements, as well as by transactions on parallel exchange markets, informal credit markets, etc.

It is self-evident that there is no one single motivation for all capital movements. Direct investments are inherently longer-term investments than most financial ones and are usually based on expectations of returns from production activities rather than on expectations of very short-term gains. Moreover, although official (non-compensatory) capital movements should in theory be guided by the same system of costs and incentives as private movements are, this is not what happens in actual practice; the economic and political motivations for such movements do not necessarily coincide with those of private movements. In addition, the relative inefficiency of some State enterprises in the countries of the region often gives rise to capital movements which are undertaken in order to avoid budget controls rather than because of differences in effective yields.

Due to the absence of reliable information on the rates of return on direct investments, other variables must be used to reflect this. At first glance, a seemingly obvious solution is to use dividends and returns on shares sold on the stock exchange for that purpose, but due to the lack of transparency of the region's stock markets and the fact that most companies exhibit strong leanings towards self-financing, this information is not useful as a reflection of the yields on direct investments. One possible indirect avenue would be to use anticipated GDP growth rates as indicators of estimated domestic rates of return by employing some of the methods that have been developed for quantifying expectations.

Although the measurement of the effective yields of financial operations may appear to be simpler, it is actually much more complex. In countries with high and persistent inflation, unstable exchange rates and distorted financial and exchange markets (and with large parallel markets), the measurement of differentials in effective yields is complicated by the effect of expectations of variations in exchange rates and by the possibility of making a further profit by purchasing external assets at official prices and then selling them on parallel markets. Since foreign exchange rates on parallel markets are sometimes twice or three times as high as they are on official markets, the profits realized from such exchange transactions entirely overshadow the importance of simple interest rates differentials.

The specification of the "differentials in effective yields" variable is based on the assumption that a large part of capital movements in the Latin American countries have their origin in the actions of the economic agents of the country in question,[12] which compare not only the alternative yields from various domestic and external financial assets, but also the options for investment in real goods. Basically, the problem can be simplified by viewing it in terms of a comparison between the purchasing power of an investment in domestic assets (the most profitable one) at the end of the period in question and the purchasing power of an investment abroad for which the required foreign exchange is purchased at the official exchange rate, while the return on that investment is converted, at the end of the period, on the parallel market.[13]

Of course, this form of measurement combines various operations which could have been dealt with separately (such as, for example, the purchase of foreign exchange at the official price, using any of the possible mechanisms for doing so, and its immediate

sale on the parallel market). This procedure, however, would contribute nothing to the analysis of capital movements and would exacerbate the problems involved in having a small number of observations.

c) *Monetary imbalances*

As noted in the section containing a description of the model based on the monetary approach to the balance of payments, ever since D. Hume's implicit utilization of this model and its later use in a more explicit form in the work of F.Y. Edgeworth and A. Marshall, it has emphasized the importance of monetary policy's effects on the balance of payments, primarily through its repercussions on the flow of real goods.

The same line of reasoning which gave rise to that approach can be applied just as validly to non-compensatory capital movements: if the monetary authorities create credit in excess of the public's incremental demand for money, the public will rapidly distribute this credit among a number of alternative assets: the involuntary accumulation of money (delays in adjusting holdings of real monetary balances to desired levels), the purchase of domestic and imported goods and services, the purchase of internationally liquid assets, a reduction in foreign borrowing (these last factors being ones which give rise to outflows of capital), etc. Likewise, a tight credit policy obliges the public to decrease its holdings of internationally liquid assets and to seek foreign loans in order to meet its needs for credit and money.

The second component of monetary imbalances —the demand for money— will have the same effects, but works the other way around; i.e., an increase in the demand for money, in its broadest sense, will have the same effects as a tight credit policy. It should be noted that the emphasis is on the concept of credit policy rather than monetary policy because credit is the monetary authorities' instrument of control, while monetary policy is the result of the credit policy in conjunction with its and other measures' effects on the balance of payments.

The fact should be underlined that the concept of "monetary imbalance" was defined in terms of the relationship between credit policy and the *incremental* demand for money (both being concepts of flow) rather than defining it in terms of static stocks (differences between the stock of credit and the overall demand for money) because capital movements (flows) come about in response to changes in overall imbalances rather than in response to those imbalances as such. At the same time, the process of adjusting a "monetary imbalance" is not an instantaneous one and a long time may pass before it is completed; thus, in terms of empirical conclusions, an observed capital flow may be an aggregate of a number of flows associated with the partial adjustment of a number of past monetary imbalances. This delay in the adjustment process may not be of great significance for empirical evaluations based on annual data (although it is impossible to make such a statement *a priori*). However, such delays may have a significant effect on the results of evaluations based on quarterly data and, in such cases, it may become necessary to use lagging variables which adequately reflect the effects of partial adjustments of monetary imbalances.

In addition, a monetary imbalance's effect on capital flows may also be heavily influenced by that same imbalance's effect on the current account; an imbalance which is partially offset by the flows registered in the current account of the balance of payments will generate a smaller capital flow than there would be if the current account did not offset part of the imbalance. This relationship, which is derived from the main line of reasoning involved in the monetary approach to the balance of payments and from the process of the creation of money under a system of fixed exchange rates, makes it

necessary to take the effects of the current account results into account either by adjusting the figures in specifying the concept of "monetary imbalances" or by treating it as another alternative independent variable, as described further on in the text.

Another complication in evaluating monetary imbalances' effects on capital movements is that these imbalances simultaneously affect other markets and other variables, primarily of the simplified combined model, thus making it difficult to correctly identify the effects of each variable. Moreover, some of these other variables are, in their turn, important factors in determining the demand for money, which is a basic element in determining the "monetary imbalance" variable. Another difficulty in the definition of this variable is that consistent estimates of the "demand for money" in the countries in question are not available; with respect to some of the countries, it therefore becomes necessary to estimate them for the sole purpose of defining the variable in question. A more detailed description of the quantification methodology used for this purpose is provided in the relevant section.

d) *Official reserve holdings*

Senior economic officials often draw attention to repeated cases in which a country that is in a solid balance-of-payments and reserve position finds itself with an abundant supply of external funds, whereas the supply of such funds tends to diminish or even disappear when that same country experiences external payments difficulties.

This inclusion in this study of a variable representing the degree of risk associated with operations with a given country makes it possible to incorporate this datum in the empirical assessment; it also allows the availability of international funds to be quantified. Generally, this can be interpreted as one of the variables representing the status of international capital markets in relation to the country in question.

The tendency in the international banking system is to decide periodically upon the degree to which it wishes to commit its investments in each country; in order to arrive at this decision, it assesses the future prospects of each country's external sector and its borrowing capacity based on a group of simple indicators, including the level of reserves, the degree of indebtedness, its debt profile, the medium-term outlook as regards its balance of payments, etc.

In this study, gross reserves are used as the representative variable for that assessment and for the attitude taken in capital markets towards the country in question. No attempt was made to use other variables such as the level of net reserves, the level of indebtedness, etc., because the empirical results obtained using the gross reserves variable were highly satisfactory. Nonetheless, this subject would merit further exploration if a revised version of this study is prepared at some future date.

One element which should be considered with the utmost care in the course of the empirical evaluation is the fact that a capital flow towards a country will automatically increase its level of reserves; even when one of the variables is a flow variable and the other is a static stock variable, in exceptional cases this relationship could introduce a problem of causality between the dependent and the independent variable while at the same time exhibiting a high simple correlation coefficient between the two variables.

This problem does not come up in most empirical assessments. Nevertheless, when using the total level of reserves as an explanatory variable it is possible to use various methods to solve the problem in those cases where there is a high autocorrelation, including the use of lagging variables or variables expressed in terms of annual averages.

e) *The use of direct restrictions on capital movements*

The Latin American countries have repeatedly used exchange restrictions to deal with balance-of-payments problems and have used them in highly innovative ways. The economic grounds for using exchange restrictions are very simple: foreign exchange is perhaps the scarcest input in developing countries' economies and is therefore a public good whose allocation to various users should be clearly defined by the economic authorities.

The degree to which exchange restrictions are used varies from country to country and from year to year, depending on economic circumstances and the governments' economic thinking. Without going into the economic results of such restrictions, it is important to evaluate them in terms of their objective i.e., to halt outflows of capital at times of balance-of-payments difficulties without reducing the normal inflow of foreign exchange.[14] If controls on capital movements work effectively, the impossibility of obtaining foreign exchange at the official price for speculation will make foreign exchange transactions less attractive, and the net result of placing controls on capital will probably be positive[15] in the sense that the net outflow will be less than what it would have been without controls. If, on the other hand, such controls are ineffective, they will only act as an incentive for the purchase of external assets and, hence, the outflow of capital. The effectiveness or ineffectiveness of controls on capital is a purely empirical question that cannot be resolved within the realm of theory.

This study provides a simple means of ascertaining the overall effectiveness of controls on capital movements in the region. If the controls are effective, the results of the regression of the "non-compensatory capital movements" variable on the "restrictions" variable must necessarily show an inverse relationship between the two variables even in those cases where the behavioural relationship is not completely specified; otherwise, the overall effect of such restrictions would run counter to their objectives. If the simple regression of these two variables yields results which are contrary to the measures' objectives, a better specification of the function (incorporating other variables such as the differentials in effective yields,[16] as one example, in order to take the distortions produced by the controls into account) would yield a functional relationship with the expected signs; in this case, the "restrictions" variable would tend to measure only the effects of such operations' legality of illegality. The net effect of such restrictions would in any case be negative.

Finally, such restrictions are usually introduced when the country is experiencing balance-of-payments and/or reserves problems, and in such instances the close relationship between these independent variables may create problems similar to those described in the preceding section.

f) *The balance on current account: The joint treatment of the "reserves" and "current account" variables*

Economic authorities usually assert that international lending institutions tend to cut back on their loan operations with a country experiencing difficulties in relation to the current accounts on its balance of payments by limiting new loans and demanding the payment of operations which would normally have been extended. If this is true, there would be good reason to expect that non-compensatory capital transfers would move in the same direction as the current account balance, thereby heightening current account fluctuations rather than mitigating them. In addition, it is also a common practice in the countries of the region to oblige external suppliers to finance their exports during a brief period during times of payments difficulties while encouraging State enterprises to

increase their external borrowing. These two opposing trends introduce an element of uncertainty into the evaluation of this variable's behaviour. Generally speaking, it may be expected that as the specification of the overall function improves, the relationship between the balance on current account and non-compensatory capital movements will tend to strengthen the second of these two arguments and will therefore have a negative sign: suppliers of foreign goods, being reluctant to finance exports,[17] will fulfil the formal financing requirement but will then immediately withdraw those funds through non-institutionalized markets. With a good specification of the behavioural relationships, the first movement would be reflected by the "current account" variable and the second would be picked up by the "differentials in effective yields" variable. One possible way of reflecting both effects would be to —simultaneously— use the balance on current account during the period in question and during the immediately preceding period as independent variables; in this way, the datum for the period would reflect the effect of external suppliers' legal obligation to provide financing. while the balance from the preceding period would indicate the element of "risk" and the attitude of international credit markets.

These are not the only complications involved in the use of current account balances as an explanatory variable. The developing countries have repeatedly proposed the creation of mechanisms to ensure the transfer of real resources to them, arguing that they are by nature net capital importers. Achieving the objective of transferring real resources[18] from developed to developing countries would therefore involve the recording of a deterioration on current account at the same time as an inflow of capital to the country; similarly, direct capital investments are generally accompanied by imports of capital goods, which would also produce the result described in the preceding paragraph.

Lastly, if one accepts the premises of the monetary approach to the balance of payments, the creation of credit in excess of what is required by the incremental changes in the demand for money would simultaneously generate a deterioration on current account and an outflow of capital.

All these lines of reasoning show how difficult it is, on a theoretical level, to discover a definite relationship between the "current account" variable and non-compensatory capital movements. The problem therefore becomes an empirical one, but even then the results are unlikely to be conclusive

One possible way to facilitate the interpretation of empirical results in terms of some of the above hypotheses is suggested by an analysis of the methods of evaluation currently used by the international banking system. Obviously, when a country with a solid reserves position and a promising balance-of-payments outlook experiences temporary current account imbalances, the international banking system will be quite willing to finance that imbalance since this is a highly profitable and low-risk operation. In some cases, the banking system may even be willing to finance persistent current account imbalances (as in the case of Brazil during the past decade) when such imbalances are part of a sound and well-balanced programme for managing the external sector. However, it seems reasonable to expect that the banking system will not aid those countries displaying a tendency towards a persistent deterioration in their current acounts along with low or steadily-declining international reserves. Evaluating these factors is a complex task and cannot be represented by a simple variable but it nevertheless seems worthwhile to attempt to define a variable for these characteristics which would, if nothing more, at least reflect some of the "current account" variable's major effects on non-compensatory capital movements. One possible way of defining a variable to accomplish this objective may be to use the ratio between the current account balance and the level of reserves as a means of attempting to establish a direct

relationship between this ratio and capital movements; in other words, the greater the current account deficit is in relation to the level of reserves, the more reluctant the international banking system will be to finance such imbalances.

Finally, the same comments made in regard to the various alternative definitions of capital movements are equally applicable to the definition of current account balances. The use of exchange restrictions encourages the formation of parallel markets and leads to the existence of differentials between the rates on parallel and official markets. An exporter who is obligated to exchange his export earnings at the official rate will, because of this exchange rate differential, be tempted to falsify his export declarations by under-invoicing them so that he may sell the undeclared portion on the parallel market; in the same way, an importer will also be tempted to use his access to official markets in order to apply for more foreign exchange than necessary by over-invoicing the imports for which he has permits. In this manner, over- and under-invoicing become the preferred vehicle for capital movements, together with delayed and early charges and payments and the over- and under-invoicing of transactions included on the services account. As a result, the current account will tend to be used as a means of channelling private flows and should therefore be corrected in tandem with the corrections made in the capital account.

Further discussion is also called for here of some of the concepts set forth in the section concerning the specification of the "monetary imbalance" variable in connection with the association between such an imbalance and the current account and hence, its effect on capital movements. The creation of an inadequate amount of credit in relation to the incremental demand for money affects the balance-of-payments current account and capital account at the same time, both of which tend to serve as vehicles for the adjustment of the imbalance. However, if other incentives cause the current account results to be the opposite of what was expected, the attendant decrease in money will exacerbate the monetary imbalance and capital movements will therefore have to play a greater role in the adjustment process.

There are two ways to take this problem into account: either the current account balance can be incorporated into the definition of monetary imbalances, using adjusted figures in the model's specification or the current account balance can be incorporated as an independent variable. Both alternatives have the same objective and should yield satisfactory results. The first seems more appropriate for countries that do not use restrictions and in those cases where the number of observations is small; the second seems more appropriate for complex economies where the number of observations is high and restrictions are heavily used.

3. *Variables used to adapt the model to specific situations*

A somewhat detailed description has been given in preceding sections of the explanatory variables forming the core of what we have called the "simplified combined model".

In the course of the above description, it was noted that this model, in its simplest form, can only be applied to countries that are free from major distortions or regulations; in the case of countries with a long history of detailed control regulations, these regulations and individual features must be evaluated so that the model can be adjusted to incorporate them.

In view of the author's greater experience with the case of Argentina, a thorough examination of Argentina's recent experience with restrictions on capital movements was undertaken in order to determine the probability that some of those measures may have had effects that are not reflected by the main explanatory variables, including the "restrictions" variable.

It was ascertained, for example, that in addition to the country's other exchange provisions, a "financial swap" policy was in place whose particular features could not be picked up by any of the other variables. On various occasions the Argentine authorities implemented a financial swap policy, which was primarily used at times of payments difficulties; this consisted of extending "exchange insurance" to individuals or institutions bringing capital into the country (usually financial capital, but sometimes even import financing). This insurance guaranteed that such funds would be bought back at a set date and at a predetermined rate of exchange. The premium implicit in this exchange insurance was set at a level that was always lower than the expected rate of devaluation, than the rate of inflation and, what is more, than the domestic interest rate (which was also regulated), the objective being to create an incentive for inflows of capital. An idea of the size of the subsidy implicit in this operation is provided by the fact that, in late 1975, the exchange insurance premium was lower than 30% per year, whereas the devaluation rate on the parallel market in 1975 was over 1 000%. Under these circumstances, it was to be expected that an enormous inflow of capital would take place under this arrangement (as in fact did occur) and that this capital would then immediately be withdrawn through the parallel market.

The full scale of these operations cannot be captured by the model's main explanatory variables, and it therefore became necessary to incorporate a new variable to reflect the effect of these operations. This was the "swaps" variable (the purchase of exchange under a buy-back agreement), which was constructed on the basis of the differences between the rates of return on operations involving capital inflows that made use of this arrangement and those that did not.

In a similar way, it was found that there were other aspects of economic policy whose importance was such that they should be considered in conducting any analysis of this type. One example is the transfers received by Nicaragua and Guatemala as a result of the earthquakes which occurred in the mid-1970s and the impact they had on their current accounts. Permits for imports not involving the use of foreign exchange (a commonly used measure during the 1950s) are another example; under this sort of arrangement, importers received import permits for a wide range of products on the condition that they would not apply to the monetary authorities for the corresponding foreign exchange. In such cases, the domestic price of the products in question was many times higher than the price of a foreign product even after calculating all the surcharges and intermediation costs, and the rate of return on capital inflows (which are an inherent part of inflows of merchandise) were much higher than the rate of return of simple financial operations and were conceptually similar to those described in the preceding paragraph.

The evaluatory problems connected with clandestine imports should also be mentioned. These imports are usually not recorded either as imports or capital inflows, but the payments for them are consistently recorded on the capital account.

Last but not least, the frequent political conflicts in the countries of the region are a major cause of capital movements and are impossible to associate with any of the previously mentioned economic variables. In those cases where such conflicts have clearly discernible results, they can be incorporated into the empirical analysis by using dummy variables which reflect the influence of these factors. This method is of little use, however, in those cases where the effects of these events do not lend themselves to an unequivocal evaluations.

All of the above leads to the conclusion that spectacular results as regards the empirical aspects of the study cannot be expected on an *a priori* basis in the case of countries that have been subject to frequent distortions and political crises. Satisfactory

results can be expected, however, for countries with stable economies not affected by significant distortions (i.e., it is to be expected that they will fit the model described here and will generate a certain degree of predictive capacity).

4. *Quantification of the main variables*

One of the main constraints with respect to a correct evaluation of the hypotheses set forth in the preceding section is the lack of adequate information for the countries of the region in connection with many of above-mentioned variables. This lack of information is particularly notable in regard to interest rates, private holdings of internationally liquid assets, special régimes, etc.

a) *The adjustment of official figures on capital movements*

The first problem which arises is therefore the quantification of capital flows that have been adjusted to take variations in the private sector's holdings of internationally liquid assets into consideration.[19]

Very little information is available on these holdings, but the situation is improving. The main source of data on private holdings of internationally liquid assets is the United States Federal Reserve, which has been publishing information on short-term dollar deposits held by foreigners in United States banks for over 20 years. This information also covers deposits for a term of over one year and government bond holdings. If the study were focused on the analysis of capital flows in the 1950s, these statistics would have been adequate, if not complete. Nonetheless, given the tremendous growth of Eurocurrency markets and the proliferation of offshore markets, the statistics on deposits in United States banks have not adequately represented the total volumen since the mid-1960s. Fortunately, in 1972 the Bank of England began to publish annual data on foreigners' deposits of European currencies other than the pound sterling in banks within the United Kingdom. Prior to 1972, the available information was not classified by country, although it did include data for various regions as a whole. Beginning in 1974, the Bank of England has published this information on a quarterly base. Finally, since late 1975, the Bank for International Settlements in Basel has published quarterly data on deposits by foreigners, denominated in different currencies, in the banks of Europe (including Switzerland), the United States, Panama, Singapore and other offshore markets.

As the above paragraph makes clear, a substantial improvement is gradually being made in the coverage, quality, homogeneity and frequency of publication of the available information on private-sector holdings of external assets.[20]

Since the necessary information was lacking, a special procedure had to be employed in order to carry out the empirical evaluation which consisted of a stage-by-stage study entailing the use of various statistical methods to estimate unrecorded capital flows. With reference to Argentina, this involved experimenting with five alternative definitions of non-compensatory capital movements: i) unadjusted statistics on non-compensatory movements, just as they appear in national balances of payments; ii) figures arrived at by adding the "errors and omissions" entry to the concept of non-compensatory capital movements; iii) figures that have been adjusted for unrecorded flows estimated on the basis of existing data on private liquid holdings and a linear extrapolation of the missing data; iv) figures that have been adjusted for unrecorded flows estimated in the same way as above except that there were based on the extrapolation procedure described in appendix A; and v) figures that have been adjusted

for unrecorded flows estimated on the basis of autoregressive time series analyses using the procedure described in appendix A.

In all these cases, a special effort was devoted to making certain that the statistical methods used to reconstruct these series would be such as to ensure that if favourable results were obtained, they would be due to a well-conceived specification of the model rather than to interferences from the process of constructing the series itself. The methods described in the preceding paragraph meet this requirement, and if any comment might be made in this respect, it is that, since they do not include subjective elements, their results will almost certainly be less satisfactory than those which could be obtained using the same model if complete statistical information were available.

In view of all the foregoing, the fact should be stressed that the empirical evaluation's main purpose is to establish the model's general validity and the degree of significance of the different explanatory variables so that conclusions can be reached which will contribute to the formulation of economic policies in general and external-sector policies in particular; these empirical estimates can in no way be characterized as predictive tools, however, because the coefficients will have been derived from data that are not sufficiently precise, although they do suffice to indicate general trends.

b) *Adjusting the balances on current account*

All that need be done to measure the "balance on current account" variable is to correct the official current account figures using the flows of privately held foreign exchange. In both cases, the way in which transactions go unrecorded in the official system deserves special attention, because it may be that capital inflows and outflows take place through the current account or that only outflows are channelled through this account while inflows are recorded on the capital account.

c) *Generalization of the concept of effective yields*

It was quite difficult to quantify the "differentials in effective yields" variable. Almost no information is available on interest rates, since most of the countries with regulated interest rates have no information concerning the interest rates on non-institutionalized markets and, what is more, do not even publish statistical series on the regulated rates. However, with the assistance of the central banks of the region, it was possible to reconstruct this information for some countries.[21] In those cases where this information could not be obtained the rate of inflation was used as the variable for the rate of return on domestic financial assets.[22]

The only point that need be underscored with respect to this variable is that it is a simplification of reality whose purpose is to provide an uncomplicated means of representing how a wide range of domestic investment options compares with a wide range of foreign investment options.

d) *Quantification of the concept of "monetary imbalances"*

The quantification of the "monetary imbalances" variable does not present any major problems from the standpoint of the availability of data (monetary data are generally the most highly refined information in almost all the countries of the region). Difficulties do arise, however, because of the lack of consistent estimates of "the demand for money", since preparing such estimates for the countries in question would, in some cases, entail an entire research project in its own right. In addition, since one of the main explanatory variables of the demand for money is the interest rate structure, we once

again encounter difficulties in connection with the lack of information on these rates. In the particular case of this study, estimates of monetary imbalances were prepared for Argentina and Guatemala, and experiments will be conducted with respect to Brazil and Chile. As is customary, the figures on monetary imbalances were converted to dollars so that they could be compared with the balance-of-payments figures. The adjustments for the balance on current account were made using the figures derived from the analysis discussed in the preceding section.

e) *Official and private capital movements*

The definition of non-compensatory capital movements includes the flows set in motion by the official sector (with the exception of the monetary authorities) and private-sector flows. Although the situation may differ from country to country, it seems reasonable to expect that these two sectors will not behave in exactly the same way, since their actions are taken in response to different, and sometimes contradictory, incentives. For example, in some countries of the region, public-sector institutions often use external credit as a way of sidestepping budgetary controls; in such cases, the profitability of the operation is of little importance to them. If the above is true, then the coefficients of the variables will differ substantially depending on whether the evaluation is based on the data concerning private flows or on the data concerning total non-compensatory flows; an aggregate treatment will therefore tend to lower the quality of the evaluation. For this reason, it was important to try to conduct a separate evaluation for each of these flows, the assumption being that all foreign exchange holdings abroad correspond to either the private sector or the public monetary sector.

f) *Other considerations*

The remaining variables have already been described in the preceding section and, generally speaking, their quantification did not present any major difficulty. For example, the case presented by Brazil's use of a swap policy is similar to that of Argentina. This variable would clearly have been a very important factor in rounding out the explanation of Brazil's experience; the necessary information could not be obtained, however, so this variable had to be left out of the study at this stage. In regard to the transfers made to the countries hit by earthquakes, it was impossible to obtain statistics indicating how much of the aid was in the form of direct transfers and how much was in the form of loan renewals.

5. *Assessment of the empirical results*

The various results of the empirical evaluations of Argentina (on a quarterly basis) [23] and Brazil, Chile and Guatemala (on an annual basis) are presented in this section. Unfortunately, the results for the various cases are not entirely comparable; the difficulties encountered in obtaining data, together with the vast amount of work that would have been required to conduct a complete empirical evaluation for all the countries,[24] made it necessary to select those cases in which complex procedures had to be applied and to separate them from those in which a less detailed assessment was to be conducted.

The model has been applied on a complete basis in the cases of Guatemala (an example of an economy which is almost entirely free of restrictions) and Argentina, on a quarterly basis (an example of an economy in which restrictive exchange and financial regulations are heavily used; it is also an interesting case because of the frequency with which its economic policies have been modified, thus providing an opportunity to test the

validity of the model's assumptions under changing circumstances). A less complete assessment was conducted on an annual basis for Brazil and Chile.

In all these cases, the evaluation was done first on the basis of unadjusted figures on capital movements and then on the basis of adjusted figures.[25] The evaluation also included separate analyses of total non-compensatory movements and of private movements.

a) *Unrestricted economies: The case of Guatemala*

Guatemala is an extremely interesting case to use in assessing the model described in the second part of this study. It fits the assumptions of the "monetary approach to the balance of payments" almost perfectly, in that it is a small country that is almost entirely free of restrictions on the movement of goods and capital whose exchange system is based on a fixed exchange rate. In addition, Guatemala exhibits a high degree of stability as regards its economic policies. The only distortion in its economy stems from the control of interest rates on financial markets; nonetheless, since the economy is open to the movement of goods, this distortion is not overly significant.

The main conclusions drawn from the empirical estimates are the following:

1. An adequate analysis can be conducted on the basis of official figures because private holdings abroad are very small and, due to the absence of controls, these flows are reflected in the official statistics.
2. The "monetary imbalance" variable consistently indicated that the ratio between monetary resources from domestic sources and the overall demand for money is too low. Guatemala therefore has to be a net capital importer in order to meet the economy's liquidity requirements. This persistent imbalance also exists, virtually without exception, in terms of flows (adjusted according to the current account balance), which is why, in order to correct for its incremental monetary imbalances, the country has also consistently been an importer of capital in terms of flows.[26]
3. The "non-compensatory capital movements" entry persistently shows a positive balance (inflows) with respect to both private movements and total non-compensatory movements.
4. In all cases, the model's explanatory capacity was eminently satisfactory, with all regressions yielding very high coefficients of determinations (R^2). The minimum value of this coefficient in any of the regressions was 0.90, which demonstrates how well this model fits a country with an economy like Guatemala's.
5. The dependent variable and most of the independent variables exhibited a strong element of trend, which was not eliminated when the calculations were conducted in real terms. This made it necessary to include another variable to isolate the influence of this trend. Incorporating this variable allowed those policy variables having an influence on capital movements to be more clearly identified.
6. The "pure simple combined model" yielded highly satisfactory results in relation to both total non-compensatory capital movements and private capital movements. These regressions are summarized by the following equations:

$$\underset{}{GCAT} = \underset{}{-13.56} \underset{(-2.14)}{-0.387\ GDEM^*} + \underset{(1.99)}{93.91\ GRENT} + \underset{(5.83)}{0.23\ GRT} + \underset{(2.14)}{1.94\ t}$$

$$R^2 = 0.97 \qquad D.W^* = 2.32$$

$$\underset{}{GCPT} = \underset{}{-11.62} \underset{(-1.87)}{-0.27\ GDEM^*} + \underset{(1.70)}{78.79\ GRENT} + \underset{(6.12)}{0.248\ GRT} + \underset{(1.54)}{1.36\ t}$$

$R^{2*} = 0.97$ D.W* = 2.42

Where

GCAT = Total non-compensatory capital movements for Guatemala, including the "errors and omissions" entry.
GDEM* = "Adjusted monetary imbalance", were flows = Δ total credit − Δ estimated demand for money, + the balance on current account.
GRENT = Differential between the effective yields of Guatemalan financial assets and of external assets.
GRT = Unadjusted total gross reserves.
t = Variable representing the trend.
GCPT = Private capital movements, adjusted for the "errors and omissions" entry.

7. These results corroborate the overall validity of the model in question as well as the fact that the simplified version of the combined model is well suited to a simple economy that is free of restrictions. The sign of all the coefficients was as expected and the ranking of the different variables' coefficients of significance matched the ranking indicated by the model.
8. The variable with the highest level of significance was "total gross reserves", which represents the level of risk associated with external operations with Guatemala. This high degree of significance stems from the close simple correlation (0.95) shown by the two variables, which tends to obscure some of the other functional relationships (actually, all the independent variables had close simple correlations with the dependent variable).
   Such a close simple correlation raises a question as to the possible presence of an autocorrelation between the two variables, particularly when it arises in association with a relatively high Dursin-Watson coefficient. Theoretically, the possibility of there being an autocorrelation between the "total gross reserves" variable (a static stock concept) and the "capital movements" variable (a flow concept) is remote, but cannot be ruled out. A monetary imbalance simultaneously affects capital movements and the current account, and hence the flow of reserves. Although in most countries there is virtually no direct relationship between the level of reserves and the flow of capital (resulting from this process), it is possible to construct a case in which capital flows generate a series of total reserve levels that are closely related to the series of flows.
   In theory, the use of the lagging "total gross reserves" variable would disrupt any theoretical relationship between the two variables. Nonetheless, although its inclusion in the case of Guatemala lowered the significance of the Dursin-Watson coefficients, the coefficient for the simple correlation between the two variables remained extremely high (0.94). At the same time, the overall results of the empirical evaluation, using the lagging GRT variable, continued to be very satisfactory indeed, although the relative importance of the "monetary imbalance" and "differentials in effective yields" variables was the reverse of what it was in the results described in paragraph 6.
9. The "adjusted monetary imbalance" variable exhibited a high degree of significance in the empirical evaluations of private capital movements and of total non-compensatory movements. This result corroborates the model's overall validity and its particular applicability to economies free of restrictions.

10. The existence of this close relationship between monetary imbalances and capital movements can be confirmed by ascertaining the empirical relationship between the residuals of both variables and their respective trends; the results of this relationship yielded the correct signs, a high degree of significance and a simple correlation coefficient of 0.45.
11. After the initial evaluation, it seemed somewhat surprising that the "monetary imbalance" variable's coefficients were more significant with respect to non-compensatory capital movements than they were for private capital movements. These results are logical, however, if the public sector is actively seeking funds on international capital markets. When examining private flows in such a case, the concept of monetary imbalances should perhaps also be adjusted to include the authorities' capital inflows (non-compensatory, with monetary effects) inasmuch as a portion of the original imbalance is covered by such capital inflows.
12. The coefficients of the "differentials in effective yields" variable were of the correct sign and were significant, and did not vary a great deal when the definition was switched from that of total non-compensatory capital movements to that of private capital movements. These results are consistent with the theoretical model because, although Guatemala's economy is open to capital movements, its interest rates regulations modify the hypotheses of the pure model.[27] Under these circumstances, differentials in effective yields can be expected to play an important role in accounting for capital movements, although they may be a less important factor than the "monetary imbalance" variable.
13. The "restrictions" variable is entirely irrelevant in the case of Guatemala since its economy is free of such restrictions.
14. The "current account" variable yielded highly significant results when dealt with separately, and the coefficients' signs were opposite to those of capital movements; this result suggests that non-compensatory capital movements offset current account imbalances, thereby ensuring that such movements are actually transfers of real resources. The stability of Guatemala's economic policy, together with a wise management and adequate level of reserves, allows the country to maintain a continuing imbalance on current account that is financed by capital inflows without occasioning a loss of international confidence. However, the inclusion of the current account as an independent variable caused the "monetary imbalance" variable to become less relevant, since it is impossible to distinguish its direct effect on capital movements from the indirect effects it has via the current account.
15. The coefficients' significance was initially affected by the simultaneous presence of autocorrelation and multicolinearity in the results of the empirical evaluations. These phenomena, which are quite common in analyses of economic series, made it impossible to be entirely certain of the accuracy of each coefficient. Nevertheless, in view of the high level of the correlation coefficients and the high degree of significance of each coefficient, it was very unlikely that these problems would invalidate the overall conclusions described in previous paragraphs.

    To solve the problem of autocorrelation, the information was reprocessed on the basis of statistical methods that were specifically designed to resolve this difficulty. This increased the significance of all the coefficients, thereby corroborating all the original conclusions and confirming the model's applicability to the case of Guatemala.

    The problems of multicolinearity posed greater difficulties due to the lack of a programme for correcting them. Under these circumstances, the only possible procedure was to undertake all the evaluations on the basis of first differences; this

Table 1

GUATEMALA: CAPITAL MOVEMENTS, 1958-1976

Dependent variable	*Constant*	*GDEM*	*GRENT*	*GRT*	*GRT−1*	*t*	*GCC*	R^{2*}	*DW*
	13.56	-0.387[a]	93.92	0.231		1.943		0.97	2.33
Non-compensa-	(-2.14)	(-4.41)	(1.99)	(5.83)		(2.14)			(adjusted)
tory capital	-24.46	0.376	120.41	0.376		1.844	-0.439	0.96	1.99
movements	(-3.55)	(-0.69)	(2.61)	(8.70)		(2.00)	(-3.53)		
Total	-34.80	-0.135[a]	182.25		0.516	2.99		0.90	2.39
	(-2.65)	(-0.92)	(2.18)		(4.75)	(1.67)			
	-11.62	-0.27[a]	78.79	0.248		1.36			
	(-1.88)	(-3.05)	(1.70)	(6.12)		(1.54)		0.97	2.42
Private									(adjusted)
capital	25.03	0.081	125.52	0.384		1.836	-0.448	0.96	2.06
movements	(-3.38)	(0.62)	(2.65)	(6.90)		(1.98)	(-3.09)		
	-31.71	-0.190[a]	165.92		0.467	2.74		0.91	2.33
	(-2.46)	(-1.90)	(2.04)	(-4.09)	(-4.09)	(1.60)			

[a]Coefficients in which the GDEM variable was adjusted according to current account balances.

procedure solved the problems of multicolinearity, but it generally requires extremely close behavioural relationships if it is to yield adequate results. The results of using this procedure in the case of Guatemala can be described as highly satisfactory:

$$\Delta\ GCAT = -1.16 - \underset{(-0.10)}{0.318}\ \Delta\ GDEM^{*} + \underset{(1.50)}{155.26}\ \Delta\ GRENT + \underset{(1.59)}{0.17}\ \Delta\ GRT$$

$$R^{2*} = 0.58$$

All the signs are correct and the various coefficients' relative order of significance matches the order indicated by the theoretical model; moreover, the coefficients' relative stability when working with first differences corroborates the validity of the results of the model in its original version.

16. The picture ultimately created by these results, from a long-term viewpoint, is that of a wisely-managed economy in which credit almost always expands more slowly than does the economy's overall demand for money. The economy's liquidity shortages are therefore covered by issuances based on increases in reserves. since, at the same time, the current account consistently shows a deficit, capital inflows have to offset those deficits and cover liquidity shortages. The use of external savings allowed the country to grow more rapidly than would have been possible if only domestic savings had been used; moreover, domestic saving is held back by domestic regulations on interest rates, thus forcing the authorities to resort to more external borrowing than would be necessary if they had an appropriate interest rate policy.
17. The standard error of estimate, despite the fact that it is the smallest yet achieved in any of the empirical evaluations, is still too large for the estimated functions to be used for purposes of prediction. The main regressions are summarized in table 1.

b) *Economies in which restrictions are common: The case of Argentina*

Argentina is one of the South American countries which has made the most use of restrictions and regulations, not only in exchange markets, but also in financial, labour, capital and other markets. Another important feature of the Argentine economy is its lack of stability with respect to economic policy, which change with remarkable frequency: at times, controls have been all but completely eliminated (primarily exchange and price controls) while during other periods, controls have been applied to virtually all spheres of the economy. These two characteristics make Argentina an ideal choice for testing the model's validity empirically and for ascertaining its explanatory capacity in regard to continually changing economies which are far removed from the assumptions made in the simple model.

Quarterly estimates relating to Argentina were prepared on the basis of four different series for non-compensatory capital movements. The first was based on balance-of-payments figures that had not been adjusted in any way; the second was constructed by adjusting those figures for the "errors and omissions" entry; the third involved adjusting the figures in order to take unrecorded private flows into account based on the reconstruction of series on deposits outside the country using linear methods; in the fourth, the figures were adjusted to reflect unrecorded capital movements based on figures for private holdings of internationally liquid assets obtained by reconstructing series using autoregressive time series analyses.

The main conclusions drawn from these evaluations are the following:

i) *Unadjusted capital movements*

The quarterly regressions in which the figures on non-compensatory capital movements were taken directly from the balance of payments and used as a dependent variable yielded very poor results, even when the model was adapted to take the features of the Argentine economy into consideration.

ii) *Capital movements adjusted for the "errors and omissions" entry*

Quite satisfactory results can be attained by adjusting the figures to take the "errors" entry into account. The best results for this definition were obtained in regard to private capital movements that had been adjusted for "errors and omissions" in the evaluation covering the period from 1968 (second quarter) to 1977 (fourth quarter). The best specification was supplied by the following equation:

$$\begin{aligned} ARCA2 = &- 123.56 + 91.65\ ARRENT + 0.147\ ARRT - 0.021\ ARDM - \\ &\quad (-2.09) \quad (1.116) \qquad\qquad (3.95) \qquad\quad (-0.92) \\ &- 1012.32\ ARS + 82.35\ ARREST - 0.208\ ARCC - 383.88\ ARD1 + \\ &\quad (-2.34) \qquad\quad (1.04) \qquad\quad (-2.01) \qquad\quad (-3.91) \\ &+ 452.54\ ARD2 \\ &\quad (3.37) \end{aligned}$$

$R^{*2} = 0.76 \qquad D.W = 1.79$

Where:

ARCA2 = Non-compensatory capital movements according to the balance of payments, adjusted for "errors and omissions".

AED1 and AED2 = Dummy variables designed to eliminate two atypical observations.

ARS	=	The rate of return on a financial swap operation.
ARREST	=	A variable representing the intensity of the use of restrictions.
ARCC	=	Balance on current account according to the balance of payments.

The rest of the variables have the same meaning as in the case of Guatemala, except that the letters AR, which identify the country in question, are substituted for the letter G.

The following conclusions can be drawn from these results:

1. All the coefficients are of the expected sign, with the sole exception of the "restrictions" variable. The fact that this variable has a positive sign means that the greater the restrictions on capital movements, the greater the outflow of such movements and vice versa; in other words, the effects produced by restrictions are diametrically opposed to the objectives of such measures. This conclusion is not surprising in itself (and, actually, it was to be expected, as noted in the section where the model is described) but it could not be assumed beforehand that, with an adequate specification of the model, the coefficient's sign might not tend to change so as to show the pure effects on capital movements of the "illegitimacy" resulting from such controls. A complete specification of the model should make it possible to isolate the measure's direct effects (restriction) from its indirect effects (parallel markets, etc.).

2. The main explanatory variable was the level of reserves, which should not be surprising in the case of a country whose economic policy is so changeable. Generally, this level reflects the degree of political stability and therefore measures the level of risk.

3. The "differentials in effective yields" variable's relative lack of significance was surprising, but it may have been due to the effect of regulations and to the hidden forms taken by capital movements. A more complete adjustment of the figures should improve the results considerably.

4. The variable for the rate of return on financial swap operations had a high degree of significance, which can be accounted for by the huge profits made on such operations. Assuming that all swap operations were recorded, it should come as no surprise that this variable yielded good results, even when unadjusted figures were used. This is a typical case in which the original model must be adapted to the characteristics and individual features of a country.

5. The significance of the "monetary imbalance" variable was of an acceptable level, and the balances on current account indicated that capital movements play a compensatory role with regard to those balances (also a result of the obligation to finance imports, in that this financing is necessarily recorded on the balance of payments).

iii) *Private capital movements adjusted for flows in private holdings calculated on the basis of an autoregressive time series analysis*

Using an autoregressive time series analysis in order to reconstruct the series on private holdings of assets that are liquid on international financial markets made it possible to adjust the official figures in a more comprehensive manner than that described in the preceding section.[28] The improved specification based on these figures for the period from 1968 (second quarter) to 1977 (fourth quarter) was performed using the following equation:

$$\begin{aligned} ARCA3 = &- \underset{(-2.25)}{110.66} + \underset{(5.87)}{161.53}\ ARRENT + \underset{(4.53)}{0.124}\ ARRT - \underset{(-1.49)}{0.039}\ ARDM^{*} - \\ &- \underset{(-4.65)}{1637.2}\ ARS + \underset{(1.18)}{78.14}\ ARREST + \underset{(-7.90)}{635.46}\ D_1 + \underset{(4.77)}{506.07}\ D_2 \end{aligned}$$

$R^{*2} = 0.89$ D.W = 2.43

Where:

ARCA3	=	Non-compensatory capital movements adjusted for flows of private holdings (estimated using an autoregressive time series analysis) and for the "errors and omissions" entry.
ARDM*	=	Monetary imbalance adjusted for the balance on current account.
ARD1 and ARD2	=	Dummy variables used to correct for two observations in which the flows could definitely not be accounted for by any type of plausible (political or economic) explanation.

The results of this evaluation were highly satisfactory and conformed completely to the model, thereby clearing up some of the doubts raised in the preceding section. The main conclusions are:

1. The coefficient of the variable representing differentials in effective yields showed a high degree of significance (5.87), which was considerably higher than the results obtained on the basis of official figures for capital movements that had been adjusted for errors and omissions. The fact that the coefficient increased in significance after adjusting the official figures in order to take unrecorded capital movements into account confirms the importance of the structures of the rates of return on different assets as a factor in the generation of capital movements and bears witness to the ineffectiveness of controls on capital movements as a means of counteracting the effects of economic incentives or disincentives. Controls only change the forms taken by capital movements, which are nonetheless carried out through such means as over-invoicing, under-invoicing, advancing and delaying current transactions, etc. The improvement in the coefficients' significance also attests to the adequacy of the estimates of unrecorded flows (the basis on which the official figures were adjusted) which were based on the available information concerning private holdings of internationally liquid assets.

2. The significance of the "differentials in effective yields" variable was increased not only by adjusting the figures on capital movements, but also because of the improvement of the specification of the estimative function. This made it possible to distinguish between flows brought on by special measures (swap operations, regulations affecting import financing, etc.) and subsequent flows (usually outflows) brought on by differences in the rates of return on domestic versus external assets (in the simple direct regression between the "adjusted capital movements" variable and the variable representing differentials in effective yields, the coefficient was considerably less significant than in the regression in question).

3. The variable representing risk (level of reserves) maintained a high level of significance (4.53), but its importance diminished slightly when the figures on capital movements were adjusted and the specification of the function was improved. The use of this variable, which was lagged by one period, did not have too great an effect on the regression results; it merely reduced the reserves variable's significance slightly, while slightly increasing that of the variables measuring the impact of effective yields and swap operations. The multicolinearity test was also improved slightly.

4. The "monetary imbalance" variable retained its relative importance in accounting for capital movements, but it was much less important than the effect of the distortions caused by other economic policy measures. At no time did this variable have the explanatory capacity which it has in connection with open economies that are free of restrictions.

5. The effect of the swap policy described in the preceding section can be even more clearly identified by adjusting the figures to take unrecorded movements into account; when this was done, this variable's significance increased (-4.65). In conjunction with the increase in the explanatory capacity of the variable representing effective yields, this fact furnished strong evidence of the swap policy's ineffectiveness, inasmuch as the inflows generated by the subsidies almost immediately give rise to outflows of capital through non-institutional channels; the first effect was picked up by the ARS variable, and the second was reflected by the ARRENT variable.

6. The coefficient of the variable representing the extent of restrictions in the economy, despite the fact that it was not significant at a level of 5%, consistently displayed one sign (positive), which demonstrated conclusively that these measures are counterproductive. Moreover, although this variable's coefficient dropped considerably as the specification of the function improved (which was to be expected, since the harmful effects of the restrictions were picked up by other variables), it at no time changed its sign (if it were to do so, this would indicate that the measure had achieved at least some of its objectives, even though it would still be counterproductive in an overall sense). The quantification of the measure's overall cumulative effect was improved by using a simple regression between the independent variable and the "restrictions" variable, which gave a coefficient of 379.90 with an extremely high level of significance (as shown by a "t" coefficient of 3.65). This ratio reflected the total effect of the use of restrictions and was a clear indication that its effect is negative.

7. The "current account" variable did not yield significant results when treated as an independent variable in the empirical evaluation based on adjusted data. Extreme care should be used in evaluating this result, however, because its drop in significance occurred when dummy variables were incorporated to eliminate the two atypical observations. It is possible that a new, more detailed version of the balance-of-payments figures would make it possible to find an economic explanation for these atypical observations, in which case a renewed attempt to treat this variable as an independent variable would be called for. However, when the evaluation was conducted on the basis of unadjusted figures, this variable was significant despite the use of the above-mentioned dummy variables.

8. Attempts to identify elements of seasonality in capital flows did not reveal any significant pattern.

Finally, the same calculations described above were repeated while deflating those variables which might include an element of distortion as a consequence of international inflation. Generally speaking, the results did not change greatly as regards the different variables' degrees of significance, although the level of the coefficients did, of course, change.

iv) *Non-compensatory capital movements adjusted for linearly estimated unrecorded flows*

The uncertainty associated with the figures for unrecorded capital flows obtained from the available information on private holdings of internationally liquid assets, which were estimated on the basis of an autoregressive time series analysis, made it advisable to conduct the same evaluation described in the preceding section, but this time on the basis of figures on capital movements adjusted for unrecorded flows which had been estimated using some alternative method. This section sets forth the main conclusions of this second evaluation, which was based on figures adjusted for estimated unrecorded flows arrived at by using linear extrapolations of "unreported residuals" to estimate the unknown data. The best specification of capital movements, based on these figures, was attained using the following equation:

$$\begin{aligned} ARCA4 = &- 51.07 + 195.98\ ARRENT + 0.118\ ARRT - 0.0326\ ARDM^* - \\ &\quad (-0.66) \quad (4.95) \qquad\quad (2.52) \qquad\quad (-1.57) \\ &- 2424.91\ ARS + 34.64\ ARREST + 0.025\ ARCC4 \\ &\quad (-2.77) \qquad\quad (0.31) \qquad\quad (0.19) \end{aligned}$$

$R^{*2} = 0.70 \qquad D.W = 2.05$

Where:

ARCA4 = Non-compensatory capital movements adjusted to incorporate the "errors and omissions" entry and unrecorded flows ascertained by estimating private holdings of internationally liquid assets on the basis of linear extrapolations.

ARCC4 = Balances on current account symmetrically adjusted with the above variable.

This estimate covered the period from 1970 (first quarter) to 1976 (third quarter) and did not involve any adjustment for atypical observations since none occurred during the period under analysis.

There is little to add in this connection, since this result corroborated all the conclusions presented in the preceding section.

c) *The case of Brazil: Main conclusions*

The empirical evaluation of Brazil's experience with international capital movements was, during the first stages of this study, conducted on the basis of annual data. The results of this assessment were generally satisfactory with respect to coefficients of determination (nearly 97%), but they cannot be regarded as totally satisfactory as regards either the prediction error (high, but not higher than for Argentina) or the applicability of the model on which this study is based.

One of the difficulties involved in the specification of the model stemmed from the lack of data for the quantification of some of the basic variables, Specifically, it proved impossible to obtain complete imformation on interest rates, the demand for money and regulations governing financial swaps. These variables should seemingly play a fundamental role in the model's specification in the case of Brazil which, like Argentina, has used controls and regulations a great deal.

The best specifications for the different definitions of capital movements can be summarized as follows:

The main conclusions to be drawn from these results are the following:

1. The model yielded satisfactory results for all the alternative definitions of capital movements; however, adjusting the original balance-of-payments figures to take unrecorded movements into account did not improve the results substantially. The fact that the adjustments were made solely on the basis of private holdings in United States markets might account for this lack of improvement. Nonetheless, this factor could not be overly significant in an evaluation based on annual observations covering the period 1958-1973, during which time the United States capital market was by far the most important such market.

2. Almost all the explanatory variables included in this summary exhibited the expected signs and a level of significance that was consistent with the results for Argentina, with the exception of the variable representing the rate of return on different

Table 2

BRAZIL: INTERNATIONAL CAPITAL MOVEMENTS, 1958-1973

(Annual observations)

	Constant	*Rate of return*	*Level of restrictions*	*Reserves*	*Current account + flow*	*GDP*	R^2	*RW*
Total capital + errors and omissions − flows	-220.721	-3.756	271.196	0.3047	-0.5215		0.97	2.08
	(-1.28)	(-0.02)	(1.10)	(7.60)	(-1.5)			
Private capital − flow	-250.78	-49.321	376.51	0.3221	-0.4623		0.97	2.03
	(-1.33)	(-0.22)	(1.24)	(7.93)	(-3.96)			
Private capital + errors and omissions − flow	-540.95	-114.61	233.53	0.2774	-0.401	0.0132	0.97	2.24
	(-1.73)	(-0.50)	(0.78)	(4.74)	(-3.16)	(1.16)		

assets; not only was this variable of little significance, but it even yielded the opposite sign. It is very unlikely that this result reflects the actual behaviour of Brazil's economic agents, and the explanation for this anomaly must therefore be the incomplete specification of the model and, probably, the dearth of information on interest rates. This conclusion seems to be borne out by the researchers' experience with the empirical evaluation of Argentina, whose initial results also ran counter to what had been expected as regards the "differentials in effective yields" variable; however, as the specification of the model progressed, this proved to be the main explanatory variable. Briefly, the reason for this is that, without a good estimate of the demand for money, it is impossible to arrive at a correct definition of the "monetary imbalance" variable, and the effects of this variable's behaviour are therefore distributed among the other variables.

It is also known that Brazil used a swap policy similar to that used in Argentina, but this factor could not be included in the empirical evaluation, as was done in the case of Argentina, because the relevant information could not be obtained. The inclusion of this variable should have a decisive impact on the coefficient of the "rate of return" variable because it clearly separates the inflows generated by the implicit subsidy in the swap policy from the capital outflows occasioned by the low rate of return on domestic assets.

3. As was also true in the case of Argentina, the "restrictions" variable showed an incorrect sign in the case of Brazil; this bears witness to the ineffectiveness of such controls in regulating capital outflows and to their indirect negative effects.

4. The major explanatory variable in this evaluation was the level of reserves. The results were not changed by using this variable with a one- or two-period lag.

5. The results tended to be worse when the "errors and omissions" account was incorporated into the concept of non-compensatory capital flows. This was a little surprising, and may have been due to the incomplete specification of the model.

6. The evaluations relating to private capital movements also yielded good results with respect to coefficients of determination and the standard error of estimate. Nonetheless, the above-mentioned problems persisted.

7. In the specific case of Brazil, a new variable (the GDP) was incorporated in an attempt to reflect the rate of return on direct investments. The results showed the correct sign, but the "t" coefficient was not significant at a level of 5%. However, adjusting the

current account to exclude direct investments substantially improved the results by increasing their significance.

8. The lack of a good function for the demand for money prevented the quantification of the monetary imbalance variable, and it was therefore not included in the empirical evaluation.

In short, although the results generally yielded high coefficients of determination, they cannot be regarded as entirely satisfactory for the purposes of this study. It is clear that this portion of the study requires a more thorough treatment, which was not possible at this stage due to difficulties in obtaining the basic data. However, the experience acquired in evaluating the Argentine situation provides grounds for a great deal of optimism with respect to the possibility of achieving a better specification of the model in the case of Brazil once the variables reflecting the importance of "rates of return", "monetary imbalances" and "swaps" have been correctly quantified. A high priority should be assigned to their quantification in any future revision of this study.

d) *The case of Chile: Main conclusions*

As in the case of Brazil, the evaluation of Chile was conducted on the basis of annual data on private capital. In this case as well, difficulties were encountered in obtaining basic information that was absolutely necessary in order to take into consideration the peculiar features of an economy such as Chile's, in which restrictions and regulations have been used a great deal.

Unlike the case of Argentina and, to some extent, that of Brazil, the results cannot be considered as satisfactory; this conclusion is based on the factors discussed below.

Although the results of the regressions based on unadjusted annual data exhibited high coefficients of determination (0.90), the signs of some coefficients and the level of significance of others do not appear to be reasonable in light of economic theory in general and the model used in this study in particular. The following ratio provides an example of these factors:

$$\begin{array}{lcccccccc} CHCA1 = & 356.52 & - & 41.364\ CHRENT & + & 839.84\ CHREST & - & 0.222\ CHRT & + \\ & (1.82) & & (-9.41) & & (3.23) & & (0.81) & \end{array}$$

$$+\ 0.3842\ CHCC$$
$$(1.50)$$

$$R^{*2} = 0.90 \qquad D.W = 1.92$$

In this ratio, the "differences in effective yields" variable (CHRENT) is highly significant, but has the opposite sign from what would be expected; the "reserves" variable (CHRT) does not have a significant coefficient; the "current account" variable (CHCC) also has the opposite sign from was obtained for the other countries, which would indicate that capital movements are magnifying current account imbalances.

The only variable for which the results were consistent with the model was the "restrictions" variable, which yielded a highly significant coefficient running counter to these restrictions' objectives, thereby demonstrating their negative effects.

Clearly, the above results could only be due to a poor specification of the model, which was in turn due to difficulties in obtaining information. It would seem impossible for economic agents (which, in other studies, have been shown to act on a highly rational economic basis) to act so irrationally when external financial assets are included among the investments options.

This conclusion was reinforeced when the evaluation was conducted on the basis of figures adjusted for private holdings of internationally liquid assets in United States markets and for the "errors and omissions" entry. These adjustments reduced the model's explanatory capacity considerably ($R^2 = 0.375$), but also corrected the coefficients in the expected direction, although the correction was not enough to overturn the conclusions set forth in the preceding paragraph. The best specification was given by the following equation:

$$\begin{aligned} CHCA5 = &- 45.537 - 1.4726\ CHRENT + 237.57\ CHREST + 0.2544\ CHRT - \\ &(-0.30) \quad (-0.50) \qquad\qquad (1.17) \qquad\qquad (1.18) \\ &- 0.3709\ CHCC \\ &(1.87) \end{aligned}$$

$$R^{*2} = 0.375 \qquad D.W = 2.59$$

In this case, the variable representing the rate of return continued to have the opposite sign from what would be expected, but its coefficient was not significant; the variable representing risk (reserves) yielded an improved "t" coefficient, but was still not significant.

These results, albeit unsatisfactory, show that an adequate specification of behavioural relationships is possible once the figures have been completely adjusted, i.e., once the deposits made by private individuals in other markets have been taken into account and, above all, once variables have been included which adequately reflect monetary imbalances, special arrangements with respect to capital movements and differentials in effective yields. This work should also be given a high priority if a revised version of this study is prepared at some future date.

IV
Summary and conclusions

The objective of this study is to carry out both a theoretical and an empirical evaluation of international capital movements from and towards Latin America in order to identify the economic policy variables which influence such movements. A final aim is to draw conclusions with respect to economic policy that would enable the countries of the region to improve the way in which they handle external-sector variables.

In this respect, this study is part of a group of studies carried out under the same project, which is jointly sponsored by UNDP and ECLAC, in order to evaluate current account trends and external debt problems in the region.

This analysis concentrates on evaluating non-compensatory capital movements because they fluctuate the most and are the movements which are most frequently beyond the direct control of economic authorities. Despite the fact that non-compensatory movements account for the largest volume of capital movements involving the region, little is known about them and the studies which have been conducted on this subject focus primarily on institutional aspects.

The model used for the theoretical and empirical assessments contained in this study is the product of recent theoretical advances made in this field on the basis of the models for portfolio selection under risk conditions and what is called the "monetary approach to the balance of payments". These simple models, however, are not sufficient

in themselves to reflect the complex economic experiences of the countries of the region, and it was therefore necessary to modify them in order to incorporate variables that take the individual features of the different countries into consideration.

One of the most serious problems encountered in conducting the empirical evaluation contained in this study was that the official data concerning capital movements do not adequately reflect such flows in many countries. This is because economic agents' response to exchange systems which regulate and attempt to prevent capital inflows and outflows is to seek alternative forms and channels to serve their purposes, and they generally succeed in doing so. Unrecorded capital flows can be of such a magnitude that they entirely change the official figures and, in such cases, an empirical evaluation based on such figures becomes pointless.

Unrecorded capital movements often take the form of fictitious operations under headings included in the current account. The widespread practice of under-invoicing exports and over-invoicing imports also suggests that official current account figures are not a reliable basis for empirical evaluations of capital movements or the current account.

One way of estimating unrecorded capital movements is to evaluate private holdings of internationally liquid assets, inasmuch as their variations, when exchange restrictions are in effect, can be regarded as a reflection of such unrecorded movements.

Complete information is not available on private-sector holdings of internationally liquid assets but, fortunately, the information available on non-residents' deposits in the various international financial markets is increasing day by day. Based on existing statistics, it was possible to estimate the data that were not available and to construct series on unrecorded flows. These estimates, along with a description of the statistical procedures used to arrive at them, are included in appendix A.

The improvements in the empirical results which were achieved by adjusting the official figures according to these estimates of unrecorded flows tend to confirm the validity of the methods used to reconstruct these series and provide reason to believe that they reflect the magnitude and direction of unrecorded capital movements with some degree of reliability.

The results obtained in connection with Guatemala and Argentina were highly satisfactory and demonstrate the model's overall explanatory validity; however, the results and especially the coefficients obtained from the various regressions should be used with extreme care because the accuracy of the data is uncertain. In addition, it should be stressed that, in their present form, the results cannot be used for purposes of prediction because of the high standard error of estimate.

In any event, the results were sufficiently significant to lead to some general conclusions with respect to economic policy which are essential to a proper management of the external sector. These conclusions are set forth below:

a) It is essential for exchange and capital markets to function well if the external sector is to be managed efficiently and if capital movements are to be guided in the desired direction.

b) Monetary and credit policy is an extremely important element in the management of the external sector. The creation of more domestic credit than what is called for by the incremental demand for money will affect capital movements and the current account is such a way as to have a negative impact on the balance of payments. Nonetheless, such a monetary imbalance will usually tend to be channelled more rapidly through capital markets (through the purchase of foreign exchange and the interest rate of the country in question) than through the current account. In countries with open economies and fixed exchange rates, this variable was the most significant factor in accounting for capital movements.

c) The elasticity of capital flows' response to changes in the differentials between the effective yields of domestic and external assets seems to be very great, and significant results can therefore be obtained with only small modifications in this variable. Likewise, any regulation that tends to lower the rates of return on domestic assets will tend to have a strong impact on the external sector. A brief examination of the financial policies of the countries in the region suggests that these policies, together with monetary imbalances, are perhaps the main causes of the external-sector problems faced by the countries of the region during the period in question.

However, the fact that this variable is very elastic does not mean that the problems of the external sector can be easily resolved by subsidizing capital inflows, particularly if such subsidies are accompanied by inconsistent monetary policies and controls on capital movements, along with the parallel markets to which they give rise. An important lesson may be learned from Argentina's experience with the use of such subsidies. These subsidies did indeed attract external capital but, since they were applied at a time of excessive liquidity when enormous profits were to be made on unrecorded capital operations, the overall net effects of this measure were negative. The authorities therefore did not obtain foreign exchange, but still had to bear the net financial losses resulting from those subsidies.

d) In those cases where the authorities wish to control capital movements, either to encourage their inflow or to prevent their outflow, such control should preferably not be direct, but should rather be accomplished through the use of incentives and disincentives (such as interest rates or high returns on capital) or global economic policy tools (such as credit and exchange policies). Since money is a commodity which is difficult to control, direct controls tend to produce results that are diametrically opposed to their objectives. Although direct controls may act as a deterrent to some extent (due to the illegal nature of unrecorded movements), their use leads to the immediate formation of marginal markets which provide incentives for obtaining "cheap" foreign exchange at the official price, thus giving rise to a greater outflow of capital than the controls were intended to prevent; the results of the empirical evaluation are conclusive in this respect. Furthermore, the use of restrictions hardens the attitudes taken on capital markets towards the country in which they are applied.

e) Finally, international reserves, current account balances and the external debt must be maintained at adequate levels if the external sector is to be well managed. In this respect, it is important to consider the methods used to analyse a country's external sector by the entities which make up international capital markets, particularly as regards their repercussions on capital flows. The international banking system clearly takes a favourable view of the extension of credit to countries in a sound reserves and current account position and even exerts pressure to this end. Under such circumstances, however, what is the use of receiving capital inflows that would not represent a transfer of real resources but would only tend to increase an already high level of reserves? In a case such as this, the country in question would wind up paying interest (the difference between the cost of the loan and the return on the investment of reserves) merely in order to create money within the domestic economy.

In this context, a wise policy for administering reserves and borrowing which would be in line with the other aspects of sound external-sector management that were mentioned above would be designed to attract an inflow of capital in order to finance a moderate imbalance on current account as well as a moderate (but, in so far as possible, steady) increase in international reserves. This policy should be enough to achieve more rapid economic growth —with the aid of external savings— and to maintain the external sector in a solid position.

A satisfactory level of reserves would also make it possible to deal with the cyclical fluctuations which occur in the current accounts of the countries of the region and to prevent them from giving rise to speculative capital movements. Lastly, a high level of reserves is beneficial when the marginal rate of return on capital in the country is higher than international interest rates; if it is lower, then a high level of reserves may eventually have negative effects.

These conclusions follow not only from the theoretical analysis, but also from the results of the empirical evaluations of the capital flows of various countries in the region, particularly Guatemala and Argentina. The same general conclusions emerge again and again in the evaluations of each country, despite the differences among their recent economic experiences. This fact may be regarded as verifying these conclusions' validity in spite of changing circumstances and the use of different economic systems. This study should be considered as only one step in the enormous task of evaluating capital movements; it should be expanded upon in order to include other experiences and other economies, while efforts should also be continued to achieve a better specification for the countries covered here, especially Brazil and Chile.

NOTES

[1] Although there is a tendency to associate the intensification of international capital movements with the widespread use of exchange systems based on floating exchange rates, the intensification of capital movements actually preceded the use of floating rates; it would be more correct to associate this intensification with the internationalization of capital markets, the extremely rapid expansion of Eurocurrency markets and the proliferation of offshore markets.

[2] Harry Markowitz, *Portfolio Selection: Efficient diversification of investments*, J. Wiley and Sons, New York, 1959.

[3] For a summary of the "rediscovery" of the monetary approach to the balance of payments, see R. Rhomberg and A.R. Heller, "Introductory Survey" in *The Monetary Approach to the Balance of Payments*, IMF, Washington, 1977.

[4] Cfr. Rolf Mantel, *Un modelo para la administración de las reservas internacionales*, Jornadas de Economía Monetaria y Sector Externo, Banco Central de la República Argentina, September 1978 (mimeograph).

[5] Grubel, H.G: "Internationally diversified portfolios: welfare gains and capital flows". *American Economic Review*, Vol. LVIII, No. 5, Part 1, December 1968.

[6] Branson, William H.: *Financial Capital Flows in the U.S. Balance of Payments*, North-Holland Publishing Co., Amsterdam, 1968.

Lihon, O.: *Les mouvements de capitaux a long terme entre la France et l'extérieur*, a paper presented at the Sixth Colloquium on Applied Econometrics, Rome, February 1979.

Lybeck, J.A.: *A simultaneous model of capital flows, exchange rates, interest rates and prices of trade goods: Theoretical considerations and estimations by alternative methods*, Godeborgs Universitat, Sweden, a paper presented at the Sixth Colloquium on Applied Econometrics, Rome, February 1979.

[7] See the results for Guatemala in the pertinent section.

[8] Although a detailed analysis showed that these countries' economic policies often had features in common, they also frequently have striking differences. Nevertheless, their effects on capital movements and on the extent of the restriction of financial and exchange markets are remarkably similar.

[9] Within the context of this study, consideration was also given to the possibility of analysing the experiences of countries such as Mexico (because of its proximity to a large capital market and because of the characteristics of its economy), Venezuela (because of the dual nature of its economy) and Colombia (because it represents an intermediate point between Guatemala and Argentina as regards the use of restrictions and controls). The difficulties encountered in obtaining information, as well as the intensive effort required to specify the model for Argentina on a quarterly basis, made it necessary to leave them aside at this stage in the research work, despite the fact that their analysis is essential in order to gain a more complete picture of the behaviour of capital movements under different institutional conditions.

[10] Even under a free exchange system, there may be substantial differences between real and recorded capital movements. For example, this might occur when, due to flows in the statistical information system, the accumulation of foreign exchange by exporters is recorded as a lower level of exports rather than being shown as export earnings and a subsequent capital outflow.

[11] Three alternative quarterly series have been reconstructed for Argentina in this study using methods that range from simple linear extrapolations to autoregressive time series analyses based on relatively complex statistical methods. The methods used to construct the series are described in some detail in the section entitled "Quantification of the main variables" and in much greater detail in appendix A.

[12] Although this assumption is compatible with the assumption of a small country, it is not essential and the model is not altered if the specification is based on the behaviour of external economic agents.

[13] An investor with capital "C_0" may choose to invest his capital in domestic assets at a rate of "i" or to invest it in external assets at a rate of "i" while purchasing foreign exchange at a rate of "e_0^o" and then to sell all his foreign exchange at the end of the period at a rate of "e_1^p". The differential in the yield would therefore be:

$$\frac{C_0\ (1 + i)}{(1 + \pi)} - \frac{C_0\ (1 + i^*)\ [C_1^p / C_0^o]}{(1 + \pi)}$$

Where: π = rate of inflation during the period.

[14] The main difficulty involved in carrying out this evaluation is the measurement of the intensity of the restrictions in use in each country, which is not easily quantified. The method used in this study is discussed in the section on the quantification of variables.

[15] The concept of a positive result is confined to the achievement of the measure's objective and is by no means intended to describe the measure's effects on the overall allocation of resources or the well-being of the community in general.

[16] It should be borne in mind that the existence of restrictions usually leads to the emergence of parallel markets; the exchange rates on these markets, which are higher than the official rates, are an important factor in measuring the variable corresponding to differentials in effective yields. This suggests that there is a close association between these two independent variables, with the profits in foreign currency increasing as exchange controls become stricter, thus creating incentives for capital outflows. The measure therefore has the opposite effect from what was sought.

[17] In other words, as imports rise (adversely affecting the current account), the flow of capital will also increase.

[18] Although past experience demonstrates that developing countries are net importers of recorded capital, unrecorded capital flight from these countries is sometimes greater than net inflows, which might invalidate the general argument. In addition, there have been cases where countries have completed their development process without resorting to the use of external capital. In any event, there is no question about the fact that the use of external capital is a common practice which may increase in the future and facilitate the accumulation of capital required for the development process.

[19] On the subject of private holdings of internationally liquid assets, see Carlos Massad, *Liquidez internacional total, evaluación económica y consecuencias de políticas*, IMF, August 1972; Ricardo H. Arriazu, "Conferencia en la Reserva Federal de los Estados Unidos", October 1974; Ricardo H. Arriazu, "La reforma del sistema monetario internacional desde la perspectiva de los países en desarrollo", *Revista Argentina de Finanzas*, June 1977.

[20] In a few years' time, these improvements in the available information will make it possible to conduct much more precise studies than at present.

[21] When this study was nearing completion, the IMF circulated an internal document by V. Galbis containing a complete series on regulated interest rates in the countries of the region.

[22] When interest rates are negative in real terms, the alternative to purchasing external assets is not financial investment but rather the accumulation of goods. The rest of the information needed to construct this variable (inflation rate, exchange rates on the official and parallel markets, international interest rates) is readily available.

[23] Although annual evaluations for Argentina were carried out, the results were not as good as those obtained from the quarterly regressions, and it was therefore decided to report directly upon the results of the quarterly estimates.

[24] Obtaining adequate functions for the demand for money in respect of all the countries —the basis for the definition of the "monetary imbalance" variable— and reconstructing the series on flows for the same countries based on autoregressive time series analyses would require more time than was available for this study.

[25] The annual figures were adjusted only for the flows of holdings of United States dollars because it was impossible to reconstruct statistics going back 20 years with so little reliable data. In any event, the United States market far overshadowed all the other markets during most of the period in question.

[26] The demand function which served as a basis for the quantification of the "monetary imbalance" variable corresponds to the following equation:

$$\frac{M^d}{P} = -347.85 + 0.234\ y + 917.09\ \frac{i - \pi}{1 + \pi} + 0.821\left(\frac{M}{p}\right)_{t-1} - 14.42\ t$$

(−3.69) (2.17) (3.82) (2.44) (−1.89)

$R^{2*} = 0.99$ E.T.E. $= 0.047$

Where:

Y = National income; i = Average interest rate; π = Rate of inflation.

$\left(\frac{M}{P}\right)_{t-1}$ = Holdings during the preceding period, representing the speed with which real holdings are adjusted to conform to desired holding.

t = trend.

[27] Although it is outside the scope of this study, it should be noted that, contrary to what is generally believed, the regulation of interest rates has a heavy impact even in countries such as Guatemala; the variable reflecting its effects on the function of the demand for money is highly significant and has the highest partial correlation coefficient of all the variables in this function.

[28] The variables used to arrive at these new estimates (as well as the previous ones) are listed in appendix B.

Appendix A

Methodology for reconstructing quarterly series on private holdings of internationally liquid assets based on incomplete data

The empirical evaluation of the various hypotheses that have been advanced regarding the causes of international capital movements has been hampered by the lack of official figures on such movements.

As noted at various points in the main body of this text, when economic authorities are faced with balance-of-payments difficulties, they often resort to the use of exchange restrictions as a means of preventing or hindering outflows of capital and the accumulation of external assets by residents (payments difficulties are often not the only incentive for such accumulation; a major cause can be the unprofitability of investments in domestic assets due to inappropriate regulations). Under such circumstances, economic agents use loopholes in control systems to meet their needs for external assets; inasmuch as the loopholes to be found in the various components of the current account are relatively simple and therefore the most frequently used, these capital movements are not recorded as such but instead figure as current transactions.

The only way to obtain an approximate idea of the size of these unrecorded flows is by inference from the variations they produce in private holdings of internationally liquid assets. Unfortunately, not all such holdings can be detected because some assets, such as cash and foreign currency holdings, are difficult to record, while other more easily identifiable assets, such as deposits in banks and other financial institutions, have only recently been subject to systematic recording procedures.

Although the available information is incomplete, it is worthwhile to try to systematize it in order to correct the official figures on capital flows. Not doing so would be tantamount to asserting that the level of such unrecorded flows is equivalent to zero, which is clearly not the case, and the element of error introduced into the evaluation would in any case be greater than the error involved in making corrections based on the incomplete data available.

The only relatively complete information available thus far on public and private economic agents' holdings of internationally liquid assets in external markets is provided in the bulletin published by the Bank for International Settlements in Basel which, since the fourth quarter of 1975, has been providing quite detailed information on deposits by non-residents in banks and other financial institutions in the United States, the United Kingdom, the other seven countries forming the Eurocurrency market and the offshore markets (the Bahamas, the Cayman Islands, Panama, Bermuda, Singapore, Hong Kong, etc.). These data are published quarterly and are classified according to the nationality of depositors.

Prior to that date, complete information is available only on deposits by non-residents in banks and other financial institutions in the United States; this information covers a sufficiently long period to permit its empirical evaluation. The above information is published each month in the bulletin put out by the Federal Reserve.

With respect to the Euromarket, detailed quarterly information broken down by country is available on the deposits made by non-residents in banks of the United Kingdom beginning in the fourth quarter of 1972; annual data on such deposits has been available since 1971. Besides the detailed information mentioned above, the only other data on the rest of the European markets and on offshore markets correspond to overall patterns and classifies depositors by major geographical regions in a way which does not permit their nationalities to be identified. This information is available in an exhaustive study prepared by the Bank for International Settlements in Basel which was published in early 1975; it includes quarterly descriptive series on the behaviour of each one of these markets going back to 1964.

Although it is unfortunate that complete information on non-residents' holdings of external assets does not exist, the information which is available is particularly useful for the following reasons: i) until the mid-1960s, the United States financial market was the main recipient of non-residents' funds; even in 1968, it accounted for over 40% of total deposits by non-residents; ii) the above is especially true with respect to deposits by Latin American residents, who showed a decided preference for that market (in 1968, deposits by Latin American residents represented 70% of all deposits by non-residents in the United States); iii) of all the rapidly growing Eurocurrency markets, the United Kingdom's was the main such market until the late 1960s; iv) the development of offshore markets has been the latest stage in the internationalization of financial markets and only very recently have they begun to receive deposits from Latin American residents.

For all these reasons, the available information can be said to represent the majority of identifiable (unrecorded) capital flows; in order to complete the necessary information, the only thing that need be done is therefore to reconstruct the rest of the information using statistical procedures based on the available data. Three methodologies for reconstructing homogeneous quarterly series on private holdings of internally liquid assets which were applied in the case of Argentina are described in this appendix. Table 1 shows all the available data for Argentina; the blank spaces represent the data that must be estimated on the basis of the available information.

1. *The unreported linear residuals method*

This relatively simple procedure is based on assumptions which are partially arbitrary but which have been derived from information on market performance; essentially, three stages were involved in supplying the missing data in the series on deposits made by Argentines in United Kingdom and other international markets, excluding that of the United States. These stages are discussed below:

a) *Deposits in United Kingdom banks*

To fill in the missing data on deposits made by Argentines in United Kingdom banks, the first step was to interpolate the missing data between the first quarter of 1972 and the third quarter of 1973 based on the available data for late 1971, 1972 and 1973. The simplest method is a linear interpolation using the following equation:

$$Yt = Y1 + \frac{1}{4} (Y2 - Y1) X$$

Where $X = 0, 1, 2, 3$.

Table 1

ARGENTINA: TOTAL HOLDINGS IN UNITED STATES, UNITED KINGDOM AND OFFSHORE FINANCIAL MARKETS

(Millions of dollars)

Period		*Market*		
Year	*Quarter*	*United States*	*United Kingdom*	*Other markets*
1968	I	719		
	II	719		
	III	736		
	IV	768		
1969	I	785		
	II	715		
	III	581		
	IV	489		
1970	I	486		
	II	575		
	III	568		
	IV	563		
1971	I	549		
	II	477		
	III	453		
	IV	461	227	
1972	I	532		
	II	477		
	III	539		
	IV	660	289	
1973	I	726		
	II	751		
	III	913		
	IV	962	397	
1974	I	1 030	378	
	II	1 397	399	
	III	1 133	410	
	IV	922	423	
1975	I	853	416	
	II	1 024	391	
	III	1 017	366	
	IV	1 183	378	920
1976	I	1 210	377	947
	II	1 443	373	963
	III	1 485	410	861
	IV	1 582	529	1 586
1977	I	1 932	437	1 349
	II	1 749	423	1 907
	III	2 237	587	2 433
	IV	1 508	800	2 710

Source: Bulletins issued by the Bank for International Settlements (Basel).

To fill in the data prior to the fourth quarter of 1971, the simplest method is to extrapolate the missing data by calculating a linear trend for the data in question. The calculations for the period from the first quarter of 1970 to the third quarter of 1971 was based on the following computer trend:

$$Yt = 229.168 + 17.29336\ T \qquad R_C = 0.95 \qquad E.T.E = 4\%$$

This estimate was biased by the small number of observations on which the calculation of the trend was based and by the fact that some of these observations were themselves the result of a linear estimate. However, the results obtained with this procedure appeared to be reasonable in the light of experience. This procedure also ensured that favourable results obtained from the empirical evaluation (the ultimate objective of the entire exercise) would not be due to defects in the statistical method used.

b) *Deposits in other financial markets*

Reconstructing the series on deposits by Argentines in the remaining financial markets was a more difficult undertaking. At this initial stage in the research, a simple procedure was used based on the "percentage of unreported residuals". Firstly, the percentage of total deposits by Argentines outside the country channelled to these markets was estimated for the period in which information was available; secondly, based on the information available for Latin America as a whole, the same ratio was estimated for the first quarter of 1970 and the missing data were then interpolated using a linear procedure; thirdly, the figures for total deposits in all external markets were estimated using the following expression:

$$\Sigma\ t + a. \qquad \text{Total BIS} = \text{Total BIS}$$

After cancelling out the common factor, the result was:

$$\text{Total BIS} = \frac{\Sigma\ t}{1 - a}$$

where "a" = "unreported linear residual percentage", previously estimated linearly, and $\Sigma\ t$ = the sum of deposits in United States and United Kingdom markets.

Lastly, the results were compared with the available information for Latin America in order to determine whether they were reasonable or not.

Table 2 shows the results of these estimates and a calculation of private holdings which was arrived at by deducting private holdings of external assets from total deposits by non-residents.

2. *Non-linear autoregressive methods*

This procedure is similar to the one described above, except that autoregressive methods were used to perform the extrapolations rather than linear methods. Since the results obtained using this procedure tended to produce larger errors than did the method discussed previously, these results were not used in the evaluation of capital movements.

Table 2

ESTIMATES OF PRIVATE HOLDINGS OF ASSETS BY RESIDENTS IN ARGENTINA, THE UNITED STATES AND THE UNITED KINGDOM, BASED ON A LINEAR METHOD

(Millions of dollars)

Year	*Quarter*	*United States*[a] *(1)*	*United Kingdom*[b] *(2)*	*Total (1+2)*	*Linear residual percentage*[c]	*BIS linear*[d]	*Total holdings of external assets of Argentina*[e]	*Private holdings of external assets*[f]
1970	I	450	108.11[g]	558.11[g]	0.1657[g]	668.96	302	367
	II	535	125.41[g]	660.4[g]	0.1741[g]	799.54	400	400
	III	533	142.70[g]	675.7[g]	0.1824[g]	826.44	399	427
	IV	539	160.0[g]	699.9[g]	0.1907[g]	864.82	343	522
1971	I	535	177.29[g]	712.29[g]	0.199[g]	889.25	427	643
	II	460	194.58[g]	654.58[g]	0.2073[g]	825.76	159	667
	III	433	212.0 [g]	645.0[g]	0.2156[g]	822.29	126	696
	IV	443	227	670.0	0.2240[g]	863.40	70	793
1972	I	543	242.5[g]	785.5[g]	0.2323	1 023.19	169	854
	I	461	258.0[g]	719.0[g]	0.241	947.30	59	888
	III	524	273.5[g]	797.5[g]	0.2489	1 061.78	83	979
	IV	640	289	929	0.2572	1 250.67	294	957
1973	I	695	316[g]	1 011[g]	0.2656[g]	1 376.63	411	966
	II	736	343[g]	1 079[g]	0.2739	1 486.02	585	901
	III	990	370[g]	1 270[g]	0.2822	1 769.30	996	773
	IV	926	397	1 323	0.2905	1 864.69	1 068	797
1974	I	1 013	373	1 391	0.2988	1 983.74	1 215	769
	II	1 380	399	1 779	0.3072[g]	2 567.84	1 594	974
	III	1 107	410	1 517	0.2155[g]	2 216.22	1 241	975
	IV	887	422.91	1 309.91	0.3238[g]	1 937.20	1 028	909
1975	I	823	416	1 239	0.3321[g]	1 855.10	621	1 234
	II	990	391	1 381	0.3404[g]	2 093.69	408	1 686
	III	986	365	1 351	0.3488[g]	2 074.63	177	1 898
	IV	1 151	370	1 521	0.379	2 451	247	2 204
1976	I	1 173	377	1 550	0.388	2 534	202	2 332
	II	1 398	373	1 771	0.3628	2 779.4	539	2 240
	III	1 442	420	1 862	0.3240	2 756	669	2 087
	IV	1 540	529.3	2 069.3	0.440	3 697.3	1 354	2 343

Source: Column 1: Federal Reserve and IMF; column 2: Bank of England; column 5: Bank for International Settlements; column 6: Central Bank of the Argentine Republic.

[a] Data for the end of the period. Argentine deposits in the United States.

[b] Data for the end of the period, in United States dollars. Argentine foreign-currency deposits in United Kingdom banks.

[c] Unreported linear residual percentage: The diference, expressed as a percentage, between the statistics on external assets of Argentina provided by the Bank for International Settlements (BIS) and the International Monetary Fund.

[d] During the period from the fouth quarter of 1975 to the fourth quarter of 1976, the figures represent Argentine deposits, in the main currencies, in European, Japanese, Canadian and United States banks.

[e] Gross foreign assets of the monetary authorities. Data for the end of the period.

[f] The difference between BIS linear and column 6.

[g] Estimated values.

3. *The autoregressive time series analysis method*

This procedure, which is commonly used in preparing estimates of unavailable data, is based on the identification of variables whose behaviour is closely correlated to the variable for which information is lacking; the object is to estimate the behaviour of the latter based on the available information concerning the former.

In this study, the deposits outside the country made by Argentines were estimated on the basis of the global figures for total and Latin American deposits; since the information on these major headings was also incomplete, preparing these estimates involved collecting the available information and classifying it in the manner indicated below:

External liabilities	*with* / *of*	*World total*	*Residents in Latin America*	*Residents in Argentina*
United States				
Canada				
Japan				
Offshore markets				
Euromarket	UK / 8–UK			

In this way, the unavailable information was reconstructed based on the headings for which complete figures were available for the entire period. The series at the worldwide level for those markets where the information did not cover the entire period (offshore markets) were completed first on the basis of the total figures for other markets showing similar patterns; the procedure was subsequently used in connection with the information for Latin America and was then applied to the missing data in the series on Argentina. If the available data on Latin America had been complete, it would have not been necessary to reconstruct so many series.

The data were extrapolated by using the method of generalized least squares and by applying autoregressive procedures.[1]

Each of the series used to prepare these estimates are discussed below.

a) *Total external liabilities of the different markets*

Virtually all the necessary information on this item was available, except with respect to offshore markets such as those of the Bahamas, the Cayman Islands, Panama, Bermuda, Singapore, Hong Kong, etc., for which the figures were available only from the fourth quarter of 1970 onwards. The figures for the period prior to that were extrapolated from the available data on total external liabilities in the Canadian and Japanese markets using the following equation and the methodology discussed previously.[2]

Offshore marekts − World = − 13.3390 + 2.49346 in Canada

error = .1019
P = .4392

The information on Canada was used to calculate the data for offshore markets because that was the series most closely related to the behaviour of those markets during the period for which information was available.[3]

b) *External liabilities of the different markets in respect of Latin American residents*

The lack of one single definition for the various series corresponding to the heading of "Latin America" made it necessary to adopt such a definition and to adjust all the series to conform to it. Due to considerations relating to the availability of information from specific sources, the definition that was selected was that used in the bulletin published by the Bank of England; according to this definition, the term "Latin America" covers the following countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, Peru, Uruguay and Venezuela.

Within this subgroup, complete information is available on deposits in United States and European markets, but not on those in Canadian, Japanese and offshore markets; the partial information which does exist on these latter markets is derived from the information made available by the Bank for International Settlements. This series was therefore estimated residually, i.e., by subtracting the available information on the previous headings for the period from the fourth quarter of 1975 to the fourth quarter of 1977 from the figures of the Bank for International Settlements.

The rest of the observations were made complete by extrapolating the data based on the following expression:

$$\text{Canada} + \text{Japan} + \text{Offshore markets} = \underset{(1.83)}{867.53585} + \underset{(10.97)}{0.04236}\ \text{US (World)}$$

E.T.E. = 8.40%
P = .5632

US (World) represents the series indicating the total liabilities of United States markets in respect of non-residents.

c) *External liabilities of the different markets in respect of Argentine residents*

As noted previously, the only information available under this heading (which was the object of the entire exercise) was the data shown in table 1 of this appendix.

The following procedure was used to complete the series on external liabilities of United Kingdom banks in respect of Argentine residents (in foreign currencies):

Quarterly data from the first quarter of 1972 to the third quarter of 1973 were linearly interpolated based on the following equation:

$$Y_t = Y_1 + \frac{1}{4}(Y_2 - Y_1)\ X$$

where $X = 0, 1, 2, 3$.

The information for the period between the first quarter of 1968 and the third quarter of 1971 was extrapolated on the basis of the following equation:

$$\text{nl 8–UK(Argentina)} = \underset{(6.96)}{0.4530}\ \text{nl UK (World)} + \underset{(2.63)}{0.25708}\ \text{nl (8–UK) (LA)} - \underset{(1.99)}{1.49551}$$

E.T.E. = 7.25
P = 0.24

where nl = natural logarithm

UK(Argentina) = Liabilities of United Kingdom banks in respect of Argentine residents.
UK (World) = Total liabilities, in foreign currencies, of United Kingdom banks in respect of non-residents.
8–UK (L.America) = Liabilities of banks in the Eurocurrency market (excluding the United Kingdom), in foreign currencies, in respect of the nationals of other Latin American countries.

In this series, UK (World) was selected to represent the overall behaviour of the European foreign exchange market in London, while 8–UK (Latin America) was selected to represent the behaviour of the Latin American countries in diversifying their deposits among other financial centres of the Eurocurrency market. The analysis using the generalized least squares method made it possible to select, on the basis of the available data, the above-mentioned relationship between the series to be completed and the series for which information was available. The regression coefficients were highly significant and the standard error of estimate was not too great.

Information on the rest of the Euromarket and on Canada, Japan and offshore markets is only available from the fourth quarter of 1975 onwards; this information was obtained on the basis of the data of the Bank for International Settlements from the residual of the information available for the United States and United Kingdom markets. The figures that were lacking were extrapolated using the autoregressive time series analysis method and the following equation:

$$\text{nl}\ \left[(\text{8–UK}) + \text{Japan} + \text{Canada} + \text{Offshore markets}\right]\ (\text{Argentina}) = \underset{(3.71)}{2.95014}\ \text{nl UK (World)} + \underset{(1.93)}{0.76581}\ \text{nl (Canada + Japan + "o.S.")}\ (\text{L.America}) - \underset{(5.02)}{34.34613}$$

E.T.E. = 0.117
P = 0.0524

In this equation the best ratios were obtained by combining the overall behaviour of United Kingdom markets (scale factor) and the behaviour of Latin American depositors in Canadian, Japanese and offshore markets.[4] The fact that this combination of variables yielded the best results should be interpreted as indicating that the various depositors in the world and particularly in Latin America behave similarly in selecting their investment portfolios and in their responses to changes in expected rates of return and/or risk.

This procedure permitted a quite complete reconstruction of the information that was lacking on the behaviour of the various capital markets and of depositors throughout the world as well as those of Latin America and, particularly, of Argentina.

The final results of these calculations are shown in tables 3, 4 and 5.

However, since private holdings of internationally liquid assets was the actual object of interest for the purposes of this study (which focused on correcting the official figures on capital movements and the current account), the available information on public *foreign exchange* holdings (which can be found in such publications as the

Table 3

LIABILITIES OF THE MAIN FINANCIAL MARKETS IN RESPECT OF NON-RESIDENTS

(Data for the end of the quarter in millions of dollars)

Year	*Quarter*	*United States*	*United Kingdom*[a]	*Other European countries*[b]	*Other markets*[c]	*Total*
1968	I	35 929	16 970	20 800	7 840	81 539
	II	36 517	19 450	21 440	8 072	85 479
	III	37 899	20 510	22 630	8 356	89 395
	IV	37 053	21 810	25 530	9 056	93 449
1969	I	38 576	24 430	26 120	10 164	99 290
	II	42 519	30 200	30 940	10 701	114 360
	III	47 625	32 620	33 280	11 354	124 879
	IV	47 915	32 660	38 570	12 409	131 554
1970	I	49 524	33 550	38 970	12 978	135 022
	II	49 806	37 180	41 710	14 755	143 451
	III	50 720	37 660	44 550	15 168	148 098
	IV	51 315	40 870	53 150	16 883	162 218
1971	I	51 822	41 460	55 220	18 316	164 818
	II	54 432	44 070	57 700	19 821	174 023
	III	54 739	46 720	59 490	19 551	180 500
	IV	62 215	52 540	70 010	22 846	207 611
1972	I	67 820	54 950	72 090	24 688	219 548
	II	68 684	56 420	76 330	26 335	227 769
	III	70 850	61 380	79 680	28 623	240 533
	IV	74 811	65 880	91 020	30 093	261 804
1973	I	82 237	74 460	98 720	32 935	288 352
	II	82 828	80 440	104 020	35 754	303 042
	III	83 734	88 430	111 750	43 613	327 527
	IV	85 091	96 810	126 850	50 011	358 762
1974	I	88 596	109 320	132 510	59 916	390 342
	II	96 567	115 070	139 260	66 880	417 786
	III	103 341	113 990	126 500	68 310	412 141
	IV	111 305	111 500	149 510	70 023	442 338
1975	I	111 669	116 300	151 470	73 513	452 952
	II	110 941	118 900	156 290	78 926	465 057
	III	111 471	123 000	153 100	83 301	470 872
	IV	114 148	128 200	169 400	86 003	497 751
1976	I	116 911	131 200	168 600	94 675	511 386
	II	121.732	135 200	169 000	101 918	527 850
	III	127 564	137 900	179 700	106 353	551 517
	IV	137 388	148 600	205 000	112 374	603 362
1977	I	137 308	150 700	201 500	116 526	606 034
	II	147 355	155 800	215 900	119 053	638 108
	III	158 861	161 200	226 100	122 430	668 591
	IV	176 602	171 400	269 200	126 553	743 755

Source: The bulletin of the United States Federal Reserve, the bulletin of the Bank of England, reports from the Bank for International Settlements and original compilations.

[a] Liabilities in pounds sterling and other currencies of United Kingdom banks in respect of non-residents.

[b] Liabilities in national and foreign currencies of the banks of eight European countries, not including the United Kingdom, in respect of non-residents.

[c] Liabilities in United States dollars of foreign branches of United States banks in offshore areas plus liabilities in national and foreign currencies of Canadian and Japanese banks in respect of non-residents.

Table 4

LIABILITIES OF THE MAIN FINANCIAL MARKETS IN RESPECT OF LATIN AMERICAN RESIDENTS

(Data for end of the quarter in millions of dollars)

Year	*Quarter*	*United States*	*United Kingdom*[a]	*Other European countries*[b]	*Other markets*[c]	*Total*
1968	I	4 376	512	678	654	6 220
	II	4 492	521	799	679	6 491
	III	4 551	586	804	734	6 680
	IV	4 914	607	853	702	7 076
1969	I	4 738	713	1 004	767	7 225
	II	4 410	864	1 266	934	7 474
	III	4 148	1 069	1 361	1 150	7 728
	IV	4 408	1 102	1 628	1 162	8 300
1970	I	4 848	1 138	1 752	1 230	8 968
	II	4 929	1 196	1 984	1 242	9 351
	III	4 415	1 213	2 237	1 281	9 146
	IV	4 294	1 253	2 857	1 306	9 710
1971	I	4 017	1 350	2 920	1 328	9 615
	II	4 013	1 529	3 011	1 438	10 051
	III	3 900	1 594	2 696	1 451	9 641
	IV	4 159	1 695	3 115	1 767	10 736
1972	I	4 019	1 928	2 942	2 006	10 895
	II	4 437	2 214	2 946	2 040	11 637
	III	4 377	2 562	3 418	2 138	12 495
	IV	5 200	3 269	4 471	2 294	15 234
1973	I	5 235	3 734	4 866	2 630	16 315
	II	5 500	4 087	5 663	2 617	17 867
	III	5 540	3 930	6 180	2 722	18 372
	IV	6 842	4 110	4 880	2 661	18 493
1974	I	7 651	4 468	4 662	3 020	19 801
	II	9 024	4 185	5 545	3 582	22 336
	III	8 934	3 551	4 719	3 424	20 628
	IV	9 861	4 154	4 856	3 555	22 466
1975	I	7 651	4 468	4 662	3 020	19 801
	II	9 024	4 185	5 545	3 582	22 336
	III	11 393	4 495	3 705	4 213	23 806
	IV	11 395	5 048	4 552	4 301	25 296
1976	I	11 147	4 645	3 855	3 821	23 468
	II	12 007	4 559	4 041	4 579	24 490
	III	12 720	4 991	4 109	3 815	25 635
	IV	13 401	6 251	4 449	5 362	30 963
1977	I	14 423	6 521	5 579	4 351	30 874
	II	13 804	7 080	5 820	5 772	32 566
	III	14 835	7 132	5 368	5 552	32 887
	IV	14 505	7 649	6 351	6 836	35 341

Source: The bulletin of the United States Federal Reserve, the bulletin of the Bank of England, reports from the Bank for International Settlements and original compilations.

[a] Liabilities in pounds sterling and other currencies of United Kingdom banks in respect of non-residents.

[b] Liabilities in national and foreign currencies of the banks of eight European countries, not including the United Kingdom, in respect of non-residents.

[c] Liabilities in United States dollars of foreign branches of United States banks in offshore areas plus liabilities in national and foreign currencies of Canadian and Japanese banks in respect of non-residents.

Table 5

LIABILITIES OF THE MAIN FINANCIAL MARKETS IN RESPECT OF ARGENTINE RESIDENTS

(Data for the end of the quarter in millions of dollars)

Year	*Quarter*	*United States*	*United Kingdom*[a]	*Other markets*	*Total*
1968	I	719	49	-	818
	II	719	110	-	829
	III	736	113	-	849
	IV	768	117	-	885
1969	I	785	129	2	916
	II	715	151	4	870
	III	581	159	6	746
	IV	489	167	6	662
1970	I	486	172	6	664
	II	575	186	9	770
	III	568	193	9	770
	IV	563	213	12	788
1971	I	549	215	13	777
	II	477	222	16	715
	III	453	219	19	691
	IV	461	227	31	719
1972	I	532	243	40	815
	II	477	258	43	778
	III	539	274	57	870
	IV	660	289	75	1 024
1973	I	726	316	119	1 161
	II	751	343	149	1 243
	III	913	370	203	1 486
	IV	962	397	261	1 620
1974	I	1 030	378	411	1 819
	II	1 397	399	545	2 341
	III	1 133	410	512	2 055
	IV	922	423	493	1 838
1975	I	853	416	580	1 849
	II	1 024	391	663	2 078
	III	1 017	366	748	2 131
	IV	1 183	378	920	2 481
1976	I	1 210	377	947	2 534
	II	1 443	373	963	2 779
	III	1 485	410	861	2 756
	IV	1 582	529	1 586	3 697
1977	I	1 932	437	1 349	3 718
	II	1 749	423	1 907	4 079
	III	2 237	587	2 433	5 257
	IV	1 508	800	2 710	5 018

Source: The bulletin of the United States Federal Reserve, the bulletin of the Bank of England, reports from the Bank for International Settlements and original compilations.

[a] Total liabilities of United Kingdom banks in respect of Argentine residents in pounds and other currencies.

Table 6

ARGENTINA: PRIVATE HOLDINGS OF INTERNATIONALLY LIQUID ASSETS

(Data for the end of the quarter in millions of dollars)

Year	*Quarter*	*Total holdings*	*Official foreign exchange holdings*	*Private holdings*	*Flows of private holdings*
1968	I	818	557	261	-
	II	829	549	280	19
	III	849	532	317	37
	IV	885	554	331	14
1969	I	916	603	313	-18
	II	870	494	376	63
	III	746	443	303	-73
	IV	662	285	377	74
1970	I	664	302	362	-15
	II	770	400	370	8
	III	770	399	371	1
	IV	788	343	445	74
1971	I	777	247	530	85
	II	715	159	556	26
	III	691	126	505	19
	IV	719	70	649	34
1972	I	815	169	646	-3
	II	778	59	719	73
	III	870	83	787	68
	IV	1 024	294	730	-57
1973	I	1 161	411	750	20
	II	1 243	585	658	-92
	III	1 486	980	506	-152
	IV	1 620	1 068	552	46
1974	I	1 819	1 206	613	61
	II	2 391	1 584	807	144
	III	2 055	1 241	814	57
	IV	1 898	1 028	870	-4
1975	I	1 849	621	1 228	418
	II	2 098	408	1 690	442
	III	2 131	177	1 954	284
	IV	2 481	247	2 234	280
1976	I	2 534	202	2 332	98
	II	2 779	539	2 240	-92
	III	2 756	669	2 087	-153
	IV	3 697	1 354	2 343	256
1977	I	3 718	1 455	2 263	-80
	II	4 079	1 769	2 310	47
	III	5 257	2 463	2 794	484
	IV	5 018	3 064	1 954	-840

Source: Original compilations based on the data appearing in preceding tables.

International Monetary Fund's *International Financial Statistics*) still had to be subtracted from the figures on *total* holdings (i.e., the sum total of holdings in the various markets). This yielded the figures corresponding to Argentines' private holdings of internationally liquid assets, and the periodic changes (or flows) in such holdings that were needed to correct the official figures on capital movements could then be obtained by using the method of first differences (see table 6).

4. *Modifying the series on capital movements based on flows of private holding*

Prior to modifying the series of capital movements in order to take unrecorded movements into account, the channels through which such flows occur first had to be evaluated. If no exchange restrictions are in use, then capital will obviously be able to move in and out of economy freely and capital movements will usually be recorded as such in official balance-of-payments statistics; in such instances, the official figures require no adjustment whatsoever.

The situation is different when exchange restrictions are being applied. In this case, it is assumed that capital is free to enter the economy, but outflows are usually limited. Under such circumstances, it is advisable to record all capital inflows (unless there is a desire to avoid recording them for reasons not strictly related to matters of exchange, such as for tax purposes) in order to have the right to withdraw the capital latter, without difficulty, at the official exchange rate.[5]

Unauthorized capital outflows are the movements which are concealed, and the current account is usually used for this purpose. Official figures should therefore be corrected only when the figures on private holdings show positive flows; no corrections need be made when they show negative flows because most of them will already have been included in the official figures.

Based on these assumptions, a second series on unrecorded capital flows was obtained for Argentina which was used to correct the official figures on capital movements and the current account; these corrected figures were then used to evaluate the explanatory model for capital movements, on a quarterly basis, for Argentina.

There seems to be no doubt that autoregressive time series analysis is the most appropriate procedure for making the necessary adjustments, and the empirical results appear to confirm this. In this study, however, autoregressive time series analysis was used only in the case of Argentina due to the great difficulty involved in performing these calculations for other countries; the application of this method to other countries will have to await a revised version of this study.

Notes to Appendix A

[1] For a more detailed explanation of the methodology that was used, see *Un ejemplo de estimación retrospectiva en el caso autorregresivo* by A. de Mattanó and M. Orozco, Department of Statistical Analysis and Co-ordination, Bureau of Economic Research and Statistics, Central Bank of the Argentine Republic. This study demonstrates, *inter alia*, that it is more efficient to use the method of generalized least squares than that of ordinary least squares to estimate such parameters.

[2] This methodology worked quite well for the period in question (the first quarter to the fourth quarter of 1977) but the methodology would have to be changed if there were more observations to be extrapolated due to the insignificance of foreigners' deposits in many international markets prior to 1968. This applies to all the extrapolations performed in the study.

[3] In all cases, the regression which would minimize the autocorrelation coefficient was chosen.

[4] Although a very large number of observations were extrapolated, it should be emphasized that until 1971 the European market attracted a very small volume of deposits from Argentina, especially if the United Kingdom is not included; the volume of Argentine deposits in the Canadian, Japanese and offshore markets during the same period was also very small.

[5] It might be argued that unrecorded capital inflows also take place because, in the presence of controls on capital movements, it is common for people to bring funds in and then sell them on the parallel markets. However, the counterpart of such sales is the purchase of these funds by individuals, which also goes unrecorded, and their effects on flow figures are therefore cancelled out. The only case in which this would not occur is when the economic agent bringing in unrecorded capital is a non-resident; then, as regards private flows, only the capital outflow would be recorded in the statistics while the corresponding inflow would not be registered. This last case would include unrecorded sales by foreign tourists.

Appendix B
Basic statistical material

Table 1

BRAZIL AND CHILE: PRIVATE HOLDINGS OF DEPOSITS IN UNITED STATES BANKS

(Data for the end of the period in millions of dollars)

Period	*Brazil*	*Chile*
1957	80	52
1958	96	61
1959	107	59
1960	129	48
1961	132	52
1962	89	85
1963	83	98
1964	89	109
1965	88	125
1966	133	140
1967	113	165
1968	114	172
1969	95	144
1970	96	157
1971	76	122
1972	90	117
1973	103	116
1974	162	127

Source: Bulletins of the Federal Reserve, Bank of England, Central Bank of Brazil and Central Bank of Chile.

Table 2

GUATEMALA: PRIVATE CAPITAL + NET ERRORS AND OMISSIONS

(Annual observations in millions of dollars)

1953	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
-11.60	-4.10	9.90	13.60	13.60	7.40	21.70	13.20	7.80	5.70	8.30	41.20

1965	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
21.90	3.20	39.70	36.20	23.70	18.40	51.70	54.00	49.60	81.20	117.10	174.40

Source: *International Financial Statistics.*

Table 3

GUATEMALA: NON-COMPENSATORY CAPITAL + NET ERRORS AND OMISSIONS

(Annual observations in millions of dollars)

1953	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
-11.60	-4.10	9.90	22.00	21.40	12.30	22.80	16.60	3.80	1.10	19.20	40.90

1965	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
25.80	1.90	57.00	44.70	27.80	30.60	59.20	55.60	62.50	89.90	138.80	191.60

Source: Original compilations.

Table 4

GUATEMALA: RESERVES AT THE END OF THE PERIOD

(Annual observations in millions of dollars)

1948	*1949*	*1950*	*1951*	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*
47.30	38.00	38.60	41.20	44.40	42.50	40.00	55.60	71.20	75.20

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*
49.20	44.10	54.10	54.80	45.80	56.70	59.50	67.80	60.70	65.10

1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*
65.50	74.10	78.30	93.50	134.90	212.00	202.40	303.90	511.00	690.40

Source: *International Financial Statistics.*

Table 5

GUATEMALA: MONETARY IMBALANCE IN DOLLARS

(Annual observations)

1959	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*
-20.6575	-40.0246	-28.2801	-7.8224	-20.2391	-2.3672	-31.5841	-11.1204	-13.1175

1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
-25.5538	-40.1784	-78.1002	-87.9552	-90.9747	-142.6872	-169.2701	-230.0599	-362.1138

Source: *International Financial Statistics.*

Table 6

GUATEMALA: FLOW OF MONETARY IMBALANCE + CURRENT ACCOUNT — OTHER + FOREIGN LOANS

(Annual observations)

1960	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*	*1968*
-24.9671	1.0445	10.6578	-37.3167	-15.2281	-59.1169	10.3638	-67.7972	-60.0362

1969	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
-31.2247	-44.9217	-71.7550	-22.1195	-53.2125	-137.2829	-164.4898	-177.1539

Source: Original compilations based on IMF data.

Table 7

GUATEMALA: REAL RATE OF RETURN

(Annual observations)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*	*1967*
0.0511	0.0355	0.0411	0.0467	0.0416	0.0306	0.0259	0.0224	0.0088	0.0154

1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
0.0061	-0.0267	-0.0148	-0.0168	-0.0751	-0.2171	-0.2126	-0.1838	-0.1167

Source: Original compilations based on data from *International Financial Statistics.*

Table 8

GUATEMALA: CURRENT ACCOUNT

(Annual observations in millions of dollars)

1953	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
11.60	1.50	5.00	-7.80	-18.40	-38.20	-28.60	-11.00	-7.90	-15.70	-17.30	-37.90

1965	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
-34.60	-12.20	-62.00	-50.70	-19.00	-7.90	-49.20	-11.50	7.80	-103.10	-65.70	-7.60

Source: *International Financial Statistics.*

Table 9

GUATEMALA: CURRENT ACCOUNT

(Annual observations in millions of dollars)

1953	*1954*	*1955*	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
11.60	1.10	-5.50	-24.70	-39.30	-50.00	-40.20	-25.60	-24.20	-23.00	-20.80	-45.70

1965	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1976*
-42.10	-21.60	-71.30	-61.40	-32.40	-25.40	-74.50	-41.50	-34.70	-158.50	-143.50	-211.00

Source: *International Financial Statistics*.

Table 10

ARGENTINA: NON-COMPENSATORY CAPITAL + ERRORS AND OMISSIONS

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	-12.80	12.90	101.80	105.90
1969	80.00	-45.80	67.70	13.10
1970	128.60	103.60	69.10	117.50
1971	38.40	4.00	35.40	-249.50
1972	-102.90	-22.30	9.30	54.10
1973	-54.20	-93.00	58.50	99.20
1974	-28.60	230.60	-109.80	-124.70
1975	104.20	59.00	38.20	-11.30
1976	-110.40	-6.00	-143.80	-265.20
1977	1.20	-58.10	371.00	878.00

Source: Original compilations.

Table 11

ARGENTINA: NON-COMPENSATORY CAPITAL + ERRORS — FLOW

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	-12.80	12.90	101.80	105.90
1969	80.00	-45.80	67.70	-60.90
1970	128.60	95.60	68.10	43.50
1971	-46.60	-22.00	26.40	-333.50
1972	-102.90	-95.30	-58.70	54.10
1973	-74.20	-93.00	58.50	53.20
1974	-89.60	86.60	-166.80	-124.70
1975	-313.80	-383.00	-245.80	-291.30
1976	-208.40	-6.00	-143.80	-521.20
1977	1.20	-105.10	371.00	878.00

Source: Original compilations.

Table 12

ARGENTINA: CORRECTED FLOWS

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	0	0	0	0
1969	0	0	0	74
1970	0	8	1	74
1971	85	26	9	84
1972	0	73	68	0
1973	20	0	0	46
1974	61	144	57	0
1975	418	442	284	280
1976	98	0	0	256
1977	0	47	0	0

Source: Original compilations.

Table 13

ARGENTINA: RESERVES AT THE END OF THE PERIOD

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1967	256.00	670.00	700.00	727.00
1968	689.00	726.00	728.00	760.00
1969	815.00	722.00	681.00	538.00
1970	609.00	707.00	706.00	673.00
1971	610.00	522.00	459.00	290.00
1972	278.00	242.00	255.00	465.00
1973	645.00	817.00	1 229.00	1 318.00
1974	1 461.00	1 844.00	1 519.00	1 315.00
1975	919.00	584.00	342.00	452.00
1976	421.00	772.00	930.00	1 608.00
1977	1 705.00	2 014.00	2 700.00	3 331.00

Source: Central Bank of the Argentine Republic.

Table 14

ARGENTINA: REAL RATE OF RETURN

(Quarterly observations)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	0.0242	0.0230	0.0234	0.0230
1969	0.0216	0.0208	0.0186	0.0189
1970	0.0206	-0.0285	-0.0973	-0.0394
1971	-0.0443	-0.1466	-0.3707	-0.8128
1972	-0.6362	-0.5215	-0.4168	-0.3781
1973	-0.1896	-0.2244	-0.1120	-0.1194
1974	-0.2431	-0.6180	-1.0407	-1.1248
1975	-1.2859	-2.4680	-1.9109	-1.9073
1976	-2.2094	-0.8510	-0.2453	-0.0415
1977	-0.0547	0.0177	0.0421	0.0450

Source: Original compilations based on data supplied by the Central Bank of the Argentine Republic.

Table 15

ARGENTINA: MONETARY IMBALANCE IN DOLLARS

(Quarterly observations)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	3 792.3942	-109.6558	-99.3100	-149.7315
1969	-23.8278	-240.2735	-357.5613	-404.2548
1970	-79.3279	-312.7360	-260.4290	-477.0092
1971	-575.4385	-326.9193	-399.6609	2.3153
1972	328.2555	-1.1890	-1.0520	123.1548
1973	438.5833	-190.7795	409.6082	1 230.5736
1974	1 804.2895	1 545.0078	1 059.9279	1 045.6801
1975	2 145.9542	1 537.7566	-261.3445	1 930.7713
1976	3 176.2455	-126.9632	1 040.4505	227.0678
1977	359.4196	293.3403	-413.3440	-174.4582

Source: Original compilations based on data supplied by the Central Bank of the Argentine Republic.

Table 16

ARGENTINA: FLOW OF MONETARY IMBALANCE

(Quarterly observations)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1969	125.9037	-216.4457	-117.2878	-46.6935
1970	324.9269	-233.4081	52.3070	-216.5801
1971	-98.4294	248.5192	-72.7416	401.9762
1972	325.9402	-329.4445	0.1370	124.2068
1973	315.4285	-629.3628	600.3876	820.9654
1974	573.7159	-259.2817	-485.0798	-14.2478
1975	1 100.2740	-608.1975	-1 799.1011	2 192.1158
1976	1 245.4742	-3 303.2087	1 167.4137	-813.3827
1977	132.3518	-66.0793	-706.6843	238.8858

Source: Original compilations based on data supplied by the Central Bank of the Argentine Republic.

Table 17

ARGENTINA: RATE OF RETURN ON SWAP OPERATIONS

(Quarterly observations)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	-0.0050	-0.0073	-0.0099	-0.0148
1969	-0.0135	-0.0121	-0.0095	-0.0049
1970	-0.0110	-0.0116	-0.0135	-0.0100
1971	-0.0084	-0.0010	0.0078	0.0132
1972	-0.0047	-0.0055	-0.0057	-0.0045
1973	-0.0025	0.0005	0.0039	0.0045
1974	0.0056	0.0068	0.0031	-0.0038
1975	-0.0075	-0.0225	-0.0399	-0.0697
1976	-0.1073	-0.0635	0.0081	0.0127
1977	0.1331	0.1903	0.0	0.0

Source: Original compilations based on data supplied by the Central Bank of the Argentine Republic.

Table 18

ARGENTINA: RESTRICTIONS

(Quarterly observations)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	0.80	0.90	0.90	0.90
1969	0.90	0.90	0.80	0.80
1970	0.90	0.80	0.70	0.50
1971	0.50	0.50	0.40	0.50
1972	0.40	0.30	0.30	0.30
1973	0.30	0.20	0.20	0.20
1974	0.20	0.20	0.20	0.20
1975	0.10	0.10	0.10	0.20
1976	0.10	0.30	0.40	0.60
1977	0.70	0.80	0.90	0.90

Source: Original compilations based on data from the *Annual Report on Exchange Restrictions* of the International Monetary Fund.

Table 19

ARGENTINA: CURRENT ACCOUNT

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1968	10.00	65.00	-61.80	-61.80
1969	38.30	1.80	-118.50	-147.90
1970	-26.70	56.00	-33.80	-154.00
1971	-124.00	-56.60	-151.50	-56.50
1972	-77.30	-51.60	-61.10	-32.90
1973	202.20	194.00	316.00	8.40
1974	223.30	170.90	-85.40	-181.60
1975	-508.40	-366.50	-198.70	-211.00
1976	32.70	261.20	154.60	201.60
1977	347.80	583.50	321.00	64.60

Source: Central Bank of the Argentine Republic.

Table 20

ARGENTINA: CURRENT ACCOUNT + CORRECTED FLOW

(Quarterly observations in millions of dollars)

Year	Quarters			
	I	*II*	*III*	*IV*
1968	10.00	65.00	-61.80	-61.80
1969	38.30	1.80	-118.50	-73.90
1970	-26.70	64.00	-32.80	-80.00
1971	-39.00	-30.60	-142.50	27.50
1972	-77.30	21.40	6.90	-32.90
1973	222.20	194.00	316.00	54.40
1974	284.30	314.90	-28.40	-181.60
1975	-90.40	75.50	85.30	69.00
1976	130.70	261.20	154.60	457.60
1977	347.80	630.50	321.00	64.60

Source: Original compilations.

Table 21

ARGENTINA: NON-COMPENSATORY CAPITAL + ERRORS AND OMISSIONS

(Quarterly observations in millions of SDRs)

Year	Quarters			
	I	*II*	*III*	*IV*
1970	128.6000	103.6000	69.1000	117.5000
1971	38.4000	4.0000	35.4000	-249.5000
1972	-102.9000	-22.3000	9.3000	54.1000
1973	-54.2000	-93.0000	58.5000	99.2000
1974	-28.6000	230.6000	-109.8000	-124.7000
1975	104.2000	59.0000	38.2000	-11.3000
1976	-110.4000	-6.0000	-143.8000	-265.2000

Source: Central Bank of the Argentine Republic.

Table 22

ARGENTINA: NON-COMPENSATORY CAPITAL, ERRORS AND OMISSIONS — FLOW

(Quarterly observations in millions of dollars)

Year	Quarters			
	I	*II*	*III*	*IV*
1970		70.6000	42.1000	22.5000
1971	-82.6000	-20.0000	6.4000	-346.5000
1972	-163.9000	-56.3000	-81.7000	76.1000
1973	-63.2000	-28.0000	186.5000	75.2000
1974	-0.6000	25.6000	-110.8000	-58.7000
1975	-220.8000	-393.0000	-173.8000	-317.3000
1976	-238.4000	86.0000	9.2000	-521.2000

Source: Central Bank of the Argentine Republic.

Table 23

ARGENTINA: CURRENT ACCOUNT + FLOW

(Quarterly observations in millions of dollars)

Year	*Quarters*			
	I	*II*	*III*	*IV*
1970		89.0000	-6.8000	-59.0000
1971	-3.0000	-32.6000	-122.5000	40.5000
1972	-16.3000	-17.6000	29.9000	-54.9000
1973	211.2000	129.0000	188.0000	32.4000
1974	195.3000	375.9000	-84.4000	-247.6000
1975	-183.4000	85.5000	13.3000	95.0000
1976	160.7000	169.2000	1.6000	457.6000

Source: Central Bank of the Argentine Republic.

Table 24

BRAZIL: NON-COMPENSATORY CAPITAL

(Annual observations in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
273.00	226.00	195.00	288.00	297.00	187.00	206.00	127.00

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
362.00	199.00	674.00	1 054.00	1 181.00	1 982.00	3 331.00	2 890.00

Source: *International Financial Statistics.*

Table 25

BRAZIL: NON-COMPENSATORY CAPITAL + ERRORS AND OMISSIONS

(Annual observations)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
98.00	274.00	209.00	337.00	159.00	111.00	-11.00	96.00

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
337.00	338.00	673.00	1 034.00	1 219.00	1 976.00	3 734.00	3 095.00

Source: *International Financial Statistics.*

Table 26

BRAZIL: NON-COMPENSATORY CAPITAL + ERRORS — FLOW

(Annual observations in SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
77.0000	263.0000	183.0000	334.0000	202.0000	199.0000	-17.0000	97.0000

1966	*1967*	*1968*	*1969.*	*1970*	*1971*	*1972*	*1973*
282.0000	358.0000	672.0000	1 053.0000	1 218.0000	1 996.0000	3 721.0000	3 084.0000

Source: Original compilations based on data from *International Financial Statistics* and the bulletin of the Federal Reserve.

Table 27

BRAZIL: OFFICIAL RESERVES

(Annual averages in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
465.0000	367.0000	345.0000	470.0000	285.0000	219.0000	246.0000	484.0000

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
425.0000	193.0000	257.0000	656.0000	1 187.0000	1 608.0000	3 853.0000	5 319.0000

Source: *International Financial Statistics*.

Table 28

BRAZIL: RATE OF RETURN ON THE DOLLAR

(Annual observations)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-0.8087	-0.6620	-0.2719	-0.6117	-0.7646	-0.6375	-0.5761	-0.2614

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
0.0910	0.0032	0.0366	-0.2125	-0.0767	-0.1502	-0.1048	-0.0116

Source: Original compilations based on data from the bulletin of the Central Bank of Brazil.

Table 29

BRAZIL: RESTRICTIONS

(Annual observations)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
0.3000	0.2000	0.2000	0.3000	0.2000	0.1000	0.1000	0.4000

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
0.6000	0.8000	0.8000	0.7000	0.7000	0.7000	0.7000	0.7000

Source: Original compilations based on data from the *Annual Report on Exchange Restrictions*, of the International Monetary Fund.

Table 30

BRAZIL: CURRENT ACCOUNT

(Annual observations in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-276.00	-347.00	-534.00	-277.00	-484.00	-204.00	50.00	248.00

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
-65.00	-303.00	-543.00	-353.00	-644.00	-1 409.00	-1 466.00	-1 485.00

Source: *International Financial Statistics.*

Table 31

BRAZIL: CURRENT ACCOUNT + FLOW

(Annual observations in SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-260.0000	-336.0000	-521.0000	-274.0000	-527.0000	-210.0000	56.0000	247.0000

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
-24.0000	-323.0000	-542.0000	-372.0000	-643.0000	-1 389.0000	-1 477.0000	-1 534.0000

Source: Original compilations based on data from *International Financial Statistics.*

Table 32

CHILE: NON-COMPENSATORY CAPITAL

(Annual observations in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
40.60	80.60	73.60	206.60	178.00	110.00	120.00	78.00

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
149.00	82.00	347.00	340.00	240.00	-6.00	226.00	1 281.00

Source: *International Financial Statistics.*

Table 33

CHILE: RESERVES

(Annual averages in millions of SDRs)

1951	*1952*	*1953*	*1954*	*1955*	*1956*	*1957*	*1958*
60.0000	74.0000	68.0000	55.0000	86.0000	80.0000	51.0000	63.0000

1959	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*
128.0000	111.0000	74.0000	79.0000	77.0000	89.0000	138.0000	172.0000

1967	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*
126.0000	208.0000	344.0000	389.0000	204.0000	137.0000	149.0000	83.0000

Source: *International Financial Statistics.*

Table 34

CHILE: RATE OF RETURN

(Annual observations)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-0.7130	-0.2664	0.0992	0.0566	-0.5980	-1.4206	-1.1159	-0.8320

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
-0.6412	-0.6901	-0.6732	-0.6336	-1.1322	-3.1775	-15.7159	-38.5640

Source: Original compilations based on data from the Central Bank of Chile.

Table 35

CHILE: RESTRICTIONS

(Annual observations)

1955	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
0.2000	0.5000	0.6000	0.5000	0.7000	0.8000	0.7000	0.7000	0.6000	0.5000

1965	*1966*	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*
0.5000	0.6000	0.7000	0.8000	0.8000	0.7000	0.5000	0.3000	0.2000	0.1000

Source: Original compilations based on data from the *Annual Report on Exchange Restrictions*, of the International Monetary Fund.

Table 36

CHILE: CURRENT ACCOUNT

(Annual observations in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-92.9	-32.1	-164.6	-295.1	-222.0	-204.0	-135.0	-42.0

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
-103.0	-97.0	-177.0	47.0	-69.0	-236.0	-472.0	-337.9

Source: *International Financial Statistics.*

Table 37

CHILE: CURRENT ACCOUNT + FLOW

(Annual observations in millions of SDRs)

1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*	*1965*
-83.9000	-34.1000	-153.6000	-291.1000	-189.0000	-191.0000	-124.0000	-26.0000

1966	*1967*	*1968*	*1969*	*1970*	*1971*	*1972*	*1973*
-88.0000	-72.0000	-170.0000	75.0000	-56.0000	-201.0000	-467.0000	-336.9000

Source: *International Financial Statistics.*

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Latin America and the international monetary system: some comments and suggestions

Carlos Massad

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I

The functioning of the system

In this paper, I intend to emphasize aspects of the present system of international economic relations in the monetary and financial area that create difficulties for an adequate insertion of Latin America in the world economy. I do not propose to make a comprehensive study of all transfers of resources between developed and developing countries.

My comments will be arranged under three main headings: the workings of the present international monetary system; the effect of the present system on Latin American countries and less developed countries in general, and changes in the system that could help to minimize the present difficulties.

Generalized floating of currencies became unavoidable as the Bretton Woods system proved incapable of providing enough adjustment incentives for reserve currency countries, essentially the United States and the countries with surpluses. In fact, IMF "discipline" could only apply to non-reserve currency deficit countries. Reserve currency deficit countries could finance their deficits with their own currency, while countries with surpluses did not need to request IMF assistance.

The lack of international incentives to adjust created a situation where convertibility in terms of gold could not be maintained, and the Bretton Woods system collapsed. As a matter of fact, the lack of adjustment incentives, together with some domestic banking regulations, gave rise to an explosive growth of private financial markets as financial intermediation between surplus and deficit countries became more and more in demand. Between 1973 and 1978 the net size of the Eurocurrencies market grew at a rate of about 19% per year.

Those changes are not only important quality-wise, however: they also represent a complete qualitative transformation of the system.

1. *The role of the monetary authorities and of the private sector*

The first important qualitative change is that which took place in the market intervention role and reserve holdings of the monetary authorities versus those of the private sector. In a fixed exchange rate system, the authorities have to maintain exchange rates through intervention in the market, for which purpose they must hold foreign exchange, gold and SDR reserves. In a floating system such a role is transferred totally or partially to the private sector, and it is the latter which has an incentive to accumulate "reserves" in order to "intervene" in foreign exchange markets.

This fact implies a higher sensitivity, or elasticity, of the composition of reserves to economic incentives. Usually, central banks are less sensitive to changes in expectations than private holders of foreign exchange. The latter tend to adjust the composition of their holdings rapidly when relative interest rates or exchange rates are expected to vary. Hence, the more important the role of private holders in foreign exchange markets, the faster will be the reaction to changes in expectations. The expectation of devaluation of a reserve currency —or a currency important in international trade— brings about an immediate change in the composition of assets and liabilities of the private sector and this

helps to produce the expected devaluation. In a sense, it could be said that under the present system, since central banks cannot resist the pressure of private speculators, generalized expectations will never be wrong.

Another consequence of the increased importance of the private sector in intervention is a relative reduction in the demand for SDRs. In fact, SDRs cannot be held by the private sector, but in so far, as the relative importance of private "reserve" currency holdings increases, the demand for SDRs will decrease relative to that for currencies. All this has important implications for the system as a whole (the implications for LDCs will be developed later).

a) Exchange rate changes tend to "overshoot the mark", so that the magnitudes of such changes tend to be relatively large. It has been observed that prices tend to react faster than quantities to exchange rate changes in industrial countries. Thus, when a particular currency suffers a devaluation, the export prices of the devaluing country tend to fall and import prices to rise soon after devaluation, but export and import volumes react more slowly, so that, for a time, a devaluation increases the imbalance it was supposed to correct. Private holders of the currency will see their devaluation expectations reinforced, and the exchange rate will reflect such strengthened expectations with further devaluation. Then, after some time the effect of devaluation will show itself in the balance of payments, in the form of a relative reduction of imports as compared to exports, and the opposite process will be generated. As this process is better understood and the pattern of events repeats itself, the private sector may "learn" to speculate better and the destabilizing effect of expectations formed in the way described above should tend to dissappear. The length of the learning period is, however, unknown.

b) The degree of stringency of monetary policy becomes more difficult to evaluate. Let us take, for example, a German-based company that holds US dollars in its assets. If such a company expects a reduction in the value of the dollar relative to the German mark, it will try to sell its dollars for marks, while if the Bundesbank wants to give at least partial support to the dollar to avoid an excessive strengthening of the mark, it will buy the dollars in exchange for marks. The figures in Germany will show an increase in the money supply, whereas all that has happened is a change in the composition of assets of the German-based company. There is no reason for this action to change the desired spending pattern of the company, so that the increase in the money supply in Germany will have no direct inflationary effect. Of course, the real world is not this simple, but I hope that this example serves to illustrate the essence of my argument.

c) Exchange rates become more volatile through changes in transactions on capital account (capital flows). If private capital and money markets are well developed, with reserves diversified in terms of currencies, changes in expectations will affect the market rapidly and fully: desired changes in the composition of assets and liabilities of economic agents will be reflected in market actions which will result in changes in exchange rates. The money markets for developed countries' currencies are sufficiently deep to allow the operation of a futures market where interested parties can buy "coverage" for exchange risks. With or without coverage, however, changes in domestic interest rates or other factors affecting the desired composition of assets and liabilities will tend to produce sizable capital movements, unless interest rate policy is closely associated with expected exchange rates. Such association is very difficult to achieve in practice, so exchange rates must be expected to vary sharply in short periods of time.

Furthermore, changes produced through the capital account may tend to reinforce those in the current account. An unfavourable current account will produce devaluation expectations. At the same time, the expected cost of borrowing abroad or the expected

benefit of external investment will increase (due to the expected devaluation), producing as a consequence an imbalance in the capital account with the same sign as that in the current account. Since, as pointed out above, the adjustments in the current account come about only slowly, one must expect relatively sharp movements in exchange rates on this account, or at least a movement in a particular direction for some time and then a reversal, in a cycle which will take two or three years to develop fully.

d) Sharp changes in exchange rates help to stimulate protectionist tendencies in world trade. As some currencies appreciate, the issuing countries will face some loss of competitiveness, while deficit countries, whose currencies depreciate, tend to yield more easily to protectionist lobbyists on balance-of-payments grounds. Thus, global resistance to protectionism is substantially weakened, and if at the same time, for this and other reasons, the world economy is expanding slowly, the stage is set for the proliferation of direct controls, regulations and increased tariffs on trade.

2. *The international transmission of economic disturbances*

With fixed exchange rates, it was expected that inflation rates in the world would tend towards equality, since it was argued that any discrepancy would bring about imbalances in foreign payments that would force adjustment. As exchange rates were not completely fixed, however, some discrepancy in inflation rates was allowed for, over and above that coming from different rates of change in productivity. Between 1960 and 1970 the average yearly rate of inflation for 9 industrial countries[1] was 3.5%, with a standard deviation of 1.5 and a coefficient of variability of 0.43. Floating, it was argued, would allow for more freedom in domestic monetary policy, since variation in exchange rates would insulate countries from external shocks. On these grounds, rates of inflation should have diverged after 1973 more than they did before, and particularly before 1970.

However, empirical evidence does not lend support to this expectation. For the same 9 countries considered, yearly inflation between 1974 and 1977 averaged 11.3%, with a standard deviation of 4.8 and a coefficient of variability of 0.42: i.e., practically identical to that prevailing in the 1960s, while for the period 1970-1973 —a transitional period— the average rate of inflation was 6.5%, with a standard deviation of 1.7 and a coefficient of variability of 0.26. It therefore looks as though floating rates have not helped very much to insulate countries from external disturbances. An alternative hypothesis, which I have put forward elsewhere, could be formulated to explain this behaviour. For our purposes, it is sufficient to point out that floating has not insulated countries from external shocks. Floating is no substitute for responsible domestic policies.

3. *Creation of international liquidity*

The present system has considerably obscured the concept of international liquidity itself. When the authorities accumulated most of their external reserves the concept was clear-cut. But as soon as the private sector assumed, partly or wholly, the responsibility for intervening in the market, the concept of international liquidity became vague and ill-defined. Should it be only official reserves which were considered? Or should one take account of private holdings in some way? These questions are not academic, for the difference between official holdings and "total" holdings of foreign exchange —and gold and SDRs— is enormous (the second is at least twice the first).

In a floating system, it is legitimate to consider private holdings of foreign exchange as "international liquidity", since there should be a demand in the private sector for such holdings, and if the demand is not satisfied, the private sector will look for ways

to satisfy it, even creating new liquidity instruments. In a world where the foreign exchange operations of banks in industrial countries and offshore centres are usually not subjected to the same types of controls as their domestic currency operations, the supply of international liquidity becomes demand-determined. And in so far as the foreign exchange holdings of the private sector are a good substitute for domestic (or national) money, changes in the supply of the first will affect the demand for the second. Through this process, national central banks lose control over the relevant monetary aggregates. This is not because they cannot control the supply of domestic money in the short run, but because the demand for such money changes, with the result that control or regulation not only of the rate of growth of international liquidity, but also of liquidity in general, becomes much less effective. Of course, if the supply of liquidity in the form of foreign exchange becomes essentially demand-determined, the relative importance of SDRs is bound to suffer.

II
The effects on Latin American and other developing countries

As the system, or lack of it, works at present, one must expect relatively sharp and recurrent variations in the exchange rates of the principal currencies. Most Latin American countries, as well as other less developed countries (LDCs), peg their own currencies to one or another of the principal currencies, or to a basket of them. Pegging is necessary because most LDCs do not have financial or money markets deep enough to do otherwise, the Central Bank being the only entity capable of absorbing short-run excess supply or demand for the domestic currency. But pegging means that the domestic currency moves together with the currency or currencies to which it is pegged, and the fluctuations of those currencies are geared to the adjustment needs of the issuing countries, not of the pegging country. Hence floating imposes a cost on LDCs in terms of destabilizing influences on their economies. Floating also tends to discourage the allocation of additional resources to the production of tradeable goods, since an uncertainty element is introduced in all calculations regarding activities connected with foreign trade. In most cases, the LDCs exporters cannot even buy coverage, because there is no futures market for their own currencies.

There are more deep-seated problems than this, however. Thus, if floating does not insulate countries from external shocks, it does not solve the adjustment problem in the short or medium run either, and may even complicate it. As everyone knows, if there is a group of countries running a protracted surplus on current account, there must be another group running a deficit, and floating will not correct the situation. Floating could perhaps equilibrate the balance of payments as a whole, in the long run, but it might never produce equilibrium in the balance-of-payments current account. As we have already seen, the short-run effect of floating on the current account of the balance of payments and on the balance of payments as a whole may actually be destabilizing.

As a matter of fact, equilibrium on the current account is not an ideal situation. Non-oil-exporting developing countries are net capital importers, so that the desired position of their current account is one of deficit, to be financed with a surplus on the capital account. In the case of Latin America, the average deficit on the current account of the non-oil-exporting countries for the period 1974-1978 is five times larger than for the period 1966-1970. The capital surplus should be high enough to cover the deficit on the

Table 1

EXTERNAL FINANCING OF LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES

(Billions of dollars)

	1966-1970	*1974*	*1975*	*1976*	*1977*	*1978*[a]
Deficit on current account[b]	-2.0	-13.1	-16.1	-11.5	-8.0	-9.5
Increase in reserves[c]	0.4	-0.7	2.2	4.9	3.9	8.5
Use of external financing (uses)	2.4	12.4	13.9	16.4	11.9	18.0
Net external financing (sources)	2.5	12.6	14.4	16.2	10.5	16.0
Direct investment	0.7	1.6	2.3	2.2	(2.3)	3.0
Donations	0.1	0.1	0.1	0.2	0.2	
Net loans[d]	1.7	10.9	12.0	13.8	(8.0)	13.0
Loans from official sources	0.9	1.9	1.9	(2.0)	(2.2)	3.0
Multilateral	0.4	0.9	0.8	(0.9)	(1.0)	
Bilateral	0.5	1.1	1.0	(1.1)	(1.2)	
Borrowing from private sources	0.8	9.0	10.1	11.8	(5.8)	10.0
Supplier credits	0.4	0.2	0.1	0.6	(0.6)	1.5
Commercial banks	0.3	8.2	8.2	7.5	4.7	5.5
Bonds	-	0.1	0.2	0.5	(1.0)	2.0
Other and unallocated	0.1	0.6	0.6	2.2	-0.5	1.0

Source: International Monetary Fund, *Balance of Payments Yearbook;* Bank for International Settlements: supplements for July and December 1978 and Yearbook; CEPAL estimates.

[a] All figures for 1978 are provisional.

[b] Excluding official donations.

[c] Positive figure indicates an increase in reserves.

[d] Includes long, medium and short-term non-compensatory and compensatory loans.

current account and the necessary increase in reserve holdings. But a surplus on the capital account is only a more respectable way to refer to a net increase in foreign debt, since unrequited transfers are negligible and direct foreign investment is not on the increase and is concentrated in a few countries. At all events, new net indebtedness accounts for at least 80% of the surplus on the capital account of the non-oil-exporting Latin American countries.

Despite the levels already reached by such debt (over US$ 100 billion for the non-oil-exporting countries of Latin America by the end of 1978) it must go on increasing for many years if the development process is to continue and if world resources are to be more efficiently allocated. The additional short-run instability in the balance of payments which is a byproduct of floating, however, does not facilitate official decisions in industrial countries about long-term development finance, while private financial markets expand rapidly. Thus, the terms of the new financing are substantially worse than those of the past, both in terms of interest rates and of amortizations schedules. "Debt burden" becomes a problem for further borrowing, a problem which is more a consequence of the present system than of "misbehaviour", even though the latter is not always absent. Moreover, as debt terms deteriorate, borrowing countries need to increase their reserve holdings, both in order to present a better "image" and in order to be ready to offset possible outflows. So, as the terms deteriorate, the necessary rate of accumulation of reserves tends to grow, and so does the necessary net borrowing per year.

An obvious way out of this problem for LDCs would be to expand exports. If exports grew at a rapid rate, both the "debt burden" and the current account deficit could be reduced. However, as pointed out above, in the present circumstances the developed countries tend to yield more easily to protecionist pressures, so that this way out does not seem to be feasible. In fact, a recent article in *IMF Survey* reaches the conclusions that protectionism has increased significantly in the recent past, and the trend does not show signs of abating.[2] Regrettably, this trend has emerged precisely when a good number of LDCs, at least in Latin America, are following an outward-oriented strategy.

This strategy, to be successful, requires two prerequisites: foreign markets and foreign finance. The former are being increasedly protected from outside competition. The latter is available, but on terms that are compatible only with a rapid growth of LDC exports.

III

What can be done to solve, or at least alleviate, the present difficulties in the monetary and financial system?

At least some of the roots of the difficulties pointed out above can be traced to problems of the adjustment process and of liquidity creation. If the adjustment process worked smoothly, and international liquidity grew at a reasonably stable rate, excessive fluctuating of exchange rates would be flattened out and there would be less of a weakening of the will to resist protectionist measures.

One could argue that the adjustment process is working smoothly when the choice between fixed or floating exchange rates becomes irrelevant. In other words, if the domestic policies of the main industrial countries were strictly co-ordinated, there would be no need to vary their exchange rates *vis-a-vis* each other in the short run, and there would therefore be no need for floating. I hope it is obvious by now how great an interest LDCs have in more stable exchange rates and a smoother adjustment process.

But of course close co-ordination of domestic policies is an ideal which is very difficult to reach. Different countries have different institutions, different interest groups and different social and political forces. For example, some countries can export their unemployed and so can accept more restrictive enconomic policies than others.

Table 2

ESTIMATED OVERALL INDEBTEDNESS OF LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES

(Billions of dollars)

Years	*Officially-guaranteed debt*	*Non-guaranteed debt to banks*	*Overall indebtedness*[a]
1974	31.51	19.76	51.72
1975	38.05	24.50	63.48
1976	48.74	30.65	81.28
1977	59.00	32.00	91.00
1978[b]	68.00	37.00	106.00

[a] Includes debt to IMF.
[b] Figures for 1978 are provisional.

However difficult it is, I believe one should continue trying to secure closer co-ordination of economic policies among industrial countries. Naturally, such co-ordination should take global needs into account, so as to facilitate the necessary current account deficit of the LDCs and its adequate financing. In this way, a smoother process of real resource transfers would be achieved. In order to ensure the consideration of global needs, LDCs should be represented in some way in discussions on policy co-ordination among industrial countries.

Reports that take a global look at the world economy play an important role here. For example, the excellent IMF periodic reports on the world economic outlook should be given wider circulation. The Interim Committee of the Board of Governors of the Fund should perhaps devote at least one full meeting a year to evaluating and discussing the world economic situation. But policy co-ordination touches some very sensitive points in many countries, and for this reason it requires some degree of regular involvement of governments at the highest political level.

At the same time, however, improving the adjustment process is in the interests of all countries, developing and developed alike.

All the effort expended in attaining the goal of policy co-ordination is well spent. However, one cannot expect such efforts to be fully effective alone, so some action should be taken in especially difficult areas even before co-ordination is improved.

a) Asset settlement of international obligations should be established, in order to create an incentive for reserve currency countries to adjust.

If asset settlement were the norm, countries could not settle their international obligations by simply increasing their liabilities abroad. Hence, if a reserve currency country were in deficit, it would pay for it with assets, like any other country. The adjustment incentive would appear as those assets were depleted.

b) An account aimed at the substitution of SDRs for reserve currencies should be set up in the IMF. Its role would be to minimize pressure on exchange rates due to desired changes in foreign exchange portfolios of monetary authorities. The countries issuing the currency accumulated in the account would recover it in an agreed period, in exchange for SDRs. In fact, this would be a form of short-term debt consolidation for some industrial countries. As these countries recover their currencies from the account, the SDRs accumulated there could be used for long-term lending to LDCs. One might call this operation the "substitution link".

c) Countries with net reserves higher than, say, 4 months' imports and with reserves growing faster than a given rate per year would pay a tax on their reserves. One way to apply this concept, for example, would be not to allocate SDRs to such countries in a future allocation, the SDRs not allocated to them being assigned to LDCs in proportion to their quotas in the IMF. In this way, an incentive for surplus countries to adjust would be established. One might call this the "adjustment link".

d) A debt refinancing facility should be established, perhaps as a joint undertaking of the World Bank and the IMF. This facility would operate under a system similar to that of the Oil Facility of the IMF. LDCs would have voluntary access to it on the basis of a pre-established set of indicators, but the amount and conditions of refinancing would be studied case by case. A refinancing facility would be a natural LDC counterpart to a substitution account for reserve currency countries.

e) A forum should be established where monetary, trade and development matters, which are so closely linked, are regularly jointly discussed, with main tendencies being highlighted and policy measures suggested. Such a forum could assess the global contribution of each industrial country to development, taking into account their contribution both through trade and through aid and other financial flows. The ideal

could be to create some form of international economic court that could pass judgement, particularly on restrictive trade practices, and establish compensation for the economic damage caused. Countries could then evaluate whether or not it was in their own interests to apply protectionist measures and to pay compensation for them. This concept of "compensated protectionism" could be further evolved as a way to allow countries some freedom in this respect, but with compensatory payments to countries damaged in the process. The multipolarity of the present world lends some realism to this proposal.

Of course, most of these ideas are neither new or realistic. However, the problem of development will be with us for a sufficiently long time to permit some unrealistic approaches at present. I believe that, as time passes, it will be increasingly clear that development is not a problem of developing countries alone, but of the world as a whole. This is my justification for considering not only problems of the Latin American countries, or of all developing countries, but also problems of the world economy to which the latter are so closely linked.

NOTES

[1] Belgium, Canada, France, Germany, Italy, Japan, Netherlands, United Kingdom and United States.

[2] "Retreat from liberal trade becomes clearer as more restrictive practices take effect", *IMF Survey*, April 9, 1979.

Financial openness and the adjustment process

Carlos Massad

The purpose of this study is to explore some aspects of the role of capital movements in the external and internal balance, with special emphasis on the external debt.

Section I consists of an introduction. Section II explores the adjustment mechanism both in the case of an open economy and in that of an economy which is closed to movements of goods or capital. Section III seeks to evaluate the "debt servicing burden", ways of measuring it, and its evolution in recent years for Latin America. The last section, Section IV, contains the main conclusions.

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I
Introduction

Capital movements have been a source of concern at both the national and international level for a considerable time past. The period between the two world wars witnessed substantial movements of capital between countries, and the great world crisis of the 1930s, which marked the end of a relatively long period of exchange freedom and convertibility, also put an end to capital markets which had become relatively well developed in the world.

The impact of the great crisis was also reflected in the organization of the international monetary system which emerged in the mid-1940s. The Articles of Agreement of the IMF adopted at Bretton Woods involved a commitment to unrestricted freedom of current payments while keeping open the possibility of direct controls on capital movements.

At this point, however, the lack of well-developed capital markets and of free convertibility, together with the existence of exchange controls of various types, left open in practice barely more than the possibility of movements of capital from official sources to likewise official users.

Only with the reappearance of the convertibility of the main European currencies as from the 1950s did a private capital market of some importance begin to emerge.

From that time on, it began to be possible and interesting to transnationalize the major national banks of the main countries, thus facilitating the growth of transfers of financial resources both between countries and between currencies. Using the facilities provided by an increasingly efficient and interconnected international banking system, it became possible to transfer large amounts of resources from one country to another or from one currency to another almost instantly. Once a real or imaginary difference of yield on short-term loans between two countries or two currencies was perceived the funds could flow in massively in order to take advantage of that difference free of risk. Thus, a recipient country of such recources which sought to back up its own currency had to accumulate enormous amounts of foreign currency in return for its national currency, with a corresponding increase in the domestic money supply. If the country supplying the funds, for its part, wanted to defend its currency it could only do so through contraction of its domestic money supply and heavy loss of reserves. Thus, the existing institutional machinery facilitated the appearance of monetary imbalances in the form of big movements of short-term capital which made it impossible to maintain the established international monetay system.

The private short- and long-term capital markets had already achieved some substantial importance by the mid-1960s, and their growth from then on took place at a dizzy rate (see table 1). This growth opened an additional door for the financing of the balance of payments and of development: private short- and medium-term capital in the form of indebtedness. Before the existence of this market, the only fairly substantial source of private external financing was direct foreign investment. Thus, developing countries which sought external financing had two possibilities open to them: official sources and direct foreign investment. Both these sources represented long-term commitments, but in the case of official loans these commitments were at interest rates

below those prevailing in the market. With the opening up and expansion of private sources of financing in the form of loans, however, loan terms tended to become shorter while the interest rates on the debt tended to rise. Indeed, later on the latter rates began to float in connection with some specific market rate, thus incorporating to some extent the future inflation expected in the centres providing the capital.

These institutional developments gave the developing countries new options for tackling their external payments imbalances. When there was only the possibility of official financing —the maximum amount of which could be predicted quite accurately— any balance-of-payments imbalance greater than the amount of such financing had to be faced with the countries' own reserves or through the application of measures which could ensure a relatively rapid adjustment of the balance-of-payments current account. These measures generally included a sharp alteration in the exchange rate and the restriction of domestic demand in order to reduce the extent to which the alteration in exchange parity was passed on to domestic prices and to bring about a smaller level of absorption of tradeable goods by the national economy. Both these effects tended in the appropriate direction, but these measures involved a sometimes intolerable effect of the level of employment, so that there was a strong temptation to apply restrictions on imports and give subsidies to exports, whether directly or disguised in the form of multiple exchange rate systems, surcharges and tax exemptions, subsidized or directly restricted systems of credit, etc.

The short-term capital movements were reflected mainly in the accumulation or disaccumulation of foreign exchange by the national private sector, and so all the movements were limited by the availability of such foreign exchange reserves in national private hands and by the financing capacity of the national private sector.

Table 1

EVOLUTION OF THE EXTERNAL ASSETS OF DEPOSIT BANKS OF THE MAIN EUROPEAN COUNTRIES, U.S.A., JAPAN AND OFFSHORE CENTRES

	Billions of dollars at end of each year	*Annual growth rates (percentages)*
1965	32.8	-
1966	38.6	17.7
1967	44.7	15.8
1968	62.5	39.8
1969	94.5	51.2
1970	118.1	25.0
1971	156.1	32.2
1972	213.3	36.7
1973	199.6	40.5
1974	388.8	29.8
1975	467.6	20.3
1976	574.1	22.8
1977	697.7	21.5
1978	916.8	31.4
1979	1 185.5	29.3

Source: International Monetary Fund, *International Financial Statistics*, 1979 and July 1980.

In recent years, the size of the financial markets and the possibility opened up for the foreign private sector to accumulate and disaccumulate securities expressed in foreign currencies have made it possible for short-term capital movements to reach very high levels. Thus, a further option has been opened up: that of "financing" current account imbalances (or desired increases in official reserves) much more easily than in the past.

II
The adjustment mechanism and financing

In view of the current ease with which it is possible to move capital it is worth reviewing the process whereby the economy of a small country adjusts to domestic monetary imbalances. This analysis is centered rather on movements of short- and medium-term capital than on those of long-term capital. In any case, the rapidly decreasing importance of official financing has meant that within the overall external indebtedness of a country, long-term capital has been losing relative importance.[1]

Let us assume that the authorities of a country expand domestic credit more than is required for keeping up the availability of money. An excess money supply then appears in this economy, and as a result of this there is an excess of demand both for goods and for securities, including securities expressed in foreign currency. If the economy in question were totally closed to the exterior and it were expected that the excess supply of money would only be temporary, this would be reflected in a reduction in domestic interest rates and an increase in domestic spending, with these two effects tending to produce inflationary pressures and/or an increase in real income. The economy would adjust through the raising of domestic prices and/or of real income and the temporary decline in interest rates would disappear, so that they would return to their normal levels once the increase in prices or income had caused the excess money supply to disappear in real terms.

In contrast, if the economy were completely open to the exterior both as regards transactions of goods and movements of capital, the adjustment process would be different. The excess money supply would have as its counterpart an excess demand for securities and goods. If the nominal exchange rate were fixed, the excess demand for securities would tend to bring about a transfer of capital to securities expressed in foreign currency, that is to say, the so-called "flight of capital". Any excess demand for goods, for its part, would exert pressure in the direction of an increase in imports and a reduction in exports, thus generating a deficit on the current account of the balance of payments.

Both these effects —that on the market for goods and services and that on the securities market— act in the same direction and help to generate a global balance-of-payments deficit. The counterpart of this deficit is a reduction in the level of official foreign reserves and a reduction in the money supply which would cause the nominal excess money supply to disappear without there necessarily being changes in domestic prices.

These two examples —that of complete isolation and that of complete openness— are extreme cases, buy they help to understand the more complex and frequent cases of partial openness and of total openness for either capital or goods, but not for both at the same time.

Out of the wide range of possible permutations between different degrees of openness of capital movements and of merchandise trade, we may select two which make it possible to bring out more clearly some empirical cases: total openness in merchandise

trade, with total absence of non-compensatory capital movements, and total openness of capital movements in an economy which is closed to transactions of goods.

1. *Openness to merchandise trade*

Let us consider the first of these cases. Starting from an equilibrium situation, with a fixed exchange rate, expansion of domestic credit above that which could be absorbed by the demand for money would mean excess money supply and this would exert pressure in the direction of an increase in the domestic demand for goods and services and a decrease in domestic interest rates (assuming that the excess money supply was expected to be only temporary). The drop in interest rates would not have the effect of causing greater demand for external financial assets, since it is assumed that capital movements are non-existent, but it would contribute to an increase in domestic demand, both for internationally tradeable goods and for non-tradeables. If all goods and services were tradeable, then the greater domestic demand would have the effect of promoting an increase in imports and a decrease in exports. The whole effect of the excess money supply would be reflected in a current account deficit on the balance of payments.

In contrast, if not all goods were tradeable there would be excess demand in the market for non-tradeable goods and an increase in their relative price. This would give rise to inflationary pressures that would be temporary provided that there was no further increase in the excess money supply. This excess supply is absorbed in two ways: through the deficit on external payments, which tends to reduce the nominal money supply, and through the increase in the prices of non-tradeable goods and services, which tends to reduce the money supply in real terms. This may not give an equilibrium situation in the long-term.

Since there is no possibility of transforming domestic financial assets into external assets, the domestic interest rate would remain under its equilibrium level until the deficit on current account made it possible to absorb the excess money supply through the loss of official reserves. For their part, the drop in domestic interest rates and the increase in demand would tend to increase the level of employment, at least temporarily.

Now let us consider the opposite case, in which there is excess demand for money. In this case, the result will be an increase in the domestic interest rate and a surplus on the balance-of-payments current account, with a return to equilibrium once the surplus has generated sufficient additional money (through an increase in the official reserves) in order to achieve a balance between the supply of money and the demand for it; until this happens, the domestic employment level may deteriorate. In an economy like this, the level of domestic prices is determined by the exterior, and domestic inflation will tend to be equal to external inflation when appropriately measured (to be appropriate, the form of measurement must take into account the specific composition of the "shopping basket" of the country in question). In contrast, domestic interest rates will be determined at least in the short-term, by the monetary policy, so that they may differ substantially from the interest rates prevailing on external markets.[2]

In a case like that analysed above, it is therefore to be expected that domestic price levels will be closely related to international levels, whereas the same may not apply to interest rates.

2. *Openness to capital movements*

Let us now consider the second case selected: an economy which is closed to movements of goods but is completely open to movements of capital. Let us assume once again that we start from a state of equilibrium and that excess money supply is generated through the

expansion of domestic credit. As in the previous case, this excess supply will exert pressure in the direction of a decline in domestic interest rates and an increase in the demand for goods. The downward trend in interest rates will generate a change in the composition of financial assets in favour of those expressed in foreign currency, since domestic interest rates will tend to be lower than external rates. The possibility of acquiring external assets will mean, however, that this reduction in the rates will be practically nil if capital can move easily. The less this ease of movement (or the greater the cost), the greater will be the temporary difference produced between the two types of interest rates.

On the other hand, the increase in the demand for goods will not be reflected in an increase in imports and a reduction in exports, since this economy is closed to international movements of goods. Consequently, the entire impact of the increase in the demand for goods will be reflected, under conditions of full employment, in an increase in domestic price levels. In this case, therefore, we will see that the nominal domestic interest rates are closely linked with international rates, whereas domestic price levels may diverge considerable —at least for a certain length of time— from external levels.

In these two cases, no account has been taken of the time that the adjustment process will last and the possible exchange variations, the aim being to highlight what in my opinion are the fundamental elements in the analysis of the process of adjustment to domestic monetary imbalances. It should be clear from the foregoing consideration that in real economies it is not possible to divorce the analysis of the balance-of-payments current account from that of the capital account. Both are linked with each other, and the greater the possibility that movements of capital can take place, the closer this linkage is. In reality, under this approach the global quantitative result of the balance of payments is determined by the size of the domestic monetary imbalance, whereas the composition of this overall result depends on the way this imbalance is reflected in the markets for goods and securities.[3]

3. *The speed of adjustment*

It may be expected that the speed of adjustment of the capital account will be greater than that of the current account. Movements of capital represent changes in the composition of the portfolios of financial assets and liabilities, and these can be carried out without delay. In order to make changes in imports and exports, however, time is required in order to determine which are to be varied and from which markets, and in certain cases the necessary investments will have to be made also. Under the present institutional circumstances, capital can be moved almost instantly, but not goods.

Preliminary studies carried out in ECLAC confirm this view. Using a model based on the monetary approach to the balance of payments, Valeriano García tried out an estimate of the time needed for adjustment on the balance-of-payments current account and capital account in the period 1960-1976 in nine Latin American countries. García drew a distinction between imbalance in the existing stock and in the flows and estimated the coefficients of adjustment for the capital account and for the balance of payments as a whole. In both cases, he found that the coefficient is greater in the case of the capital account, both for imbalance in the flows and for imbalance in the existing stock.[4]

At this point it is worth pausing for a moment to consider the relative ease with which movements of capital can take place under different degrees of control. The European experience in recent years, reflected in reports of both OECD and the IMF, seems to show that the existing institutional means make attempts at control completely futile. In a recent study covering a group of Latin American countries, Ricardo Arriazu

reaches the same conclusion and goes even further: he says that when control over movements of capital tends to increase, the movements become even greater and are in the opposite direction to that desired. The empirical evidence seems to show clearly that the order of cause and effect is indeed as shown here and not the reverse.[5]

Short-term capital movements do not always play a balancing role. Once a flow towards a country has been initiated, this may create expectations of revaluation of the currency of the recipient country, thus making the flow of capital even more attractive and consequently increasing it. Alternatively, an outflow of capital can raise expectations of devaluation, thus accentuating the incentive for such an outflow. This is why, in the present institutional circumstances, it is of the utmost importance that the economic policy of each country should aim at a suitable combination of interest rates and exchange rate variations which will not tend to facilitate unbalancing movements of capital.

III
The external debt

The facilities available for "financing" a balance-of-payments imbalance involve in themselves a risk for the future. It may rightly be argued that, in a world open to movements of capital, these movements will not tend to take place only in one direction. On the contrary, it is perfectly possible and even highly probable that while a country is receiving capital from the exterior, at the same time it will be sending capital abroad in a process which is connected not only with the yield on that capital but also with the average risk of the portfolio of such investments.[6] This means that, at the same time that foreign investors are interested in making investments in the country in question, the investors of that country itself can also have an incentive to invest abroad. When we speak of investments, these do not include only what is traditionally considered as direct investment, but also investments of a financial nature, including loans.

It is this latter component which has reached high levels in recent years. At the end of 1979, the external debt of the non-oil-exporting Latin American countries came to almost US$ 140 billion, and it is estimated that by the end of 1980 it will amount to US$ 160 billion.

1. *The external debt and the evaluation of creditworthiness*

External lenders do not see the phenomenon of the debt as a kind of international diversification of their portfolio, and they do not take into account the fact that they are not only lending but also receiving instead the size of a country's debt is evaluated without recognizing that the country is in turn "lending" to the exterior.

According to figures prepared by the Bank for International Settlements in Basle, at the end of 1979 the banks in the principal industrialized countries and the branches of United States banks in overseas financial centres registered total assets in Latin American countries of US$ 122.7 billion and liabilities of US$ 52.4 billion.[7] In other words, the Latin American countries in question, which do not include the Caribbean area, had received US$ 122.7 billion in loans, but had in turn "lent" (deposited) US$ 52.4 billion to the banks in question.

When the external debt is analysed, however, this fact is not taken into consideration, even though the opening up of the capital market to the exterior necessarily tends to increase both the level of indebtedness of the country in question and the level of its investments abroad. For this reason, the so-called "creditworthiness"

Table 2

LATIN AMERICAN NON-OIL-EXPORTING COUNTRIES: OUTSTANDING GLOBAL DEBT AT END OF EACH YEAR[a]

(Billions of dollars and percentages)

	1974	*1975*	*1976*	*1977*	*1978*	*1979*[b]	*Percentage increase between 1974-1979*
Nominal values by groups of countries[c]							
Group I (debt: over 10 billion)	31.6	40.7	54.7	63.0	76.6	92.0	191
Group II (debt: between 1 and 10 billion)	16.7	18.8	21.1	23.9	28.7	38.0	128
Group III (debt: less than 1 billion)	3.9	5.4	7.0	8.2	10.5	13.0	238
Total	**52.2**	**64.9**	**82.8**	**95.1**	**115.8**	**143.0**	**174**
Real values							
Adjusted by import prices							
Group I	22.5	27.1	34.6	38.2	44.1	46.4	106
Group II	12.7	12.6	13.8	14.2	16.1	18.0	42
Group III	2.9	3.6	4.4	4.8	5.8	6.3	117
Total	**38.1**	**43.3**	**52.8**	**57.2**	**66.0**	**70.7**	**86**
Adjusted by terms of trade							
Group I	34.1	44.7	58.0	65.3	81.0	98.9	190
Group II	16.9	24.6	26.2	30.2	37.7	49.6	193
Group III	4.1	5.5	7.3	7.8	10.7	14.1	244
Total	**55.1**	**74.8**	**91.5**	**103.3**	**129.4**	**162.6**	**195**
Price indexes (1973 = 100)[d]							
Exports Group I	129.0	136.7	149.5	159.3	164.6	184.6	
Group II	130.7	114.2	123.6	133.3	136.0	162.3	
Group III	132.3	151.2	153.5	181.9	179.4	192.6	
Imports Group I	140.2	150.2	158.5	165.2	174.0	198.3	
Group II	132.2	149.5	153.0	168.4	178.3	211.8	
Group III	136.9	153.4	160.1	172.1	182.0	208.4	

Source: International Monetary Fund, "Balance of Payments Yearbook"; World Bank, "World Debt Tables", 1979; Bank for International Settlements (BIS), Annual Report, June 1980; ECLAC estimates.

[a] Refers to the debt actually disbursed and includes estimates of the private debt not guaranteed by the State.

[b] Estimates based on preliminary figures.

[c] Classification refers to the year 1974. Group I includes Brazil and Mexico, Group II Argentina, Chile, Colombia and Peru, and Group III the remaining Latin American non-oil-exporting countries.

[d] For the purpose of better comparability, the base of the indexes was changed to 1973=100 and they refer to the unit values of exports and imports of goods and services.

becomes a restriction on external indebtedness and, as noted above, a substantial external risk. If for some reason the external view of a country's creditworthiness deteriorates, the flow of external financing may be abruptly cut off, making necessary an exaggerated adjustment in the current account and/or capital account of the balance of payments and calling for restrictive domestic policies which can sharply increase unemployment in the short term. This risk makes necessary extremely careful handling of domestic policy, on which it also imposes certain restrictions.

As external idebtedness cannot be unlimited, for the reasons already noted, the demand for direct foreign investment as a form of future financing will tend to increase even though, from a strictly economic point of view, external indebtedness and direct foreign investment are very close substitutes of one another.

The process of evaluation of the creditworthiness of countries has been carried out with growing sophistication by the external creditor institutions. Even so, this process is still based on just a few indicators which do not enable the future payments capacity of a country to be accurately determined. When we recall that in the long run countries always pay their debts (except in the event of a true worldwide disaster) and that also all goods are tradeable in the long term, then the current state of the balance of payments, which is the most frequently used indicator, is not necessarily a good index.[8]

2. *The burden of debt servicing*

On the other hand, it should also be clearly understood that certain arguments used by some debtor countries to minimize the importance of their debt are fallacies. Thus, for example, it is asserted that international inflation reduces the real value of the debt as measured in terms of the domestic resources needed to pay it. There are two argements which run counter to this assertion. One is that the rates of interest charged on an ever-increasing proportion of the debt are floating and include at least in part, as has recently been shown in the financial markets, the inflationary expectations of the creditor countries. Secondly, the cost of servicing a country's debt does not depend on the international rate of inflation but on the way the prices of that country's imports and exports behave or, more generally, the way its social exchange rate behaves.[9]

Thus, an increase in the external prices of imported products makes it more costly, in terms of the resources committed, to generate a unit of foreign exhange to service the debt. The increase in the prices of imported products means that it is necessary to devote a country's present or future domestic resources to financing the real level of imports, with the result that the marginal cost of obtaining one more unit of foreign exhange increases. On the other hand, an increase in the external price of exports has the opposite effect. Such an increase means that it is necessary to use fewer real domestic resources to pay for a given volume of imports, so that the marginal cost of generating one more unit of foreign exchange is reduced. These variations in prices will be reflected in the social value of foreign exchange. Failing this, a more appropriate means of measurement than those normally used may be obtained by deflating the figures of the external debt by an index of the external prices of exports and multiplying those figures by an index of the external prices of imports. This is equivalent to dividing the nominal value of the debt by a terms-of-trade index.

As we can see from table 2, whereas the increase in the nominal debt for the Latin American non-oil-exporting countries between 1974 and 1979 comes to 174%, this figure is halved if the debt is deflated by an index of the price of imports. In contrast, if we use as a deflator a terms-of-trade index, the figure increases to 195%. Likewise, we see from the table that the growth rate of the debt adjusted in this manner is very similar both for those countries which in 1974 had an external debt of over US$ 10 billion and those whose debt was between US$ 1 and US$ 10 billion.

IV
Conclusions

In conclusion, it may be maintained that the current financial institutionality tends to facilitate capital movements between countries; the control of such movements has now become very difficult, and consequently economic policy must be perfected with the aim of preventing capital movements from destabilizing the economies. Furthermore, in a world which is open to capital movements, these will tend to take place between countries not only as a function of considerations of profitability, but also as a function of the average risk of a given portfolio of investments. Thus, capital will flow between two countries in both directions, even when the level of profitability is identical in both, as long as the variations in that profitability are not identical. Although it is true that the Latin American countries have been net recipients of capital, it is also true that these countries "invest" abroad. Consequently, their external creditworthiness must take into account both the debt which they have and the loans which they themselves have made to the exterior. It can also be expected that these tendencies will continue for some time, since the national investment portfolios are far from having reached equilibrium. As their external creditworthiness acts as a restriction on their capacity for indebtedness, however, countries must continue to look carefully at their balance-of-payments current account results, in order to prevent an adverse creditworthiness rating from jeopardizing their access to capital markets.

NOTES

[1] Direct investments may be considered to correspond to long-term capital in terms of profitability and risk, although the short-term conditions may determine the actual moment at which the investments are begun.

[2] The comparison between the two types of interest rates must take into account the expected variations in the exchange rates.

[3] See Carlos Massad: "El enfoque de absorción y el enfoque monetario de la balanza de pagos: ¿Resultados contradictorios?", in *Estudios de Economía* No. 15, Department of Economics, University of Chile, Santiago, 1980.

[4] See Valeriano García: "Ajuste de la balanza de pagos, política de crédito y control de la deuda externa", in *Política monetaria y ajuste de la balanza de pagos: tres estudios*, Cuadernos de la CEPAL series, No. 29, United Nations, Santiago, 1979.

[5] See R.H. Arriazu: "Movimientos internacionales de capitales", Cuadernos de la CEPAL series, No. 32, United Nations, Santiago, Chile, 1979 (UNDP/ECLA Joint Project).

[6] See C. Massad: "Cartera de inversiones de los países productores de petróleo; su diversificación hacia América Latina", *Revista Estudios de Economía*, No. 12, Department of Economics of the University of Chile, Santiago, Chile, 1979.

[7] See Bank for International Settlements, *International Banking Developments - first quarter 1980*, Basle, 29 July 1980, table 7.

[8] See A. Saieh: "Un análisis sobre la posibilidad de evaluar la solvencia crediticia de los países en desarrollo", *Monetaria*, No. 3, CEMLA, 1979.

[9] See C. Massad and R. Zahler: "Inflación mundial y deuda externa: el caso del deflactor impropio", in *Dos estudios sobre el endeudamiento externo*, Cuadernos de la CEPAL series, No. 19, Santiago, 1978.

The monetary and real effects of the financial opening up of national economies to the exterior

The case of Chile 1975-1978

Roberto Zahler

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I
Introduction

Several countries in the Southern Cone of Latin America have in recent years experienced fairly similar economic and social circumstances, involving political and institutional breaks with the past of varying degrees of abruptness, partly as a result of a very complex economic situation marked by inadequate economic growth, a high rate of inflation, balance-of-payments difficulties, extensive price controls, the existence of large black markets and a drop in output.

In each case the new authorities attributed this situation to the development strategy based on industrialization through import substitution, and to the effect of the numerous "distortions" which affected the price system.

In these circumstances, in the light of this interpretation and in the context of a new political order, economic policies seeking "normalization" were introduced with the aim of laying the foundations of a different style of development, guided by a strategy very different from that followed over the past thirty years.

The new strategy emphasizes opening up to the exterior, the free functioning of markets and the stimulation of private initiative; it assigns a "subsidiary" role to the State, and places emphasis on reducing the government deficit and public expenditure, controlling the means of payment, and ensuring price stability.

The principal features of the short-term economic policy have been an endeavour to reduce the existing macroeconomic imbalances and the allocation of priority —in view of the initial situation— to control inflation and improvement of the balance of payments, as well as external creditworthiness.

The above describes more or less what happened in Argentina, starting in March 1976, in Chile, starting in September 1973 and in Uruguay, starting in September 1974.

However, there were also some substantial differences, arising partly from the initial situation from which the experiments evolved, and from certain structural characteristics specific to each of these countries. Particular mention may be made in this respect of political and institutional features; those related to the type of export market; the degree to which productive activity was in private or State hands; the speed and completeness with which the economies were opened up to external forces (as regards both real and financial aspects); the predominance of certain economic policy objectives over others (for example, full employment versus price stability); and the approach used and degree of independence and consistency achieved by the technical teams in handling economic affairs.

To a degree, this study falls within a context established by two relatively new global phenomena, one in the international economic field and the other in the application of economic policies by some developing countries.

On the one hand there is the growth in international liquidity and the increasing importance of the international private banks in the recent period, as a result of which private financial credits have been growing in importance in comparison with official external financing, and are beginning to replace direct foreign investment as the main mechanism whereby capital is exchanged between the industrialized countries and the countries at an intermediate stage of development. The emergence of these new

characteristics on the international financial scene makes it necessary to highlight, in relation to the past, the specifically economic determinants of supply and demand for external financial resources.

From the viewpoint of the development strategy and economic policy applied by various Latin American countries, especially in the Southern Cone, there is a definite tendency towards external economic opening up. As far as the opening up of trade is concerned, this has attracted a good deal of attention in professional and academic circles. However, there is a lack of studies on the external financial opening up proper, and also on its implications for the efficiency of monetary and credit policies and its repercussions on the evolution of domestic prices, the external debt, employment, investment and redistribution of wealth arising from differences in timing or in speed between commercial opening up and financial opening up.

In view of the fact that these events are very recent, that information is relatively scarce and that a comparative analysis of the three cases goes beyond the planned scope of the present study, and also because of the author's greater knowledge of the Chilean case, Chile has been selected as the subject of this study.

II
The initial situation

Between 1971 and 1973 an attempt was made to modify profoundly the distribution of income and wealth in the country. In the long term this implied an alteration of the structure of production, of the mode of operation of the economy and, more broadly, of the type of relations predominating in Chilean society up to that time. As far as economic aspects were concerned, this involved an intensification of the process of agrarian reform and the establishment of an area of social ownership in the spheres of production, finance and marketing.

The economic programme drawn up at that time did not pay due attention to the management of financial variables, but concentrated on an attemp to control the concrete aspects of the process of production and distribution. Because of this, the short-term macroeconomic policy produced such results, at least in some respects, that towards the end of 1973 Chile was facing an economic situation characterized by numerous severe imbalances, both in the fiscal and monetary sectors and in the balance of payments.

The creation of the area of social ownership and the prices policy applied in it, together with the increasing gap between government expenditure and tax revenues, led to a marked increase in the fiscal deficit. While in the decade 1960-1969 the deficit represented on average 14.6% of expenditure in the sector and 3.3% of gross domestic product expenditure, the corresponding values in the period 1970-1973 were 35.5% and 12.5%. In 1973, the fiscal deficit was equivalent to 55.1% of fiscal expenditure and 23.6% of gross domestic product expenditure (see table 1). In real terms the fiscal deficit in 1973 was seven times as large as in the decade 1960-1969, while fiscal expenditure as a proportion of gross domestic product expenditure stood at double its recent historical share.

Developments in the monetary sector also showed signs of severe imbalances. Whereas in 1960-1969 the average growth rate of private money (M_1) was 37% a year, this figure rose fivefold in 1970-1973 and in 1973 growth in M_1 was 419%. There is no doubt that, in the face of this growth rate in the means of payment, "monetary" causes were important in explaining the inflationary process which the country was

Table 1

CHILE: FISCAL DEFICIT: 1960-1978

(Percentages)

As proportion of	*1960-1969*	*1970-1973*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*
Fiscal expenditure	14.6	35.5	55.1	32.6	11.6	10.0	8.1	4.2
Gross domestic product expenditure	3.3	12.5	23.6	10.3	3.1	2.7	2.3	1.2

Source: *Ministry of Finance, Budget Department, Exposición sobre el estado de la hacienda pública*, Santiago, Chile, January 1979.

Table 2

CHILE: MONEY AND PRICES: 1966-1973

(Percentage change)[a]

	Inflation[b]	*Currency issue*[c]	*Money*[d]
1966-1970	26	48	41
1971	41	133	113
1972	205	174	152
1973	599	462	363

Source: Central Bank, *Boletín mensual*, various issues, and "Series Monetarias", July 1979. University of Chile, Department of Economics, "Indice de Precios al Consumidor", 1970-1976.

[a] December to December.

[b] Consumer Price Index: 1966-1970 —National Statistical Institute (INE), 1971-1973— University of Chile, Department of Economics.

[c] Adjusted issue (figures of the Central Bank of Chile).*

[d] Private sector money (figures of the Central Bank of Chile).

*This is the recorded issue by the private and banking sector, adjusted for various non-monetary items in the Central Bank Balance. See University of Chile, Department of Economics, *Estadísticas monetarias de Chile 1940-1975*, Publication No. 70, Santiago, June 1979, pp. 37-42.

experiencing; inflation reached levels unprecedent in the economic history of Chile. In the period 1970-1973, annual average growth in the Consumer Price Index was 117%,[1] and it reached a rate equivalent to 355% in September 1973, revealing a very serious state of affairs not only because of the very high rates of inflation, but also because inflation did not appear to be under control. In the period 1960-1969, in contrast, the average annual rate of inflation was 25% (see table 2).

The country's external position, the level of international reserves and capacity to secure external loans had also sharply worsened.[2] As can be seen from table 3, both the trade balance and the current account balance deteriorated in 1970-1973 compared with the average for the 1960s. By the end of 1973 the level of net international reserves was negative to the extent of US$ 231 million, compared with a positive balance of US$ 409 million in December 1970.

Of course, the situation described above was at least partly due to, and was aggravated by, the mode of operation of the foreign exchange, financial and monetary markets, and even the market for real goods and services.

The functioning of the foreign exchange market was characterized by the existence of multiple undervalued exchange rates, prior import deposits, para-tariff restrictions, import bans and other quantitative limitations.

The financial sector, for its part, operated with interest rates held at excessively low levels, high and differential reserve ratios, qualitative and selective control of bank credit, and so on. Moreover, the Central Bank offered no resistance to the demands of the government sector and State-owned enterprises, and thus helped to accentuate inflationary pressures.

To this should be added the profusion of price controls in the market for real goods and services, with the resulting effects on the allocation of resources and the general efficiency of the economic system, and on the emergence of parallel (black) markets.

Although the unemployment rate stood below its historical levels (to a large extent because of the rise in employment in the public sector and the area of public ownership), the share of gross domestic fixed capital investment in the gross domestic product expenditure in the period 1971-1973 was 20% lower than in the 1960s. Furthermore, after a growth of 7.7% in gross domestic product expenditure in 1971, it fell to 0.1% in 1972 and 3.6% in 1973.

In view of the circumstances described above, the new authorities set themselves the short-term aim of re-establishing macroeconomic equilibrium, particularly in the financial field.

Table 3

CHILE: BALANCE OF PAYMENTS

	1960-1969	*1970-1973*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*
	(Millions of dollars)							
Exports of goods	74	1 056	1 304	2 146	1 554	2 109	2 177	2 480
Imports of goods	686	1 170	1 447	2 016	1 708	1 655	2 244	2 917
Trade balance[a]	18	-114	-143	130	-154	454	-67	-437
Current account balance	-135	-236	-288	-211	-491	148	-399	-730
Balance of non-compensatory capital	148	203	242	228	299	235	346	1 351
Balance of payments	25	-132	-112	-45	-275	455	-7	671
Net international reserves (average for the period on the basis of end-of-year figures)	-15	42	-231	-277	-551	-96	-103	515
	(Percentage of gross domestic product expenditure)							
Exports of goods	18.2	17.4	19.2	25.6	19.5	24.3	21.8	21.7
Exports of goods (excluding copper) and services	7.8	6.5	5.5	8.0	11.5	13.4	15.0	16.2
Imports of goods	17.7	19.3	21.4	24.0	21.4	19.1	22.4	25.5
Trade balance[a]	0.5	-1.9	-2.1	1.6	-1.9	5.2	-0.7	-3.8
Current account balance	-3.5	-3.9	-4.2	-2.5	-6.2	1.7	-4.0	-6.4
Balance of non-compensatory capital	3.8	3.3	3.6	2.7	3.7	2.7	3.6	11.8
Balance of payments	0.6	-2.2	-1.7	-0.5	-3.4	5.2	-0.1	5.9
Net international reserves (average for the period on the basis of end-of-year figures)	-0.4	0.7	-3.4	-3.3	-6.9	-1.1	-1.0	4.5

Source: Central Bank of Chile, *Boletín mensual*, December 1976 and May 1979. Ministry of Finance, Budget Department, *Exposición sobre el estado de la hacienda pública*, January 1979.

[a] Defined as exports of goods less imports of goods.

As a longer-term strategy, the new régime has endeavoured to build up an economy based on the use of the free price system as a mechanism for resource allocation,[3] the progressive reduction of the State's role in the economy and the attribution of a "subsidiary" role to the State, which must act in such a way as to cause the least possible distortion in the operation of the markets.

Repeated stress has been laid on the need to control inflation and to open up the economy to the exterior. Measures to combat inflation have principally been justified on the grounds of their impact on the transparency and stability of the price system, and accordingly on the allocation of resources. The need to open up the economy has been explained in terms of the size of the international market and the effect of such a step on the competitiveness and efficiency of the Chilean economy.

Consequently, the policies which most merit analysis here —though they were not necessarily applied at the same time, despite the fact that their introduction became fairly systematic[4] from the beginning of 1975 onwards— were the following:

a) Efforts to control the inflation process by reducing the growth rate of the means of payment and currency issue;

b) Reduction in the size of the State apparatus, government expenditure and the fiscal deficit, and transfer by the State to the private sector of all those activities (including, of course, productive activities) which the authorities felt that the private sector could carry out efficiently;

c) Opening up the country to the exterior, especially as regards trade in goods and non-financial services, by simplifying and reducing rules applying to external trade, progressively lowering and standardizing tariffs and, where possible, eliminating all allocation criterion other than the price of foreign exchange;

d) Unification and forward planning of the nominal exchange rate on the basis of two criteria: the differential between the Chilean and the United States inflation rates, and the evolution of the international reserves of the monetary system;

e) Liberalization and development of the domestic financial sector, with the criteria of profitability of assets and liabilities of the financial system, and competition between its institutions and intermediaries, becoming the guides for decision-making and action by economic agents. Interest rates would be allowed to move freely, and legal reserve requirements would be reduced and standardized in accordance with general economic policy;

f) A partial opening up to movements of international capital, principally controlled through the establishment of minimum repayment periods and restrictions on the capacity of the national banking system to borrow and to issue guarantees.

III

The counter-inflation strategy within the macroeconomic policy

The counter-inflation strategy was principally based on the effort to control the rate of growth of the monetary base and money (defined as M_1). This approach was based on the view of new economic authorities that the magnitude of the Chilean inflationary process by the end of 1973 stemmed from monetary causes which could fundamentally be attributed to the deficit incurred by the public sector and the enterprises in the area of social ownership.

This prompted a sharp restriction of credit from the monetary system to the government sector, which in 1975-1978 became responsible (as regards its budgetary situation in current terms) for a "disissue" of currency, absorbing in that period 15% of the total issue of the Central Bank (see table 4).

This is consistent with the official medium-term and long-term views on the size and self-financing of the State sector and the need for a sharp reduction in the fiscal sector deficit (see table 1). In these circumstances, the public sector cut back its deficit by reducing expenditure,[5] increasing tax revenues,[6] raising the tariffs of public enterprises and services and, though to a lesser extent, seeking to finance deficits by borrowing domestically from the private sector.

Another important source of finance for the State was the sale of some of its assets; by December 1978 the Corporación de Fomento de la Producción had obtained the equivalent of US$ 585 million in this way. Naturally, this source of income tends to vanish when the process of selling State assets has been completed.

Nevertheless, it should be noted that despite the appreciable effort of the public sector to accommodate itself to the requirements of the new economic policy, growth in the monetary base up to the end of 1977 remained extraordinarily high for what was termed a "monetarist" stabilization strategy. Only in 1977 did annual growth in the monetary base fall below the levels recorded in 1971-1973, and even then it remained excessively high, both in absolute terms and in comparison with the periods prior to 1970 (see table 5).

Moreover, in spite of the efforts of the monetary authorities to control the means of payment, it took about five years[7] to reduce inflation to levels close to, though higher than, historical levels.[8]

Table 4

CHILE: VARIATIONS IN ADJUSTED CURRENCY ISSUE, 1974-1978

	Adjusted issue	*Exchange operations*[a]	*Domestic credit*	*Treasury and bond operations*
		Absolute values (millions of pesos)		
1974	692	-41	-14	746
1975	3 138	2 336	997	-193
1976	11 027	9 536	3 285	-1 794
1977	14 318	7 453	7 025	-160
1978	16 578	16 747	4 223	-4 392
		Percentage breakdown		
1974	100.0	-6.0	-2.1	107.8
1975	100.0	74.4	31.8	-6.2
1976	100.0	86.5	29.8	-16.3
1977	100.0	52.1	49.1	-1.2
1978	100.0	101.1	25.5	-26.5

Source: Central Bank of Chile, *Series monetarias*, July 1979; University of Chile, Department of Economics, *Estadísticas monetarias de Chile, 1940-1975*.

[a] Including operations with the private sector and with the Treasury.

Table 5

CHILE: MONEY AND PRICES, 1966-1978

	Percentage change (December to December)			*Velocity of circulation*[a] *(number of times per year)*
	Adjusted issue	*Private sector money*	*Consumer price index*	
1966	60.3	38.9	17.0	12
1967	21.1	25.1	21.9	12
1968	46.0	38.3	27.9	13
1969	41.8	35.2	29.3	13
1970	70.3	66.2	34.9	12
1971	132.7	113.4	41.0[b]	8
1972	173.7	151.8	205.0[b]	8
1973	461.6	363.0	599.0[b]	10
1974	222.5	231.2	375.9	20
1975	312.9	257.2	340.7	24
1976	266.3	189.3	174.3	25
1977	94.4	113.5	63.5	20
1978	56.2	65.0	30.3	17

Source: Central Bank of Chile, *Series Monetarias, op.cit.; Exposición sobre el estado de la hacienda pública, op.cit.;* INE and Department of Economics, University of Chile.

[a] Defined as the gross domestic product expenditure divided by M_1. These figures correspond to observed values, which are not necessarily the equilibrium values.

[b] *Source:* Department of Economics, University of Chile. For the remainder of the period, the source is INE.

In terms of the analytical framework in which the economic policy operated, this would seem to be due principally to the relative lack of sound instruments for monetary control,[9] above all because of the embryonic nature of the long-term capital market, which prevented proper open-market operations. This was aggravated by the evolution of the velocity of circulation of money,[10] basically as a result of the creation of very good substitutes for money and the persistence, for a considerable period of time, of high inflationary expectations.[11]

1. *The counter-inflation policy and opening up to the exterior*

Since the difficulty in controlling currency issue lay principally in the exceptional inflow of foreign currency, which accounted for 80% of the cumulative change in the money base between 1975 and 1978, it would appear essential to analyse more thoroughly the repercussions of this change on a group of variables of key importance for the operation, balance and vigour of the economy.

In the first place, it is worth recalling the well known fact that, if the exchange rate is fixed (in the sense that the Central Bank undertakes to buy and sell foreign exchange at a given, though not necessarily constant, price), then as an economy is opened up to external forces (either through the current account, the capital account, or both), domestic issue and money become increasingly endogenous[12] *vis-a-vis* the functioning of the economy. In this way the efforts of the authorities to control the nominal supply of money tend to be fruitless, and their field of action is limited to domestic credit.

As is well known, the Chilean production sector was subjected in a rapid and escalating manner to external competition, as a result of the progressive reductions in tariffs (see table 6)[13] and the introduction of a single real exchange rate which, despite these reductions, did not rise appreciably (see table 7).

Although protection for some sectors which were previously subject to negative effective protection was increased, the average tariff was lowered and standardized, and quantitative restrictions of all kinds were minimized almost to the point of elimination.

As a consequence of this opening up to foreign trade, attempts to control money supply tend, though not immediately, to be cancelled out by movements in the current account[14] or the capital account of the balance of payments. In other words, changes in the level of international reserves result from imbalances in the monetary sector.

The evolution of the capital account of the balance of payments, and in particular that of net inflows of foreign loans to the domestic private sector, especially since the end of 1977, have played a preponderant role in this regard.

Although the external financial liberalization took place more slowly than the liberalization of the real sector of the economy, it came to form the main mechanism through which liquidity in the economy was increased. Part IV below contains a more thorough discussion of the special stimulus given to private borrowing abroad. Here we shall briefly analyse the important role played by such borrowing in slowing the decline in the growth of currency issue and thus causing the main burden of the stabilization programme to fall with excessive force on the public sector.

In order to understand the role played by international movements of capital, it is necessary to remember that during the first half of 1975, determination of the interest

Table 6

CHILE: NOMINAL TARIFFS, 1973-1979

(Percentage of CIF values)

Date of adjustment	*Average tariff*	*Maximum tariff*[a]
1973: at 31 December	94	Over 500
1974: 1 March	90	200
27 March	80	160
5 June	67	140
1975: 16 January	52	120
13 August	44	90
1976: 9 February	38	70
7 June	33	60
22 December	27	60
1977: 8 January	24	50
30 April	22	50
29 August	20	35
December	16	25
1978: March	15	20
June	14	20
December	12	15
1979: June	10	10

Source: Central Bank of Chile.

[a]There are a small number of exceptions to the maximum tariffs, the most important of which relates to motorcars.

Table 7

CHILE: EVOLUTION OF THE EXCHANGE RATE AND PRICES

Indexes (Average for 1974 = 100)

Period	*Index of the nominal exchange rate* (1)	*Index of wholesale prices of domestic products* (2)	*Index of wholesale prices in the United States* (3)	*Index of the real exchange rates*[a] [(1)(2)] (3) (4)
1974 (average)	**100**	**100**	**100**	**100**
First quarter	52	46	92	104
Second quarter	77	73	96	101
Third quarter	108	115	103	97
Fourth quarter	167	169	106	105
1975 (average)	**595**	**590**	**108**	**109**
First quarter	280	261	106	114
Second quarter	490	452	107	116
Third quarter	700	697	109	109
Fourth quarter	907	946	111	106
1976 (average)	**1 580**	**1 920**	**114**	**94**
First quarter	1 212	1 224	112	111
Second quarter	1 517	1 720	113	100
Third quarter	1 640	2 266	115	83
Fourth quarter	1 950	2 474	116	91
1977 (average)	**2 607**	**3 514**	**121**	**90**
First quarter	2 230	2 900	118	91
Second quarter	2 353	3 392	121	84
Third quarter	2 695	3 744	121	87
Fourth quarter	3 128	4 020	122	95
1978 (average)	**3 828**	**5 097**	**130**	**98**
First quarter	3 520	4 352	126	102
Second quarter	3 778	4 868	130	101
Third quarter	3 953	5 358	131	97
Fourth quarter	4060	5 810	134	94

Source: Central Bank of Chile; National Institute of Statistics (INE).

[a] This column probably underestimates the actual real exchange rate, if one takes into account the diversification of Chilean foreign trade and the devaluation of the dollar against other industrial countries' currencies. No calculations of the effective exchange rate are published in Chile.

rate in the domestic financial system was left to market forces. At the same time, steps were taken to ensure a sharp reduction in the previous control —both quantitative and qualitative— on bank credit, by stimulating competition within the financial system.[15] However, because of the desire to control growth of the means of payment, high reserve ratios on deposits were maintained for a substantial period, and this helped to create a marked difference between interest rates for borrowers and for lenders.

As may be seen from table 8, from the second quarter of 1975 onwards extremely high real interest rates for borrowers existed side by side with rates to depositors which, while positive (especially from the second half of 1976 onwards), were much lower than the lending rates. The principal explanation for this, as already noted, lies partly in the

high reserve ratios and also in the cost of operations by intermediaries and the profits obtained by the financial system during the period under consideration.[16]

Table 9 provides data on actual domestic interest rates[17] expressed in (nominal) dollars, in other words the pertinent rates which are comparable with international interest rates. Here it can be seen that, with the exception of 1975, when the rate of devaluation of the peso was almost identical to the nominal bank interest rate to borrowers, real rates in the remainder of the period were extraordinarily high.

The differential between the interest rates prevailing in Chile and those in the main international financial centres (which on various occasions have recorded negative rates in real dollars), together with the excess supply of international liquidity in the industrialized countries, the improvement in the international reserve position of the Chilean monetary system and Chile's creditworthiness, go a long way towards explaining the inflow of foreign exchange to the country during this period.[18]

Mention must also be made of the stimulus given to demand for external liabilities on the part of residents, because of the types of controls affecting international capital movements, which, for persons who had access to external finance, led to substantial monopolistic or quasi-monopolistic profits (see Part IV).[19]

As may be seen from table 10, in the four years between 1975 and 1978 net flows of private capital made up 74% of exchange operations and 58% of the cumulative issue during that period.

It should be noted that, while the inflow of external credit, through its influence on the domestic capital market, helps to reduce the interest rate, this requires that there

Table 8

CHILE: REAL 30-DAY BANK INTEREST RATES ON PESO DEPOSITS[a]

(Percentages)

	1975			*1976*			*1977*			*1978*		
	Charged	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*
January	-3.8	-4.0	0.2	3.7	-0.4	4.1	6.2	1.9	4.3	5.4	4.2	1.2
February	-5.9	-5.5	-0.4	3.9	0.1	3.8	5.4	1.0	4.4	3.6	2.2	1.4
March	-9.6	-8.0	-1.6	1.0	-3.2	4.2	3.8	0.1	3.7	1.5	0.1	1.4
April	-9.3	-6.8	-2.5	2.6	-1.3	3.9	3.9	0.9	3.0	1.8	0.7	1.1
May	2.6	-1.3	3.9	4.8	2.3	2.5	3.8	1.4	2.4	3.6	2.4	1.2
June	1.0	-3.3	4.3	1.6	-0.6	2.2	3.5	1.4	2.1	2.8	1.3	1.5
July	10.9	5.4	5.5	2.7	-0.9	3.6	2.4	0.6	1.8	1.9	0.7	1.2
August	9.4	3.7	5.7	6.0	2.6	3.4	2.8	1.0	1.8	1.8	1.0	0.8
September	8.7	0.3	8.4	3.7	0.3	3.4	2.4	1.0	1.4	2.1	1.3	0.8
October	3.3	-0.4	3.7	4.8	1.3	3.5	2.6	1.3	1.3	3.6	2.7	0.9
November	3.5	-0.2	3.7	8.4	4.6	3.8	5.2	3.8	1.4	4.0	2.9	1.1
December	6.9	2.7	4.2	7.7	3.8	3.9	4.2	1.3	4.0	3.1	0.9	
Annual[b]	15.9	-17.8		64.2	10.8		57.2	18.7		42.6	25.0	

Source: Central Bank of Chile.

[a] Defined as $i_R = \frac{i_N - p}{1 + p}$, where i_N is the nominal monthly bank rate and p is the monthly inflation rate as indicated by the change in the Consumer Price Index.

[b] Annual real rate, calculated by compounding the real monthly rate over the year.

Table 9

CHILE: 30-DAY BANK INTEREST RATES ON US DOLLAR DEPOSITS[a]

(Percentages)

	1975			1976			1977			1978		
	Charged	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*
January	-6.88	-7.16	0.28	2.88	-1.16	6.61	2.28	4.33	4.42	3.19	1.23	
February	-7.03	-6.35	-0.68	4.19	0.27	3.92	5.21	0.83	4.38	3.28	1.36	
March	-11.60	-10.07	-1.53	7.58	3.26	4.32	14.54	10.48	4.06	1.82	0.43	1.39
April	-13.67	-11.31	-2.36	7.32	3.21	4.11	6.53	3.47	3.06	1.86	0.82	1.04
May	4.06	0.12	3.94	5.48	2.91	2.57	3.89	1.40	2.49	3.40	2.26	1.14
June	6.86	2.27	4.59	5.84	3.53	2.31	2.46	0.36	2.10	3.09	1.63	1.46
July	3.97	-1.18	5.15	18.17	13.96	4.21	2.70	0.85	1.85	2.91	1.71	1.20
August	9.47	3.86	5.61	6.19	2.68	3.51	1.41	-0.28	1.69	3.27	2.39	0.88
September	11.39	2.76	8.63	5.21	1.73	3.48	-2.29	-3.62	1.33	4.06	3.27	0.79
October	1.96	-1.68	3.64	5.61	2.12	3.49	3.23	1.97	1.26	4.67	3.76	0.91
November	2.37	-1.29	3.66	5.80	2.13	3.67	3.52	2.20	1.32	4.53	3.49	1.04
December	3.26	-0.80	4.06	7.22	3.33	3.89	-0.11	-1.33	1.22	4.74	3.85	0.89
Annual[b]	0.39	-27.90		118.53	44.36		58.38	19.57		51.10	32.73	

Source: Central Bank of Chile.

[a] Defined as $i_D = \frac{i_N - \dot{t}}{1 + \dot{t}}$, where i_N is the nominal monthly bank rate and $\dot{t}$ is the monthly percentage change in the nominal exchange rate.

[b] Annual rate, expressed in US dollars, calculated by compounding the monthly rate (expressed in US dollars) over the year.

Table 10

CHILE: NET FLOW OF PRIVATE EXTERNAL CAPITAL AND CURRENCY ISSUE

	Annual flows (millions of dollars)			*Percentage*	*Percentage*
	Currency issue (1)	*Exchange operations* (2)	*Net inflow[a] of private capital* (3)	(3) : (2)	(3) : (1)
1975	639	476	236	50	37
1976	844	731	254	35	30
1977	665	346	267	77	40
1978	523	529	783	148	150
1975-1978	2 671	2 082	1 540	74	58

Source: Central Bank of Chile, *Boletín mensual* and *Series monetarias*.

[a] Gross inflows less amortization and interest payments.

should be no simultaneous attempt to reduce the rate of increase in the means of payment. If mechanisms are applied to reduce the build-up of domestic credit, a situation arises where a substantial part of the effort made by the public sector is nullified by growth in money arising from the balance-of-payments situation.

It should be mentioned that repayment of the official external debt helped to create this situation, since an "active" net inflow of foreign exchange was needed to make the payments, even though it is not possible to discount the use of international reserves, at least in part, for that purpose.[20] Nevertheless, the foreign exchange required did not have to be generated by the private sector. The Chilean public sector might also have helped to refinance the debt by means of new foreign borrowing, although this was not the option followed, so that the foreign exchange needed to service the external debt had to be obtained through the trade balance or the *private* capital account.

To the above should be added the objective of increasing the country's international reserves (which, however, probably grew faster than was desired); this necessarily imposed a very active role on exchange operations within the scheme of monetary emissions, leading to delays in reducing the growth of the means of payment.

2. *The counter-inflation policy and demand for money*

One of the aspects of the economic policy which attracts most attention is the excessively passive attitude of the economic authorities both to managing demand for money and to influencing the community's inflationary expectations.[21] It is well known that the liquidity ratio is determined by the public in general, but the cost of keeping money can nevertheless be affected by the behaviour of the Central Bank. In this regard, the moment chosen to free interest rates,[22] which, in view of the prevailing circumstances, could be counted on to rise to extraordinarily high levels, does not appear to have been in keeping with the counter-inflation policy, both because of its implications for the velocity of circulation (see table 5) of already existing money[23] and because of the impact on demand for international finance.

There can be no doubt that the freeing of the interest rate, in an intensely inflationary context, together with a relatively slow devaluation, stimulated the economic agents to keep their financial assets (in the form of *quasi-money*) in pesos and their liabilities in dollars.[24] Naturally, these two phenomena were inconsistent with a counter-inflation strategy which involved an *attempt* to reduce the rate of growth in (nominal) money, especially as no decisive action was taken on the determinants of the (real) demand for money.

Accordingly, the timing of the sales of State assets and the freeing of the interest rate does not appear very appropriate in the light of the effort made as regards fiscal discipline, which, *inter alia*, contributed to a sharp drop in investment and an extraordinarily large increase in unemployment.

One interesting aspect was only tackled in part; this was the effort to increase demand for money by reducing the reserve requirement on bank deposits and/or by the payment by the Central Bank of adequate interest on the legal reserves maintained by the banking system.[25]

As is well known, the reserve requirement on deposits is equivalent, from the viewpoint of the banks, to a tax on the use of a "factor of production". Reducing the reserve requirement amounts to lowering the tax rate, while paying interest on the reserve, in the final analysis, reduces the magnitude of this tax.

Accordingly, by increasing the capacity for making loans or, alternatively, making it more profitable for banks to seek deposits, it may be hoped that measures such as those indicated will further stimulate competition among banks for deposits, which tend to become more attractive assets for individuals and enterprises, thus increasing the quantity of them sought.[26] Of course, this increase should be compared with the rise in currency issue and the probable increase in the value of the bank multiplier arising both from the reduction in the reserve requirement and from an expected decline in the currency/deposit ratio.

Another point which merits emphasis in connection with a counter-inflation policy based on an effort to reduce the growth rate of the nominal money supply is the need to pay attention to the evolution of the flow demand for money. The more traditional type of monetary analysis takes account only of money as a stock, and it is in this sense that both the supply of money and demand for it are usually studied. A more relevant concept for evaluating the short-term implications of monetary imbalances, however, refers to the flow of supply and demand for money, and the latter corresponds to demand for money over a given period of time.

Either as a consequence of imbalances between the real stock of money sought and the existing stock, or of economic growth, of expectations of a reduction in the cost of holding money, of the probable lower yield from assets used as substitutes for money, of demand for nominal money to replenish the real stock sought, or of a combination of these factors, a given demand will exist for nominal money flow.

If the monetary authority does not meet it, there will be an excess supply of goods and a fall in the rate of economic activity, though even so inflationary pressures will not abate for some time. This would be a possible "monetary" explanation of the phenomenon of "stagflation". According to some authors, the mechanism described above could have provided a fundamental explanation for the Chilean situation in 1975.

Because of the magnitude of the tax represented by inflation[28] at that time, and because the monetary authority insisted on controlling the growth of M_1, there was an excess demand for nominal money flow. This imbalance was reflected in excess supply in the goods market, so that the macroeconomic adjustment occurred fundamentally in the form of a profound economic recession, thus reducing demand for real monetary balances.[29]

The above points to the need to ensure that a counter-inflation programme which is aimed at moderating growth in M_1 should also take into account the evolution of demand for money, especially when the real liquidity of the economy is excessively low.[30] This latter aspect is of great importance since, at least in the Chilean case, there is some evidence that when the cost of holding money becomes excessively high, real demand for money stock becomes very inelastic *vis-a-vis* the inflation rate,[31] whereas this does not, of course, happen with the flow demand for money.

3. *Counter-inflation policy, the exchange rate and the rate of interest*

As is well known, in a small, open economy with a non-floating exchange rate there is very close relationship between exchange, monetary and credit policies. The Chilean case fits this description in many respects.

A matter continuously under discussion is what the "equilibrium" exchange rate should be, and what exchange rate policy would be most appropriate. If it is accepted that the monetary authority should fix the exchange rate instead of letting it float, what

criterion should guide forward planning of the exchange rate? A great deal has been written on this matter, and it will undoubtedly continue to be a subject of debate between economists for a long time to come. A recent meeting jointly organized by ECLAC and the Central Bank of Uruguay contributed some interesting ideas (of great importance for the countries of Latin America) to this old discussion.[32] The paragraphs below contain a few additional reflections prompted by Chilean experience in the last five years.

It would seem that forward planning of the exchange rate in Chile was guided by at least two criteria: differences between international and domestic inflation rates, and the level of the country's international reserves.[33] Furthermore, it was sometimes used to help guide expectations of inflation and, through its influence on exports and imports, to secure a desired deficit on the current account of the balance of payments.

This was undoubtedly a case of an attempt to use an instrument to reach various objectives which are not necessarily compatible. In particular, it was not clear whether the exchange rate was a mechanism to be used to control the commercial opening up, or whether its evolution had to be planned in the light of the evolution of the exchange market. For example, during periods of very slow devaluation, and even revaluation, the inflow of short-term capital rose, apparently stimulated by expectations concerning the ratio between the future rate of devaluation and the evolution of the domestic interest rate. In this way, if the exchange rate is used merely as an instrument of monetary control, without combining it with proper planning as regards the relative yields of the different liabilities in the financial system, this may, at least for a time, produce effects very different from those expected.[34] This latter factor is of particular importance because of the close relationship between exchange rate management and interest rate management.

When the exchange rate is indexed, while the interest rate is free and rises to the very high levels it reached in the Chilean case, there is no doubt that this provides an enormous stimulus for the inflow of financial capital. Indeed, attempts to regulate or control this inflow will be fruitless if the interest rate differential between the domestic economy and outside, after discounting expectations of a devaluation (which may include exchange rate risk in parallel markets) is sufficiently attractive.

This, it would appear, was what happened in the Chilean economy. If *total international reserves* are taken as a guide in determining the exchange rate, a situation arises where, as a consequence of the initially restrictive monetary policy, the domestic interest rate rises; as a result, the inflow of external capital is stimulated and the exchange rate is depressed (in relative terms).[35]

This means that the current account deficit and the consequent external borrowing are greater than they would have been if the evolution of the exchange rate had been planned using another criterion, with more rapid devaluations.

In this way the country is placed in a situation where the economic recovery can be slowed down by the continuing restrictions on government expenditure (which ceases to be the "cause" of inflation, but whose inactivity is an important factor in the slowness of the recovery), together with lower net external demand than would have existed if a different combination of monetary, fiscal and exchange policies had been applied.

In this regard, it is noteworthy that the real exchange rate in Chile, despite the lowering of tariffs and the worsening of the terms of trade which occurred in the period 1975-1978,[36] was on average 2.3% *below* its average value in 1974.[37] In addition, it was very unstable as regards its role in allocating resources for export activities and import substitution, as the currency had been devalued in 1975 and 1978 and revalued in 1976 and 1977.[38] This would indicate that the reduction in tariffs was one of the factors accounting for the marked growth in the country's exports and imports in the recent period,

principally through the reduction in the cost of imported raw materials, inputs and capital goods.[39]

The sharp deterioration in the current account balance in 1977 and 1978, and the preliminary projections for 1979, indicate that a more rapid devaluation would be desirable,[40] to generate foreign exchange by means of a smaller current account deficit. In this way greater protection would be granted to the domestic market and, subject to success in modifying expectations of devaluation, the inflow of international capital would be moderated, while there would be still greater stimulation of non-traditional exports, whose real growth rate, *in relation to the tariff reductions*, must tend to decline because of the fact that, once the planned level and structure of tariffs has been reached, the *additional* stimuli to activities which make intensive use of imported goods cease.

In addition, the rate of external borrowing, which in 1978 and 1979 grew much faster than the average for the period, would be reduced. Tn this regard it has recently been asserted that, in the case of the Chilean economy, foreign borrowing is not of great importance, since most of the loans are contracted by the private sector, thus ensuring the profitability of externally financed projects. In this way, it is argued, servicing of the external debt would be ensured automatically through the efficiency associated with the uses to which it would be put.

However, it would appear necessary to point out that the above argument is excessively simplistic. Because of the considerable recent build-up of external debt, the exchange rate has been held down, making its long-term adjustment more difficult. However, the real cost of servicing the external debt in the future requires not only the generation of domestic saving, but also its conversion into foreign exchange. Accordingly, if important changes occur in the terms of trade, in international liquidity or in domestic economic or institutional circumstances, so that the country does not enjoy the present abundance of foreign exchange, it might be necessary to modify the parity, with corresponding implications for the real value of the external debt expressed in terms of domestic resources, and for the social efficiency of the externally financed projects.

As already noted, prior commitments as regards payment of the official external debt imposed strong pressures on the monetary sector. However, it is not clear what procedure for the generation of foreign exchange would be most appropriate —a surplus on the non-compensatory capital account or a smaller deficit on the current account. Perhaps during the period of highest inflation stimulation of the exchange rate might have offered some disadvantages.

Nevertheless, a rate of devaluation persistently lower than the differential between domestic and international nominal interest rates stimulates the flow of international capital to the country, and when this inflow does not finance a current account deficit, but is principally used to build up international reserves, it does not contribute to raising total saving. In fact, for a given level of growth of the quantity of money, external credit actually competes with domestic credit; in contrast, if the inflow of international capital takes the form of a larger current account deficit, external saving is increased.

The combination of devaluation (revaluation) and domestic interest rates are not independent of the inflow of foreign exchange and the creation of base money. Nor are they independent of the degree of substitution and/or complementarity between domestic and foreign saving. It would seem from Chilean experience that the exchange rate is not an appropriate instrument to control the monetary base, especially when it is used in isolation.[41] Insistence on forward planning of the exchange rate using this criterion has important effects on other economic policy objectives, particularly foreign borrowing, complementarity between domestic and external saving, and the allocation of

resources between domestic and tradable goods, all of which must be properly evaluated in terms of the objective of stabilizing the level of prices.

IV

Opening up to the exterior in the financial field[42]

One aspect of Chilean economic policy which is out of keeping with the general approach which has guided the economic programme in the last five years relates to the opening up of the Chilean economy to international financial capital. It is interesting to note that recent developments in Argentina and Uruguay have been much more liberal in this regard, but at the same time rather more cautious and "gradualist" as regards the commercial opening up.

Despite the common impression that Chile borrowed a great deal between 1975 and 1978,[43] the empirical evidence indicates that this view should be carefully evaluated. In *nominal* terms, between the end of 1974 and the end of 1978 the country contracted loans totalling US$ 2 137 million, increasing its gross reserves by US$ 1 062 million, giving nominal net borrowing of US$ 1 075 million. This is equivalent to cumulative growth of 25.4% over the net debit balance at the end of 1974, in other words, an annual average rate of nominal net borrowing of below 6% (see table 11). However, it should be mentioned that the net borrowing figures underestimate the "actual" nominal debt to some extent, since it is necessary to maintain a high level of reserves in order to retain access to external financing.

"Real" net borrowing is usually estimated by deflating the nominal value of the external debt by an index of the unit value of the country's imports. During the four years 1975-1978, if this procedure is used, Chile's real gross external debt fell at an average rate of 0.4%, and the real net debt fell at an annual average rate of 3.9% (see table 12).

However, as has been asserted in a recent study,[44] the methodology set out above suffers from serious limitations, and it seems more appropriate, in measuring the effective debt burden, to deflate it by an index of the terms of trade. This calculation, in the

Table 11

CHILE: EXTERNAL DEBT: 1973-1978

(Millions of dollars)

Year	*External debt (1)*	*Gross reserves (2)*	*Net debt (1) - (2)*
1973	4 048	401	3 647
1974	4 774	535	4 239
1975	5 263	427	4 836
1976	5 195	816	4 379
1977	5 434	871	4 563
1978	6 911	1 597	5 314

Source: Central Bank of Chile, *Deuda externa de Chile 1978.*

Note: The external debt figures refer to sums actually disbursed outstanding at the end of each year. They include traditional debt and other external liabilities comprising the International Monetary Fund, suppliers' credits and financial credits to the private sector, as well as short-term lines of credit to commercial banks, the Banco del Estado and the Central Bank.

Table 12

CHILE: EXTERNAL DEBT, 1975-1978

(Percentage change)

Year	*Gross debt*			*Net debt*		
	A	*B*	*C*	*A*	*B*	*C*
1975	10.2	-8.3	82.4	14.1	-5.1	88.7
1976	-1.3	-3.2	-8.0	-9.4	-11.2	-15.6
1977	4.6	-5.7	16.4	4.2	-6.1	16.0
1978	27.2	17.8	34.0	16.5	7.8	22.7
1975-1978[a]	9.7	-0.4	27.2	5.8	-3.9	22.7

Source: Table 11; CEPAL: *Economic Survey of Latin America, 1978.*

Note: *A* = Growth rate of the nominal external debt.

B = Growth rate of the nominal external debt deflated by the index of import prices.

C = Growth rate of the nominal external debt deflated by the terms-of-trade index.

[a] Average annual growth rate during the period.

Chilean case, leads to the conclusion that the average annual growth rates of the gross and net debt during the period 1975-1978 reached 27.2% and 22.7% respectively. In other words, real growth in the external debt thus defined, in the last four years, was three times the growth of the nominal external debt.

Furthermore, provisional figures indicate that in 1979, as in 1978, external borrowing showed a sharply increasing trend.

Despite the above, it would have seemed reasonable to expect a much greater inflow of external credits in view of the very high domestic interest rates, the low interest rates on international markets, the abundance of international liquidity and the evolution of the exchange rate in Chile.[45]

In order to understand the smaller relative inflow of financial capital to the Chilean economy from an economic viewpoint, three main aspects should be borne in mind.

Firstly, it is necessary to point out that in the first years of application of the new economic policy, the attitude of the international financial community to Chile was very cautious, so that until well into 1977 there were probably substantial limitations on external borrowing on the supply side.

A second consideration is that, while the public sector increased its debt very slowly, the same did not happen with the private sector. As can be seen from table 15 below, in the four years under review the public sector increased its external debt by 17%, while the rise in the private sector debt was 228%. This has important implications in the field of redistribution, as will be indicated below.

A third factor which helps to explain the phenomenon is the set of obstacles and restrictions imposed by the monetary authorities on such external capital as might be appropriated by the domestic financial system.[46]

The most important limitations on the inflow of external credits[47] include those relating to minimum periods for repatriation, and those which restrict bank borrowing in foreign currency in terms of the sums involved (which are tied to the banks' capital and reserves), the speed with which they can be increased (because of restrictions on the flow of borrowing), and the capacity to grant guarantees.[48]

There are also two further aspects of this subject which merit thorough analysis: one relating to the monetary approach to the balance of payments, and the other to the implications for resource allocation and wealth distribution of the type of restrictions

imposed on external borrowing. However, the lack of sufficient disaggregated, up-to-date information makes it necessary to conduct the discussion in broad terms, in the form of questions, merely laying down a few general recommendations which, in our view, may be inferred from the Chilen experience.

1. *Financial opening up to the exterior and the monetary approach to the balance of payments*

As already indicated, the economic strategy relating to external financing does not fall squarely within the general lines of economic policy.

It would appear that the economic authorities considered, at least until the middle of 1979, that the so-called monetary approach to the balance of payments has greater validity in the long than in the short term. If dynamic aspects of movements in the balance-of-payments accounts, patterns of adjustment in variables, etc., are ignored, the process of opening up to the international capital market and complete integration into it (together with the liberalization of the domestic capital market, including reforms of reserve requirements, and so on) would, according to the monetary theory of the balance of payments, generate a large inflow of external credit and a very rapid tendency for the domestic interest rate and international rates (adjusted for a certain risk) to become equal. This would furnish a substantial stimulus to investment especially in construction (one of the most depressed economic sectors in the last five years), and promote a rise in economic activity.

The principal drawbacks of such a measure are connected with the adjustment process, and particularly its possible repercussions on inflation (depending on the degree of commercial opening up and the exchange rate policy adopted, through monetization of the accumulation of reserves), the external borrowing position and the probable drop in the rate of devaluation, with the consequent adverse effects on economic activity and employment (particularly in the sectors producing tradable goods).[49]

The main argument cited by the economic authorities against a complete liberalization of the external financial market refers to the potential impact of a massive inflow of external capital on the money supply, and consequently on the stabilization effort.[50] In fact, it is necessary to assess the elasticity of demand for finance *vis-a vis* the interest rate, identify the monetary repercussions of the measure (including the larger deficit on the current account of the balance of payments) and compare them with the expected evolution of demand for money.

There are very few empirical studies in Chile concerning the behaviour of the market for loanable funds. However, recent experience suggests that a very substantial capital inflow would be required in order to lower the interest rate.[51] If this occurred, it would generate an excess supply of money flows, with equilibrium being achieved in three basic ways.

The first way is adjustment through an increase in *output and/or prices*, principally of goods which are not internationally tradable, with the resulting repercussions on economic activity and/or the general level of prices.

The second adjustment variable would act through the domestic financial market, by means of a rise in *demand for money* (appropriately defined) arising from the possible reduction in the cost of holding liquid balances, and from the rise in the volume of transactions.

Finally, the third means of adjustment is a change in the current account balance of the balance of payments. Naturally, the more open the economy to the exterior, and the greater the trade links with international markets for real goods and services, the more

important this variable is. Consequently, it is very likely that a more rapid opening up to external finance would only temporarily generate greater inflationary pressures and a certain improvement in output of non-tradable goods and services. The main result would be a larger trade gap, with a consequent rise in external indebtedness and a fall in levels of activity and employment in the sector producing internationally tradable goods.

However, this last conclusion is closely linked to the exchange rate policy adopted during the external financial liberalization. If the movement of the exchange rate is guided by the evolution of the current account and the external debt, with the currency being devalued more rapidly or more slowly as the current account deficit or the level of external debt increases or declines, there will be a rise in the level of prices, increasing nominal demand for money. The build-up of international reserves, accompanied in this case by the attempt to reduce the growth rate of money, means that external financing replaces domestic credit, without necessarily helping to generate a greater volume of domestic saving. If, on the other hand, the exchange rate policy is guided by the *balance-of-payments* position, a growing accumulation of international reserves would lead to a slower devaluation (or a revaluation), with an increase in the current account deficit and the external debt. In this way, external financing constitutes foreign savings, which, *assuming* a certain level of domestic savings, helps to ensure that the expenditure of the economy exceeds the level of the product.[52]

It should be noted that increasing external borrowing leads to a "negative" external- ity because of the criteria used by creditors in evaluating risks and solvency, so that the social marginal cost (for the country) of external borrowing is greater than the private marginal cost. This is an argument in favour of imposing a tax on the raising of external finance, even when there is complete external financial openness.

On the basis of the interest rate differential, the exchange rate policy followed and recognition of the delayed action of economic policy, it seems clear that more rapid external financial opening up would, in the Chilean case, have led to greater net external borrowing, a fall in the level of activity in the sector producing tradable goods and a rise in domestic liquidity (or a combination of the three effects), thus justifying the authorities' concern to control the degree of external financial openness.[53]

However it cannot be denied that more thorough-going domestic financial liberalization and a stronger devaluation of the peso would have substantially reduced the influence of private capital from abroad, probably stimulating domestic saving and lessening the impact of exchange operations —through the capital account of the balance of payments— on currency issue and the counter-inflation strategy.

Since a decision was taken to move faster towards openness in the trade field than in the financial field,[54] it would seem to be of interest to study this phenomenon, and particularly the way in which external finance was restricted, and its implications for the Chilean economy. These points are analysed below.

2. *Some "real" consequences of the control of external finance*

One of the most interesting subjects of analysis in the Chilean economic experience is the way in which the external financial opening up was controlled. This is because normally in order to ensure consistency with the remaining measures adopted, it would have seemed natural to expect a total opening up to international capital markets, or alternatively, from considerations of short-term macroeconomic equilibrium,[55] the rationing of external credit by price, which was the mechanism governing most of the remaining economic decisions.

However, the procedure adopted[56] involved establishing *de facto* quantitative restrictions on external borrowing,[57] especially in the case of the domestic financial system, which enjoys greatest ease of access to the international capital market. As already noted, the capital and reserves of the financial enterprises limited both their external borrowing and their capacity to issue guarantees, and there was in addition a general limitation on all economic agents as regards the periods of time for which external funds could be borrowed.

The above becomes even more important if it is remembered that, in addition to imposing this type of limitation on external borrowing, the interest rate in the capital market was freed, trade was rapidly opened up, the major part of the process of selling off State enterprises to the private sector took place, and strict discipline was imposed on the State sector and on public enterprises.

These measures led to a sharp rise to extraordinarily high levels in the real rate of interest to borrowers in the financial system,[58] and to a very profound change in the level and structure of aggregate demand and consumption and in the relative prices of goods and factors. The consequences of this situation are to some extent reflected in the investment and unemployment situation in Chile during the period (see table 13). Excessive demand for finance also arose, partly because of the sale of State-owned enterprises, and was aggravated by demand generated on the domestic capital market by public enterprises, which found that contributions from the government, and credits from the Central Bank, were restricted.

Accordingly, two important consequences arising from the phenomenon under discussion are those relating to the evolution of investment and to the allocation of resources.

There is no doubt that the high rates of interest on loans provide an explanation, even though a partial one, of the depressed level of private investment in the period; to this should be added the drop in public sector investment.[59] In addition, the enterprises which had access to external credit were characterized by their large size and their use of relatively capital-intensive technology, so that there was no guarantee that their

Table 13

CHILE: UNEMPLOYMENT AND INVESTMENT

(Percentages)

Period	*Unemployment rate in Greater Santiago*[a]	*Rate of investment*[b]
1960-1970	6.0	15.3
1971	5.5	14.1
1972	3.8	11.9
1973	4.6	12.0
1974	9.6	13.0
1975	16.2	10.7
1976	16.8	9.6
1977	13.2	10.7
1978	14.3	11.3

Source: University of Chile, Department of Economics: *Comentarios sobre la situación económica*, 1978, 1979; and *Ocupación y desocupación en el Gran Santiago*, various issues.

[a] Simple average of the rates for March, June, September and December.

[b] Gross domestic fixed capital investments as a proportion of gross domestic product expenditure.

investment would necessarily generate high levels of employment or be the most efficient from a social viewpoint.

In this regard it is interesting to observe how in these years, despite some liberalization of the domestic financial market, some of the features of the way the financial system was traditionally managed persisted. Thus, the dual nature of the industrial structure and the distribution of income has tended to be retained, so that a handful of companies receive substantial amounts of credit on preferential terms which they invest in over-capitalized enterprises that are only partially used. In this way this sector generates large incomes, while most of the smaller, fairly labour-intensive enterprises subsist with extraordinarily high financial costs.

It may also be held that, as in the past, such a restricted financial system grants clear advantages to those enterprises which have direct or indirect access to preferential credit (in this case credit from abroad), and to those which can make use of their undistributed profits, either from within the enterprise or from other enterprises belonging to the same economic group. In Chile, a substantial group of enterprises combine all these advantages, and are accordingly improving their competitive position, though this does not necessarily correspond to an increase in their productive efficiency.

It may be deduced from the above paragraphs that the *mechanisms* used to control the flow of external loans to Chile did not promote an adequate level of investment, nor the efficient allocation of it, but instead probably made possible a substantial change in the distribution and concentration of wealth.

Because of the form of the attempts made to regulate the flow of external borrowing, conditions were created which enabled enterprises with access to international credit to obtain substantial profits. In other words, because of the way in which the "import quota" of financial capital was distributed, a profit was generated from the difference between the international and the domestic price of such capital.[60]

There is even evidence that some enterprises engaged in import activities fundamentally because of the attraction of the external credit associated with importing. It has also been alleged that the deficit on the current account of the balance of payments is over-estimated because of the incentive for under-invoicing exports and over-invoicing imports, with the difference entered in the form of external credit.

Preliminary, very conservative estimates indicate that the transfer obtained in this way by private enterprises enjoying access to external credit during the period 1976-1978 totalled at least US$ 540 million, rising to over US$ 650 million by mid-1979[61] (see table 14).

In addition to the above, it should be mentioned that while the private sector was securing its financing to an increasing extent from abroad, the public sector was doing so at a much slower rate. Between the end of 1974 and the end of 1978, private debt increased by US$ 1 449 million, to more than 30% of the country's total stock of debt, compared with less than 14% at the end of 1974. The public sector , on the other hand, which increased its accumulated debt by US$ 688 million, dropped its share from 87% at the end of 1974 to slightly under 70% at the end of 1978.

An examination of debt servicing shows that the net flow of external resources to the public sector in the four years under consideration was *negative* (- US$ 468 million), while the flow to the private sector was US$ 948 million. If, instead of external debt, balance-of-payments figures are used, the situation is even more favourable to the private sector. Moreover, the proportion of borrowing by the public sector during the period 1975-1978 under article 14 of Decree-law 471 (the main provision under which external credits entered the country) was less than 8%, while more than 90% represented borrowing by the private sector.

Table 14

CHILE: FINANCIAL PROFITS OF PRIVATE ENTERPRISES ENJOYING ACCESS TO EXTERNAL CREDIT

(Millions of dollars)

Year	Interest rate (annual percentage in dollars)			Alternative (1) Article 14[b]		Alternative (2) Non-compensatory capital[c]		Alternative (3) Stock of external debt[d]	
	LIBOR	Chile	Differential[a]	Private sector	Profit	Private sector	Profit	Private sector	Profit
1976	6.12	118.53	1.0629	227	121	319	170	641	681
1977	6.42	58.38	0.4554	287	169	381	207	772	351
1978	935	51.10	0.3240	750	251	932	326	980	318
1979 (first half)	11.21	42.10	0.1968	500	113	(466)	133	1 569	155
					654		*836*		*1 505*

Source: Central Bank of Chile, *Boletín mensual*, May 1979; *Deuda externa de Chile*, June 1979.

[a] Calculated as the difference between the interest rate on bank loans in Chile, expressed in dollars, and double the LIBOR rate.

[b] Alternative (1) was calculated on the following assumptions: a) the only sums entered are credits disbursed to the private sector under article 14; b) they remain in the country for two years; and c) the amount available per year is equal to half the annual flow. This calculation is undervalued both by reason of the coverage of article 14 (article 15, which corresponds to credit for the private sector, was not included), and by reason of the period spent in Chile, since these credits remain in the country for more than two years; and because no account is taken of the stock of debt under article 14 existing at the end of 1975.

[c] Alternative (2) is based on balance-of-payments data and refers to the movements (net of amortization payments) of non-compensatory capital for private use. In this case the assumptions of alternative (1) were repeated for long-term and medium-term capital movements, while only one year of stay in Chile was assumed for 50% of the total short-term credits. For 1979 a movement equal to that of 1978, for all debt periods, was estimated.

[d] Alternative (3) is based on the assumption that the total stock owned by the private sector to foreign sources at the end of the previous year remains in the market for only one year. Neither traditional private debt nor short-term debt is included.

Table 15

CHILE: EXTERNAL DEBT[a] BY SECTORS, 1973-1978

(Millions of dollars)

	Public debt		Private debt		Total debt
	Millions of dollars	Percentages	Millions of dollars	Percentages	
December 1973	3 260.2	80.6	787.8	19.5	4 048
December 1974	4 138.2	86.7	635.8	13.4	4 774
December 1975	4 444.6	84.5	818.4	15.6	5 263
December 1976	4 163.8	80.2	1 031.2	19.9	5 195
December 1977	4 067.4	74.9	1 366.6	25.2	5 434
December 1978	4 826.0	69.8	2 085.0	30.2	6 911

Source: *Institucionalidad económica e integración financiera con el exterior, op.cit.*

[a] The external debt figures refer to sums actually disbursed outstanding at the end of each year. They include traditional debt and other external liabilities comprising the International Monetary Fund, suppliers' credits and financial credits to the private sector, as well as short-term lines of credit to commercial banks, the Banco del Estado and the Central Bank.

Table 16

CHILE: GROSS AND NET FLOW OF EXTERNAL CREDIT[a] BY SECTORS

(Millions of dollars at current prices)

	1975			1976			1977			1978		
	Gross flow	*Debt service*	*Net flow*	*Gross flow*	*Debt service*	*Net flow*	*Gross flow*	*Debt service*	*Net flow*	*Gross flow*	*Debt service*	*Net flow*
Public sector	768	778	-10	545	868	-323	580	1 042	-462	1 529	1 202	327
Private sector	110	54	56	238	224	14	526	199	327	824	273	551
Total	878	832	46	783	1 092	-309	1 106	1 241	-135	2 353	1 475	878

Source: Central Bank of Chile.

[a] The external debt figures refer to sums actually disbursed outstanding at the end of each year. They include traditional debt and other external liabilities comprising the International Monetary Fund, suppliers' credits and financial credits to the private sector, as well as short-term lines of credit to commercial banks, the Banco del Estado and the Central Bank.

It is clear from the above not only that there was probably inefficient allocation with tendencies towards concentration within the domestic private sector, but also that the public sector, including naturally public sector enterprises, found itself in financial conditions which were very disadvantageous compared with those private enterprises which enjoyed access to external credit on the above-mentioned conditions.[62]

Criteria of efficiency and equity dictate that, if it is wished to ration external credit, this should be done through a tax (supplemented as appropriate by other mechanisms) to be collected by the government.[63] Although it is true that the domestic and international capital market is far from perfect, such a measure would drastically reduce the serious drawbacks associated with certain apects of the way in which the quantitative restrictions on the import of capital were applied.[64]

V

Summary and final comments

This paper began with a short outline of the macroeconomic situation with which economic policy in Chile since the end of 1973 has had to deal.

There followed an analysis of the foundations of the stabilization strategy which was based on an attempt to reduce the growth rate of nominal money, as traditionally defined.

It was felt that this policy tended to be inconsistent with the progressive opening up of the Chilean economy to the exterior, because of the increasingly endogenous nature of the money supply. Difficulties in controlling base money were exacerbated by the extremely rapid (though partial) liberalization of the domestic capital market, especially in the context of an extraordinary level of international liquidity.

As a result, the stabilization programme appears to have been conceived within the frame of reference of a closed economy, since as the country's economic relations become

internationalized, the restrictions on domestic credit, and particularly credit to the public sector, were modified to a greater or lesser extent because of the inflow of foreign exchange. This inflow was also stimulated by the evolution of the domestic interest rate and the exchange rate policy followed in 1975-1978.

Consequently, it is considered that an excessive burden fell on the Chilean public sector, with the consequent adverse effects on the level of investment, employment and social expenditure.

Limiting the analysis to a non-floating exchange rate, it was argued that exchange rate policy should not be used as an instrument for controlling the money supply (although it is in fact an important direct determinant of the evolution of domestic prices in an open economy), and it was pointed out that an attempt was made to use and plan an instrument —the exchange rate— on the basis of considerations which were not necessarily mutually consistent, such as the level of international reserves, external debt, expectations of inflation and the differential between domestic and international inflation rates. It is, furthermore, clear that the application of a succession of different exchange rate policy objectives and/or guidelines can lead to excessive instability in the real exchange rate.

The advantages and drawbacks of using the evolution of the current account, or that of the balance of payments, as the most appropriate criterion for exchange rate policy were examined, and it was concluded that, if the aim is that external financing should be channelled so as to ensure the greatest external savings, it seems more desirable that the exchange rate should follow the level of international reserves. If, on the other hand, it is not wished to increase external borrowing, and if appropriate credit measures designed to reduce the inflow of foreign exchange through the capital account are not adopted, external financing will principally be a substitute for domestic credit.

It was therefore concluded that the timing of the external opening up, the domestic financial liberalization and the sale of enterprises to the private sector was inappropriate in view of the effort made by the public sector within the framework of the monetary policy. A more gradual opening up of trade, and measures aimed at directly or indirectly (through credit policy) holding back the flow of capital from and to the private sector, might have permitted a form of monetary planning which placed fewer restrictions on government activity and that of public enterprises.

As regards demand for money, emphasis was laid on the excessively passive role adopted by the economic authorities, the consequences of which were aggravated by the circumstances prevailing when the development of the capital market was promoted. All this helped to delay the reduction of inflation, and helps to explain a substantial part of the process of "stagflation" suffered by the Chilean economy during part of the period under consideration.

Acccordingly, it was suggested that during stabilization processes based on restrictive monetary policies, more emphasis should be placed on the effort to control inflationary expectations and/or on the behaviour and evolution of money substitutes.

This was followed by an analysis of the implications of a process of opening up to the exterior which occurred at a rate and with characteristics which were different in the real sector from those in the financial sector of the economy.

An attempt was made to demonstrate the close relationship between exchange, monetary and fiscal and credit policies in a process of this type. In particular, stress was laid on the need to pay greater attention to the composition of the balance of payments, in addition to its level; and mention was made of the dual role of the exchange rate, both as regards the trade balance and through the effects of expectations concerning its future evolution on international capital movements.

An analysis was then made of the justification —based on counter-inflationary arguments and considerations relating to external borrowing— given for the decision to carry out the external financial opening up in a relatively slow manner. It was indicated that, while such arguments are not without validity, they would carry greater weight if the commercial opening up had also been carried out more gradually; at all events, the magnitude of the inflow of external capital, and the way in which it was restricted, are highly disputable.

A faster planned devaluation, together with a form of domestic credit management designed to reduce the spread between interest rates to borrowers and to lenders, and an effort to quantify and take appropriate action on the demand for nominal money flow, might have led to a monetary situation such that without generating inflationary pressures, public sector expenditure and investment would have been spared such drastic reductions.

The mechanisms used to control the flow of capital do not appear to have been those best suited to promoting greater investment or employment or the optimum allocation of resources.

An estimate was made of the total tansfers obtained by the domestic private sector which had access to external credit, and stress was laid on their important redistributive consequences, both within the private sector and *vis-a-vis* the public sector.

The analysis leads to the conclusion that the macroeconomic policy applied was not neutral with regard to the sectors and groups which had to bear not only the cost arising from the stabilization policy, but also the redistributive effects associated with the particular form in which the external financial opening up occurred.

It seems clear that, on the basis of criteria of efficiency and equity, a government tax equivalent to a tariff on the import of external credit is a more appropriate mechanism for controlling external financial opening up than the introduction of quantitative restrictions. Such restrictions might become more important if it is felt that the supply of international liquidity available to a country is very eratic or unstable. Indeed, this latter consideration, together with the speed of adjustment of capital movements compared with that of goods, suggests that the external financial opening up offers greater difficulties for the management of macroeconomic policy than the commercial opening up.

Finally, if it is decided to reform the external sector of the economy, the commercial and the financial opening up must be analysed, assessed and implemented in a co-ordinated manner.

NOTES

[1] Calculated on the basis of the Price Index prepared by the Department of Economics of the University of Chile.

[2] It would seem necessary to make a distinction between the actual and potential difficulty of *obtaining* external loans and the ability to disburse them. In fact, as the figures indicate, external financing was used fairly easily.

[3] The most notable exceptions have been the labour and foreign exchange markets, where prices have been determined by mechanisms other than the free play of the market. Furthermore, the prices of a small number of goods have been controlled, though apparently at levels very close to those prevailing in the market.

[4] It is not intended to assert that the economic policy has been applied in a manner displaying external and internal coherence and consistency. Nevertheless, despite various changes in emphasis and of priorities

both as regards objectives and the means used (for example, inflation and external equilibrium, exchange rate policy, and so on), a basic long-term philosophy has predominated and has generally set the framework for the design of economic policy.

[5] This was accompanied by changes in the breakdown of the expenditure.

[6] Principally through the introduction of a value added tax and strict measures against tax evasion.

[7] This happened at the end of 1978, though in 1979 inflation revived.

[8] Nevertheless, it should be remembered that international inflation in the last five years has been much greater than that of the 1960s, so that in that regard the greater control recently observed over the pace of Chilean inflation is significant.

[9] A phenomenon which occurs more clearly the more open the economy is to external forces.

[10] This refers to money as defined traditionally (M_1), the growth rate of which was, for most of the period under consideration, regarded as an indicator and guide of monetary policy.

[11] Furthermore, the fact that the economy had been "indexed", as well as other elements associated with cost pressures, helped to prevent the inflation rate from falling more rapidly.

[12] In the sense that they cannot be controlled by the monetary authority and that in contrast, demand for the means of payment (which depends on the behaviour of individuals, enterprises and banks both at home and abroad) "creates its own supply", basically through movements in the current and capital accounts of the balance of payments.

[13] The lower tariff protection was partially offset by a rise in transport costs during the period.

[14] However, it should be mentioned that, according to the authorities, the commercial opening up had a twofold justification. As far as long-term development strategy was concerned, it would force domestic producers to face up to international competition, while in relation to the counter-inflation policy, although it would restrict the instruments for monetary control over domestic credit, it would, for a given exchange policy, impose a ceiling on the domestic prices of internationally tradable goods and services.

[15] This paper does not analyse the situation within the financial sector as regards the greater or lesser competitiveness, rules of the game, or equality of opportunity as between institutions and intermediaries, both domestic and foreign. In this regard see F. Berger, "La protección efectiva negativa a la industria monetaria y la política financiera externa de Chile", *Cuadernos de Economía*, No. 42 (August 1977), pp. 197-234.

[16] Another variable which would explain the high spread between rates to borrowers and rates to lenders would seem to be inflation, as a result of the fact that, as depositors received a positive real rate, part of the inflation tax would be paid by borrowers, by paying high interest rates on loans. See R. McKinnon, "La intermediación financiera y el control monetario en Chile", *Cuadernos de Economía*, No. 43 (December 1977), pp. 31-32.

[17] As in table 8, these rates correspond to observed values (as distinct from expected values) of nominal interest rates, of the change in the level of prices and of the evolution in the nominal exchange rate.

[18] This assertion relates to the monetary impact of the inflow of external financial capital obtained by the domestic private sector.

[19] This should not be interpreted to mean that the supply of external credit is perfectly horizontal, at the same level, for all potential users of such finance, but rather that the imperfections which characterize this market were exacerbated by inadequate State controls.

[20] Naturally, the monetary "impact" of payments on the foreign debt is not unconnected with the way in which the public sector generates the required resources. In particular, cases where the fiscal deficit is reduced should be distinguished from cases of government borrowing from the Central Bank.

[21] The exceptions —perhaps somewhat belated— appear to have been two revaluations of the peso (July 1976 and March 1977), the establishment of a daily depreciation schedule for the peso starting in February 1978, and the endeavour to "guide" interest rates in the capital market, which was of very brief duration.

[22] This coincided with a time of extremely high inflation, severe restrictions on public expenditure, and the sale to the private sector of an appreciable number of enterprises with large State shareholdings.

[23] This is due to the fact that the type of financial assets which were becoming most profitable, and which were not previously available to economic agents, did not include those that comprise money as traditionally defined, although this definition was used as a guide and indicator of the expansionary or restrictive nature of monetary policy.

[24] It should also be mentioned that the domestic financial system was liberalized only partially, and this, according to some analysts, was a principal cause of the high spread between interest rates to borrowers and to lenders. See McKinnon, *op.cit.*, pp. 22-57, and "Represión financiera y el problema de la liberalización dentro de los países menos desarrollados", *Cuadernos de Economía*, No. 47 (April 1979), pp. 3-22.

[25] In practice, this latter mechanism operated by reducing the reserve requirement for the following month by an amount equivalent to the interest payable on the reserve maintained during the previous month.

Thus the "payment" of interest did not cause increases in currency issue, as its effect was manifested in the behaviour of the bank multiplier.

[26] It should be noted that, from the viewpoint of the financial institutions, the payment of interest at market rates on legal reserves is equivalent to a reduction in the reserves, so that the large spread between interest rates to borrowers and to lenders would tend to diminish. If this spread is defined as m and is expressed, like the other variables, per unit of deposit, then $m = i_a - i_p - g + c + e_a i_a - e_l i_l$, where i_a = rate of interest to borrowers; e_l = legal reserve requirement; e_a = actual reserve ratio; i_l = rate of interest applicable to the legal reserve; c = administration and intermediation costs; i_p = interest rate to lenders; g = profit. Changes in i_l and e_l, of such a magnitude as to modify the spread m by a given amount do not necessarily have the same impact on the value of the bank multiplier or, consequently, on money.

[27] See L. Sjastaad and H. Cortés, "El enfoque monetario de la balanza de pagos y las tasas de interés real en Chile", in University of Chile, Department of Economics, Faculty of Economic and Management Sciences, Santiago, *Estudios de Economía*, No. 11, first half of 1978, p. 13.

[28] See R. Zahler and E. Budinich, "Financiamiento gubernamental, emisión e impuesto inflación", *Estudios de Economía*, No. 8 (second half of 1976), p. 138.

[29] The attempt to regulate one or other of the determinants of demand for money meant a delay in domestic financial liberalization. As far as the official economic strategy was concerned, the financial reform was apparently of such priority that it was decided to sacrifice the performance of other markets and economic sectors in order not to hold up the evolution and development of the capital market.

[30] In the Chilean case, real demand for money stock dropped sharply until mid-1976, from which date the liquidity coefficient began to rise. For the implementation of monetary policy in the short-term it is very important to be able to determine the evolution of demand for money stock (real) and demand for money flows (nominal), since at different moments in time stock and flow disequilibria of different intensities may coexist, or there may be equilibrium with respect to stock and disequilibria with respect to flows, and vice versa.

[31] When the rate of inflation (actual and expected) is very high, economic agents tend to replace real monetary balances within their portfolios of assets by other financial and physical assets which offer a higher yield than money. Nevertheless, until money is replaced by other goods as a means of exchange for carrying out transactions, there is a "minimum" level of real money which, because of its liquidity, is essential for effecting payments in the economy. Thus, over and above a certain (high) rate of inflation, real demand for money stock becomes very inelastic. However, since nominal demand for money flow depends directly on the rate of inflation, among other things, it becomes necessary in a counter-inflation programme to reconcile the evolution of supply and demand for money flows, by taking the appropriate policy measures. See in this regard footnote 30 and Zahler and Budinich, *op.cit.*, p. 142.

[32] *Seminario sobre política cambiaria*, Central Bank of Uruguay and CEPAL, Montevideo, August 1978.

[33] See A. Bardón, "Algunas experiencias de la política cambiaria en Chile (1973-1978)", in *Seminario sobre política cambiaria*, *op.cit.*,and McKinnon, *op.cit.*

[34] For more details see C. Massad, "La paradoja de septiembre", *Estudios de Economía*, No. 5 (first half of 1975), pp. 51-56.

[35] If the capital account is freed more rapidly, this latter effect will be mangnified.

[36] In the period 1975-1978, the average level of the terms-of-trade index was 77, compared with 85 in 1960-1964, 119 in 1965-1969 and 121 in 1970-1974.

[37] See table 7. Of course, the problem of properly defining what is the "equilibrium" real exchange rate remains.

[38] Nevertheless, it would seem to have been perceived as fairly stable compared with the evolution of the exchange rate between 1971 and 1973.

[39] Naturally, the sharp devaluation in 1974 and 1975, the initial drop in domestic aggregate demand and the unused export capacity existing at the end of 1973 played a fundamental role in the rise in exports, and especially of non-traditional exports.

[40] Naturally, in view of the openness of the economy, a measure of this nature would have an inflationary impact derived from the increase in the Chilean peso prices of internationally tradable goods and services.

[41] However, the more open the economy is to external influences, the greater the importance acquired by the evolution of the exchange rate as a *direct* determinant of domestic inflation (not through its influence on the monetary base), together with international inflation and the characteristics of markets for goods and services which are not internationally tradable.

[42] The analysis which follows refers to financial credit rather than to direct external investment, because of the separate determinants of each, the low level of direct investment compared with loans (between 1975 and 1978 external investment accounted for 20% of the net flow of non-compensatory capital,

since *private* loans accounted for more than 100% of that flow), and the closer relationship between private loans and the financial aspects of macroeconomic policy.

[43] This may have been due to the fact that during this period external borrowing was in fact strongly *stimulated* by the relatively slow devaluation and the objective of sharply increasing the country's international reserve position and permitting a substantial rise in interest rates to borrowers.

[44] See Carlos Massad and Roberto Zahler, "Inflación mundial y deuda externa: El caso del deflactor impropio", in *Dos estudios sobre endeudamiento externo*, Cuadernos de la CEPAL No. 19, Santiago, Chile (English version entitled "World inflation and foreign debt: the case of the improper deflator", CEPAL internal document No. 79-4-978).

[45] It should be remembered that the domestic interest rate in dollars was 60% a year on average between 1975 and 1978.

[46] See note 15 and D. Tapia, "Apertura al mercado financiero internacional", in *Institucionalidad económica e integración financiera con el exterior* (Santiago, Chile, Instituto de Estudios Bancarios Guillermo Subercaseaux, 1979), pp. 107-130.

[47] There were substantial modifications and simplifications in this regard during 1979.

[48] These limitations are those imposed on demand for loans. It must not be forgotten that, even with total openness, there are also important imperfections, such as market fragmentation, differential guarantees, imperfect information, risk evaluations and quantitative rationing by banks in addition to rationing by price, positive-slope supply of external credit, and so on.

[49] Obviously, there are other arguments in favour of not allowing a complete opening up to external capital, such as the political arguments which recognize the implications of a situation where a substantial proportion of domestic capital is in foreign hands, as well as others related to the imperfections of the capital markets, information costs, market fragmentation and, above all as regards direct investment, arguments related to the mode of operation of the transnational corporations.

[50] See Tapia, *op. cit.*

[51] This assertion refers to the implications which an inflow of credit would have for external debt, rather than to high interest-elasticity of demand for external finance. The domestic interest rate depends not only on external finance, but also on domestic saving. Domestic saving dropped sharply during the period under consideration. The short-term domestic interest rate expressed in dollars in the middle of 1979 was still very high, despite a substantial inflow of capital. In 1975-1978 the inflow of *private* capital (net of amortization and interest payments) was equivalent to 4% of gross domestic product expenditure, rising to 7% in 1978.

[52] Obviously, domestic saving is not independent of external saving: the relationship between them should be specified in each particular case.

[53] It should also be pointed out that any fall in the domestic interest rate would have produced a stimulus (though probably a small one) to investment, and accordingly to economic growth and employment.

[54] In our view, while it was necessary to regulate the flow of external capital to the country (a phenomenon which would have occurred more easily with a more gradual commercial opening up), the mechanisms used were far from being the most effective and equitable ones.

[55] It is important to note that in very few other areas of the economy was as much concern shown for the short-term and the adjustment process.

[56] In June 1979, the restrictions on the contracting of external loans by banks and finance companies were modified.

[57] It is reasonable to argue that, because of the specific characteristics of flows of international financial capital, their volatility, creditors' attitudes and risk assessment, and so on, it is necessary to establish some form of quantitative regulation of the inflow of external credit. However, there are different ways of ensuring this regulation, with different effects in terms of efficiency and redistribution.

[58] The rate to lenders, though it has increasingly been positive, has not been very high because of the wide spread between the rates to lenders and to borrowers.

[59] Public sector investment, which in 1974 represented 12% of gross domestic product expenditure, made up only 6.4% in 1977.

[60] It should nevertheless be stressed that, independently of the degree of external financial openness, many imperfections remain in the domestic and international capital markets.

[61] At the end of 1978, the sales value of the State-owned enterprises sold to the private sector during the period stood at US$ 585 million.

[62] It may be held that the private sector borrowed abroad as a way of financing payment of the tax represented by inflation, which, was very high during this period. However, this tax fell principally on those economic agents for whom it was most difficult to replace cash or sight deposits by other assets, and on borrowers in the domestic market for short-term capital. It is clear that these categories do not include the

major private enterprises with access to international finance, to which they resorted precisely in order to "evade" the inflation tax.

[63] The measures adopted by the Central Bank in the second quarter of 1979, designed to establish obligatory reserve ratios for the inflow of certain types of external credit, are similar to this tax. However, by that time the principal redistributive effect had already been consolidated.

[64] Nevertheless, as pointed out earlier in the text, if the supply of external credit becomes very unstable, it may be necessary to resort to some form of direct control regulated by the economic authorities.

Alternative opening up strategies: a simulation model

Roberto Zahler

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I
Introduction and objectives

The topic of the degree of economic opening up to the exterior, which has always been present in the region, began to assume growing importance in Latin America from the mid-1960s onwards.

The reasons for this are to be found at various levels. On the one hand, there is the "demonstration effect" of the economic growth achieved by some countries of South-East Asia, where the high growth rate of their exports has played a very important role.

From another angle, various countries of the region have experienced relative loss of dynamism in their import-substitution-based industrialization processes and have designed new strategies for the external sector, generally associated with the promotion of exports and the more rigorous exposure of domestic economic activity to international competition.

More recently, and to some extent related with the foregoing, a number of Latin American countries have adopted new economic growth strategies tending to emphasize the importance of the market as a mechanism for the allocation of resources and, in this context, have called for greater alignment of domestic prices with international prices, which has meant the decisive opening up of their economies to foreign trade.

Moreover, the profound changes which have taken place in the world monetary system and the recent evolution of the international capital markets have meant a qualitative and quantitative change of great importance in the amount and cost of the financial capital available for the developing countries. When we add to this the attempts made by many of these countries to reform the functioning of their domestic financial markets and make them more flexible, with the consequent credit and interest rate policies that this involves, we see that the situation is one of sustained integration of the domestic capital markets with the international ones. Likewise, the changes which have taken place in recent years in the world economy, with the persistence of inflationary pressures and tendencies towards recession, have led some countries (specially the highly industrialized ones) to adopt more protectionist strategies. These phenomena have given new topicality to the discussion regarding the degree of economic vulnerability of the small countries, depending on their particular form of insertion into the world economy.

The above elements are being adduced, *inter alia*, in favour or against a greater degree of economic openness to the exterior in most of the countries of the region. Perhaps one of the most fundamental problems encountered in this respect in the design and application of macroeconomic policy is the relative lack of background information —whether theoretical or in the form of national or regional experience— which would enable a clear picture to be obtained of the characteristics and consequences of the process of greater or lesser economic openness to the exterior. The literature which exists in this respect is very scanty, and in general it clearly lags behind the latest developments.

It was against this general background that ECLAC, and now also ILPES, has carried out activities on this topic through empirical studies of national cases and theoretical and analytical research into the question of economic opening up to the exterior.

The present study falls within the second of these areas and represents an attempt to make a systematic study of the process of economic opening up to the exterior,

concentrating its efforts on understanding the evolution, during the process of adjustment associated with a particular external sector economic strategy of some important macroeconomic variables such as the level of economic activity, the balance of payments, external indebtedness, prices, interest rates, etc.

In this work, ECLAC has benefited from the collaboration of the International Monetary Fund, with which a joint study is being carried out on the design of a macroeconomic analytical and computational model which simulates[1] the dynamic behaviour of the macroeconomic variables mentioned above in the context of different strategies (different not only as regards magnitude and velocity, but also synchronization) of economic, trade and/or financial openness. It must be emphasized that various aspects presented in this report do not yet reflect a final common version of the model or certain specific adjustments regarding the design of particular economic policies.

In the present document, a description and explanation of the fundamental characteristics of the macroeconomic model is given and an analysis is made of the result of simulations on: a) abrupt reductions in trade protection, assuming that the economy remains closed to international capital movements; b) gradual reduction of the same variable in similar conditions; c) abrupt financial opening up to the exterior, assuming that trade policy is not modified; d) gradual financial opening up; and e) combinations of simultaneous changes in the trade and financial fields.

The greater or lesser degree of trade openness is measured by the lesser or greater degree of protection against imports of goods and non-financial services from abroad[2]. Greater or lesser financial openness to the exterior has been associated with lesser or greater restriction on the flow of external financial capital into and out of a given country.

Through these exercises it is aimed to provide some elements of judgement with regard to the controversy on "gradualism versus shock" in the process of economic openness, the desirability of a greater or lesser degree of simultaneity of changes in trade and financial protection, and the possible benefits (or costs) of carrying out opening-up to the exteior in an asymmetrical manner, in terms of the "current account-capital account" dichotomy of the balance of payments.

It is also sought to establish the optimum magnitude and sequence of some compensatory policies aimed at minimizing the transitory effects due to the various opening up strategies and to identify the possible costs (trade-offs) in terms of other economic objectives associated with such policies.

The result of the simulations and of the compensatory policies has been analysed focusing attention on the time paths of the macroeconomic variables mentioned earlier, since the gaps which exist are more evident in this area than in that of the final results of particular economic policies. In addition —and this is no less important than the foregoing— the time needed to stabilize particular variables may be quite long, and their trajectories may in practice be of great interest to the policy makers. Finally, the lack of any background information which makes it possible to anticipate the dynamic conjuctural behaviour of the economy may mean that ill-advised economic policy measures are taken; even if the direction and magnitude of such measures were appropriate, however, their effect is not independent of the moment (and/or the sequence) in which they are carried out.

The present study does not seek to analyse whether the long-term growth rate is higher or lower for the case of a more or less open economy, nor does it go into the validity of the argument of dynamic comparative advantages or even the arguments in favour of a particular level of opening up (protection).

What is specifically sought is to determine —assuming that it has been decided to select a higher degreee of opening up to the world economy— the characteristics of the

adjustment process which takes place when the economy passes from an initial situation to another terminal situation, both of them being situations of equilibrium, as a result of changes in the trade and/or financial protection.[3]

In other words, the emphasis is placed on the time path of some macroeconomic variables in the framework of certain policy changes: what is of primary interest is the transition between two equilibrium situations. A conscious effort has been made, however, to ensure that the model reproduces theoretically reasonable "long-term" conditions in a context of general equilibrium and thus global and sectoral consistency.

Thus, the model makes it possible to obtain long-term equilibrium situations and also to reproduce deviations with respect to that situation during the "transition".[4]

The research has been oriented towards the evaluation of the adjustment process of an economy having certain values of parameters and variables "typical" of a Latin American country in response to modifications of the magnitudes and sequences in time of situations of trade and/or financial opening up. As this type of phenomenon has generally been accompanied by other institution and/or economic policy changes, an effort was made to design a model which, although specially formulated in its present version for analysing the external sector, makes it possible to combine (through the inclusion of the fiscal and monetary sectors and their explicit linking with the balance of payments) changes in the external sector economic strategy with other policies such as monetary and/or fiscal policies, changes in exchange parity, changes in the size and financing of the public sector, fiscal reforms, etc.

The basic structure of the model also permits investigation of the effects of changes in the terms of trade or international financial conditions, and permits analysis of the sensitivity to different production and/or consumption structures, different values of parameters and elasticities, etc. It is therefore worth stressing that the type of analysis that can be carried out with this model, or with slightly modified versions of it, goes far beyond economic opening up to the exterior.

II
The model

Equations

The production and supply sector

Factor endowment (distance from transformation curve to origin)

$$(1) \qquad y_t^* = y_{t-1}^*(1 + c_t)$$

Actual supply of importable goods

$$(2) \qquad I_t^s = \lambda_1 \left[\frac{\gamma_2\gamma_3\gamma_t^*(p_{i_t})^2}{\gamma_1\gamma_2\gamma_3(p_{i_t})^2 + \gamma_t^2\gamma_3(p_{x_t})^2 + \gamma_1^2\gamma_2(p_{n_t})^2} \right]^{1/2} + (1 - \lambda_1)\, I_{t-1}^s$$

Actual supply of exportable goods

$$(3) \quad X_t^s = \lambda_2 \left[\frac{(\gamma_1^2\gamma_3/\gamma_2)\ \gamma_t^*\ (p_{x_t})^2}{\gamma_1\gamma_2\gamma_3(p_{i_t})^2 + \gamma_1^2\gamma_3(p_{x_t})^2 + \gamma_1^2\gamma_2(p_{n_t})^2} \right]^{1/2} + (1 - \lambda_2)\ X_{t-1}^s$$

Desired supply of non-tradeable goods

$$(4) \quad N_t^{s*} = \left[\frac{(\gamma_1^2\gamma_2/\gamma_3)\ \gamma_t^*\ (p_{n_t})^2}{\gamma_1\gamma_2\gamma_3(p_{i_t})^2 + \gamma_1^2\gamma_3(p_{x_t})^2 + \gamma_1^2\gamma_2(p_{n_t})^2} \right]^{1/2}$$

Growth rate of transformation curve

$$(5) \quad c_t = (I_t/Y_t)\delta_t$$

Rate of investment

$$(6) \quad J_t = -z(CA)_t$$

Productivity of capital

$$(7) \quad \delta_t = \delta_{t-1} - \gamma(\log y_t^* - \log y_{t-1}^*)$$

Actual supply of non-tradeable goods

$$(8) \quad \log N_t^s = \log N_t^{s*} + \lambda^3(\log N_t^d - \log N_t^{s*})$$

Real product

$$(9) \quad y_t = [\gamma_1(I_t^s)^2 + \gamma_2(X_t^s)^2 + \gamma_3(N_t^s)^2]^{1/2}$$

Nominal income

$$(10) \quad Y_t = p_i I_t^s + p_x X_t^s + p_n N_t^s + (ER)\tau p_F(I_t^d - I_t^s)$$

Resource unemployment

$$(11) \quad u_t = \alpha_3 + \gamma_{15}(\log y_t^* - \log y_t)$$

Supply of importable goods as a proportion of the national product

$$(12) \quad w_{i_t}^s = (p_{i_t} I_t^s)/[Y_t - (ER)\tau p_F(I_t^d - I_t^s)]$$

Supply of exportable goods as a proportion of the national product

$$w_{x_t}^{\ s} = (p_{x_t}X_t^s)/[Y_t - (ER)\tau p_F(I_t^d - I_t^s)] \tag{13}$$

Supply of non-tradeable goods as a proportion of the national product

$$w_{n_t}^{\ s} = (p_{n_t}N_t^s)/[Y_t - (ER)\tau p_F(I_t^d - I_t^s)] \tag{14}$$

The expenditure sector

Private expenditure on goods

$$EP_t = EXP(\log EPRD)_t - r_{D_t}B_{F_t} \tag{15}$$

Total private expenditure

$$\log EPRD_t = \lambda_4\{\gamma_4\log[Y_t - T_t - \tau(ER)p_F(I_t^d - I_t^s)] + \gamma_5(\log M - \log M^d) + \gamma_6(r_{D_t} - \delta_t)\} + (1 - \lambda_4)\log EPRD_{t-1} \tag{16}$$

Total expenditure

$$E_t = EP_t + G_t \tag{17}$$

Total expenditure on importable goods

$$\log(p_iI^d)_t = \log E_t - \log E_{t-1} + \log p_{i_t} - \log p_{i_{t-1}} + (1/w_i^d)\Big\{-\gamma_7(\log p_{i_t} - \log p_{i_{t-1}}) + \{w_n^{\ d} + [(\gamma_7 + \gamma_8 - \gamma_9 - 1)/2]\}(\log p_{x_t} - \log p_{x_{t-1}}) + \{w_x^{\ d} + [(\gamma_7 - \gamma_8 + \gamma_9 - 1)/2]\}(\log p_{n_t} - \log p_{n_{t-1}})\Big\} + \log(p_iI^d)_{t-1} \tag{18}$$

Total expenditure on exportable goods

$$\log(p_xX^d)_t = \log E_t - \log E_{t-1} + \log p_{x_t} - \log p_{x_{t-1}} + (1/w_x^{\ d})\Big\{\{w_n^{\ d} + [(\gamma_7 + \gamma_8 - \gamma_9 - 1)/2]\}(\log P_{i_t} - \log p_{i_{t-1}}) - \gamma_8(\log p_{x_t} - \log p_{x_{t-1}}) + \{w_i^{\ d} + [(-\gamma_7 + \gamma_8 + \gamma_9 - 1)/2]\}(\log p_{n_t} - \log p_{n_{t-1}})\Big\} + \log(p_xX^d)_{t-1} \tag{19}$$

Total expenditure on non-tradeable goods

$$\log(p_nN^d)_t = \log E_t - \log E_{t-1} + \log p_{n_t} - \log p_{n_{t-1}} + (1/w_n^{\ d})\Big\{\{w_x^{\ d} + [(\gamma_7 - \gamma_8 + \gamma_9 - 1)/2]\}(\log p_{i_t} - \log p_{i_{t-1}}) + \{w_i^{\ d} + [(-\gamma_7 + \gamma_8 + \gamma_9 - 1)/2]\}(\log p_{x_t} - \log p_{x_{t-1}}) - \gamma_9(\log p_{n_t} - \log p_{n_{t-1}})\Big\} + \log(p_nN^d)_{t-1} \tag{20}$$

Proportion of expenditure on importable goods

$$w_{i_t}^{\ d} = (p_{i_t} I_t^d)/E_t \tag{21}$$

Proportion of expenditure on exportable goods

$$w_{x_t}^{\ d} = (p_{x_t} X_t^d)/E_t \tag{22}$$

Proportion of expenditure on non-tradeable goods

$$w_{n_t}^{\ d} = (p_{n_t} N_t^d)/E_t \tag{23}$$

Prices and inflation

Absolute level of prices

$$\log P_t = w_i^d(\log p_{i_t} - \log p_{i_{t-1}}) + w_x^{\ d}(\log p_{x_t} - \log p_{x_{t-1}}) + w_n^{\ d}(\log p_{n_t} - \log p_{n_{t-1}}) + \log P_{t-1} \tag{24}$$

Prices of importable goods

$$\log p_{i_t} = \lambda_5[\log(ER)_t + \log(1+\tau) + \log p_{F_t}] + (1-\lambda_5)\log p_{i_{t-1}} \tag{25}$$

Prices of exportable goods

$$\log p_{x_t} = \log(ER)_t + \log p_{F_t} \tag{26}$$

Prices of non-tradeable goods

$$\log p_{n_t} = \lambda_6(\log N_t^{\ d} - \log N_t^{s*}) + \lambda_7(\log p_{i_t} - \log p_{i_{t-1}}) + \log p_{n_{t-1}} \tag{27}$$

Expected inflation

$$\pi_t^{\ e} = \lambda_8(\log P_t - \log P_{t-1}) + (1-\lambda_8)\pi_{t-1}^{\ e} \tag{28}$$

Balance of payments and external debt

Imports (in foreign currency)

$$I_t = p_F(I_t^d - I_t^s) \tag{29}$$

Exports (in foreign currency)

$$X_t = p_F(X_t^s - X_t^d) \tag{30}$$

Balance-of-payments current account (in national currency)

$$(CA)_t = (ER)_t(X_t - I_t) - r_{D_t}B_{F_t} \tag{31}$$

Balance-of-payments capital account (in national currency)

$$(DK)_t = \lambda_4 (ER)_t + \beta\{\gamma_{17}(r_{D_t} - r_{F_t} - \varrho_t) + \gamma_{18}[\log(ER)_t - \log(ER)_{t-1}]\} \tag{32}$$

Balance-of-payments position (in national currency)

$$(BP)_t = (CA)_t + (DK)_t \tag{33}$$

International reserves (in national currency)

$$R_t = R_{t-1} + (BP)_t \tag{34}$$

External debt (in national currency)

$$B_{F_t} = B_{F_{t-1}} + (DK)_t \tag{35}$$

The monetary sector

Supply of money

$$M_t = R_t + CRP_t + CRG_t \tag{36}$$

Demand for money

$$\log M_t^d = \alpha_1 + \gamma_{10}\log Y_t - \gamma_{11}\pi_t^e - \gamma_{12}r_{D_t} \tag{37}$$

Nominal domestic interest rate

$$r_{D_t} = \gamma_{13}(\log M_t^d - \log M_t) + R_{D_{t-1}} \tag{38}$$

The fiscal sector

Nominal public expenditure

$$G_t = g_o + T + \tau(ER)p_F(I_t^d - I_t^s) \tag{39}$$

Nominal taxation (non-tariff)

$$T = t_o + t_1 Y \tag{40}$$

Nominal total domestic credit to government

$$CRG = CRG_{-1} + G - T - \tau(ER)p_F(I_t^d - I_t^s) \tag{41}$$

Definition of exogenous variables

ER = rate of exchange (index of unit of domestic currency per unit of foreign currency)
τ = homogeneous nominal tariff for imports of non-financial goods and services
p_F^o = index of international prices
α = index of restriction of financial capital movements
r_F^o = Foreign rate of interest
Q^o = non-exchange rate risk and other elements which increase the relevant external rate of interest for the country
CRP = nominal amount of domestic credit to the private sector
g_o = deficit on the nominal public sector budget
t_o = autonomous nominal taxes
t_1 = Proportional rate of income tax.

The variables accompanied bye the symbol (^{o}) are strictly exogenous, while the rest of the exogenous variables may be interpreted as the mechanism through which policies relating to the external, monetary and/or fiscal sector may be implemented.

It should be noted, in addition, that there are certain coefficients related to the structure of technology preferences, demand for money, etc., which can easily be modified to incorporate changes in one or more of their determinants.

III

General aspects

The model consists of 41 equations, 20 of which relate to behaviour and the rest to definitions or identities.

There are three reasons for this level of aggregation: on the one hand, as it is sought to evaluate the trajectory of the main macroeconomic variables for a generic rather than a specific economy, it is necessary to restrict the complexity of the model and limit it to the most general aspects. Secondly, since this is a simulation exercise there are many unknown coefficients and parameters, so that the more the model is expanded the greater the degree of arbitrariety generated in the process of determining the values of certain parameters, thus making the observed trajectories of the objective variables less general. Finally, the simulation programme used has a limit of equations which imposes a "technological restriction" on the dimensions of the model.

It is assumed that the economy is "small" in the sense that it has to abide by prices and interest rates on the world market which cannot be modified through its own economic conduct.

The model assumes a nominal exchange rate which is fixed in the sense that it is determined by the economic authorities (and can be used as a policy instrument) rather than by the market forces.

It is also assumed that, prior to the application of the policies of openness reforms have been carried out in the domestic financial sector with a view to the liberalization of the financial market, on which specifically the rate of interest is freely determined.[5]

In this stage of the research, a dynamic analysis of the model has been made in the sense of studying the time path of the variables between two equilibrium situations (initial and final) expressed in terms of *levels*, or, looked at in another way, on the assumption that the values of their derivatives with respect to time are zero.[6]

What was stated in the preceding paragraph means that, in initial and terminal equilibrium situations the (real and nominal) income remains stable (although not necessarily at the same level), so that net saving is assumed to be nil and the goods in this economy are "used" in such a way as not to alter the level of the potential product (net investment is nil). Now, policies of openness are usually accompanied to a greater or lesser extent by current account deficits, which, as it is well known, constitute external saving. If it is desired to assume that there is no net saving or investment at any moment in time, it is necessary to impose the condition that every time that there is external saving which is not nil the domestic saving (which is not explicitly modelled, because the analysis of the process of accumulation is not the main interest of this study) must be of equal amount but of contrary sign: in other words, it must be assumed that changes in external saving are totally offset by changes in domestic saving.

There can be no doubt that assuming the foregoing involves rather an extreme situation. However, most of the empirical studies indicate the presence of such offsetting, although not perfect, in the sense that part of the external saving finances consumption and part of it finances investment expenditure.[7]

If we consider policies of financial opening up which involve the inflow of external capital as a consequence of the incentive due to the difference between domestic and foreign interest rates, and if domestic spending is sensitive to the rate of interest, it can be demonstrated that unless some interaction between the inflow of capital, the deficit on current account and changes in the level of the potential product is included, the external indebtedness situation sooner or later becomes untenable and the economy ceases to be viable.

The foregoing suggests that it is necessary to incorporate in the model some mechanism to take account of changes in the potential product as a function of the volume of external saving and the degree of substitution that this has with domestic saving. This also means making a distinction between the (real) rate of interest of the financial assets and another variable which reflects to some extent the productivity of capital, this difference being the cause of the change in national spending which can give rise to modifications in the potential product of the economy.

The model therefore incorporates variations in production capacity which are associated with external saving: these variations can only take place during the process of transition, since in the terminal situation external saving is nil and consequently the potential product (possibly different from the initial one)[8] is constant.

It is evident that this is an *ad hoc* way of (temporarily) endogenising the value of the potential product of the economy. However, in addition to the trivial solution[9] (which in many cases involves results which are not economically viable) of assuming perfect

substitution between domestic saving and external saving, there are theoretically two other alternatives: one consists of assuming that domestic spending is inelastic with respect to the rate of interest, and the other is to assume that the flow of external capital is an inverse function of the level of external indebtedness of the country.

The first alternative (equivalent to a vertical IS curve in the traditional macroeconomic framework) has the serious theoretical drawback that the real rate of interest of the economy can be modified by money supply policies without there having been any change in the real economy (technology, preferences and tastes) or in other (relative) prices. The second possibility, which it is planned to develop in future stages of the project, has the attraction of its "realism", but it nevertheless requires fairly specific assumptions in order to ensure a new equilibrium situation *before* the payments of interest on the external debt make it necessary to generate exports incompatible with the productive capacity of the economy and/or imports of such a low level that they eventually become negative.

Consequently, the present report uses a preliminary, and of course incomplete, solution to this topic. Nevertheless, it is closer to the real behaviour of the economies than much of the literature on open economies. This literature generally ignores the existence of the external debt, assumes a tendency to equalization of domestic interest rates with those abroad, without specifying in a consistent manner the monetary and *real* mechanisms through which such a situation would be achieved, or, finally, simply does not take into account the interaction between financial and real assets (accumulation of physical capital) through variables (such as the productivity of capital and/or the rate of preference in time) related with the rate of interest.

It is important to note that, with the exception of what was stated in preceding paragraphs, it is assumed that the potential product of the economy, identified by the "transformation curve", is determined exogenously, that is to say, it is independent of the endogenous evolution of the variables of the model.[10]

It must be emphasized that the model assumes initial conditions of equilibrium. A preliminary analysis suggests that the time path of the main macroeconomic variables is a function not only of the characteristics of the changes in the exogenous policies, but also of the initial values of the endogenous variables. Therefore, in order to "isolate" the effect of the policy changes, we have worked with initial equilibrium conditions (in the sense that, in the absence of exogenous changes, the observed values of the endogenous variables tend to be maintained through time). It is hoped to be able to analyse more "real" cases, with initial disequilibrium situations, in future stages of the research and to evaluate their impact, comparing and explaining the alternative trajectories for identical policy changes, precisely on the basis of different magnitudes of the possible initial disequilibria.

In the present version of the model, no analysis is made of the factor market or changes in the distribution of property and wealth, which are so important in some experiences of economic opening up. This is undoubtedly an important limitation, since, among other elements, it fails to consider an important mechanism of adjustment of the economy which can be of very fundamental importance with different changes of policies or exogenous shocks: namely, the evolution of factor prices (especially real wages) and the rate of labour unemployment.

This is one of the areas where study and future development of the model are very necessary. It cannot be denied that it presents difficulties, since the analysis of the factor market in a general equilibrium model calls for the differentiated specification of production functions by sectors and/or goods and compatibilization of the development of the capital market with consistency in the determination of the national product, not only on the supply an expenditure side, but also in its factoral disaggregation; it should

also be borne in mind that in making the behaviour of the factor market an explicit function, the potential product becomes an endogenous variable. Finally, it is the factor market, and above all the labour market, that institutional conditions, wage or salary policies, etc., usually play a very fundamental role, thus making it a rather complicated matter to try to determine in a *general* manner, and within the limitations imposed by a numerical experimentation exercise with a simulation model, the factors deciding wages and the volume of employment.[11]

With regard to the foregoing, it should be noted that in the model a distinction is made between the potential product, associated with points on the transformation curve, and the effective product, which is determined endogenously. Thus, their defference represents the gap between them and measures resource unemployment and, although with limitations and only in an indirect manner, labour unemployment.[12]

In line with recent analyses of the theory of international trade, the model considers three kinds of goods (or sectors of activity): importable goods, exportable goods (together these represent internationally tradeable goods), and goods which are not tradeable with the exterior. As we know, these categories are based on the greater or lesser ease of substitution between domestic and foreign goods in production and/or consumption (reflected basically through price differentials, including transport costs, tariffs and other adjustments and/or trade distortions).

This classification, which is very useful for the study being carried out here, directed as it is towards analysis of the external sector, does not incorporate a distinction between consumption goods and investment goods. It should be recalled that in the model there is no explicit identification of the "use" of these goods and, with the sole exception of balance-of-payments current account disequilibria (which implies use for accumulation different from use for replacement investment), no distinction is made between consumption goods and investment goods. This omission constitutes a limitation, since one of the most frequently discussed topics in processes of opening up is that of their impact on the rate of accumulation.[13]

Finally, it should be noted that the model has three important general equilibrium characteristics.[14] Firstly, the quantities of each good produced are limited by the transformation curve and, in long-term equilibrium conditions, the vector of the quantities produced satisfies the equation of the transformation curve; the positon and shape of the latter are determined by the resource endowment and the technology of the economy. Secondly, the demand equations satisfy the three general theoretical conditions of homogeneity, symmetry of the substitution effects, and additivity. The last general characteristic of the model is its budgetary restriction, both for the Government and for the economy as a whole; the differences between imports and exports are associated with the imbalances in the market of non-tradeable goods and, following the balance-of-payments absorption approach, with the difference between expenditure and income. The role of budgetary restriction is that of making it possible to link the interactions between the balance of payments (including the capital account) and the fiscal and monetary sectors, and between these and domestic expenditure and income. These links are modelled explicitly, and, together with the two elements referred to earlier in this same paragraph, guarantee the global and sectoral coherence and consistency of the model.

IV

Structure and functional relations

The basic structure of the model which will be used in the simulation exercises can conveniently be classified, for the purpose of explanation, in six interrelated sections.

1. *The production and supply sector*

a) Desired supply

The system of equations representing the aggregate supply desired in each period of time for the three types of goods, importable (I^{s*}), exportable (X^{s*}) and non-tradeable (N^{s*}) is deduced from the process of maximization of the value of the national product ($Y^* = p_I I^{s*} + p_x X^{s*} + p_n N^{s*}$), subject to the technological restriction represented by a transformation curve, the available resource endowment (y^*), and the prices of the three goods (p_i, p_x, p_n) parametrically determined.[15]

The technology is characterized by a quadratic transformation function which describes the technical possibilities of transformation of one good with another (that is to say, the ease or difficulty with which resources intended for the production of a particular type of good can be used to produce another good).

Formally, the problem of the producer is:

$$\begin{aligned} &\text{to maximize: } p'z \\ &\text{subject to: } z'\Lambda z = y^{*2} \end{aligned}$$

Where p is the price vector (p_i, p_x, p_n) affecting producers z is the quantity vector (I^{s*}, X^{s*}, N^{s*}) and Λ is a positive definite symmetrical matrix of parameters;[16] y^* is a positive scalar which determines the distance of the transformation curve with respect to origin and represents the total endowment with available resources.

It can be demostrated that the solution to this maximization problem is given by:

$$z = [y^* / (p'\Phi p)^{1/2}]\Phi p$$

Where $\Phi = \Lambda^{-1}$.

Thus, the desired supply of importable, exportable and non-tradeable goods depends exclusively on the relative prices of the three goods, the technical conditions of transformation of one good by another, and the endowment of resources.

The system of equation z, is homogeneous of degree zero in nominal prices, the crossed slopes of quantities with respet to prices are symmetrical, and the weighted sum of the price elasticities, across the equations, is zero.[17]

The expressions for I^{s*}, X^{s*} and N^{s*}, appear in the square brackets of equations (2), (3) and (4) of the model.

With regard to y^*, as already noted in previous pages, we originally tried to define it as an exogenous variable. Unless we assume perfect substitution between external saving and domestic saving, however, it is necessary to incorporate the effects deriving from the deficits and surpluses on the balance-of-payments current account in the process of saving and investment, and, hence, in its impact on y^*.

To this end, we have attempted a simple preliminary specification, identifying the available resources with the real national product. In this way, using a Domar type equation, the growth rate is equal to the product of the rate of investment multiplied by the marginal productivity of investment.

(1) $$y_t^* = y_{t-1}^*(1 + c_t)$$

(5) $$c_t = (I_t/Y_t)\delta_t$$

The investment is assumed to depend on the differential beween the productivity of capital and the rate of interest (see the section on expenditure) and is determined as a function of the balance-of-payments current account deficit, assuming that $z\%$ of the external saving is invested and $(100 - z)$ % is substituted (in the algebraical sense) for domestic saving (equation 6). Equation 7 indicates that as the stock of capital (approximately indicated by y^*) grows, its productivity falls.

b) Actual supplies

The model assumes that there are no demand restrictions on the tradeable goods market: that is to say, at the relevant prices, which, as we shall see, are determined basically by international prices, the demand for exportable surpluses and the world supply of importable goods are infinitely elastic (and of instantaneous velocity).

On the production side, it is assumed that if the economy experiences a change in relative prices, in technology or in resource endowment, the modification in the structure of supply of tradeable goods is not instantaneous; a gradual adjustment mechanism has been incorporated, so that the *effective* change in the supply of tradeable goods is a function of the difference between the desired supply and the actual supply of the preceding period:

$$\Delta I^s = \lambda_1(I^{s*} - I_{t-1}^s) \qquad 0 < \lambda_1 < 1$$

$$\Delta X^s = \lambda_2(X^{s*} - X_{t-1}^s) \qquad 0 < \lambda_2 < 1$$

In other words, it is assumed that there is some inertia in the production structure, so that it takes time to transfer resources to and from these sectors. The magnitude of the delay depends on the value in the case of the supply of importable goods λI and on λ_2 in the case of exportable goods.

Consequently, the actual supply of tradeable goods (see equations (2) and (3) is a weighted average) of the present desired supply and the effective supply of the preceding period.

The actual supply on the non-internationally-tradeable goods market is determined in a different manner, since unlike the case of tradeable goods, excess supply or excess demand for non-tradeable goods may persist for some time. In other words, at the prices prevailing in each period there is no guarantee that the markets will clear, so that it seems and extreme case to assume that in spite of this the actual supply of non-tradeable goods will always be identical with the desired supply.

This is why this market has been modelled on the assumption that prices and quantities adjust from one period to another. In particular, if at the prevailing price there is excess supply (demand) with respect to the desired supply, the effective supply of non-tradeable goods, N^s, will be smaller (larger) than the desired supply (see equation 8).[18]

If $\lambda_3 = 0$, this means that $N^s = N^{s*}$ and the quantities actually offered on the market coincide with the desired supply. If $\lambda_3 = 1$, the adjustment takes place along the demand curve for non-tradeable goods.[19]

Once the values of I^s, X^s and N^s are known, we can obtain the actual "real product", y, given by equation 9. Likewise, the nominal product is also determined through equation 10.[20]

The unemployment of resources u_t, with respect to normal underutilization (assumed to be 5%), which is expressed in equation 11, depends directly on the difference between y_t^* - y_t.

Finally, it may be noted that in equilibrium conditions, that is to say, once sufficient time has passed to enable the process of adjustment of the economy to take place, the actual supply equals the desired supply, so that $y_t = y_t^*$.[21]

2. *The expenditure sector*

Nominal expenditure has two components, that corresponding to the private sector and that corresponding to the public expenditure.

Private expenditure, in turn, can also be conveniently classified in two categories: spending on goods and non-financial services (see equation 15) and spending on the payment of interest in respect of indebtedness of this sector with the exterior ($r_D B_F$).

The desired total nominal expenditure of the private sector has been specified as a positive function of the disposable nominal income and the nominal excess supply of money, and as a negative function of the difference between the rate of interest and the marginal productivity of capital, δ (see the term in square brackets in equation 16).[22]

This expenditure equation is deduced from the fact that the residents of the country have a certain level of disposable nominal income, determined by the value of the goods produced, less taxes. This income represents the relevant budgetary restriction and, if there is equilibrium in the monetary sector and the return on physical capital and financial assets is equal to the rate of preference in time, the disposable income is totally consumed.[23]

The term $(M - M^d)$ represents the traditional "hoarding" effect in the expenditure equations and is related with the so-called "wealth effect". If there is an excess supply (demand) of money, then, *ceteris paribus*, equation 16 indicates that the expenditure will be greater than (less than) income.

The term $(r_D - \delta)$ is introduced as a variable explaining the aggregate expenditure on consumption and/or investment and also, as noted in the previous chapter, in order to determine from the "real" side the equilibrium interest rate; without this term, this interest rate would be undetermined and could assume *any* value which equilibrates the monetary sector.

Assuming that the effective expenditure is gradually adjusted to the desired expenditure, we obtain equation 16, where λ_4 represents the velocity of adjustment $(0 < \lambda_4 < 1)$.

The nominal private expenditure on goods is obtained by deducting from total expenditure the payments of interest on foreign debt.[24] The total expenditure on goods is obtained by adding public expenditure, G, to private expenditure (see equation 17).

Once the total nominal expenditure on goods has been determined, its distribution between importable, exportable and non-tradeable goods is deduced through a process of maximization subject to the budgetary restriction represented precisely by total nominal expenditure. For this purpose, it is convenient to use the argument of separability, which basically consists of assuming that there is a unidirectional causal relationship from total expenditure towards its components.

Consequently, the problem consists of:

$$\text{maximizing: } f(q_t^D)$$

$$\text{subject to the fact that } p_t' q_t^D = E_t$$

where p is the price vector (p_i, p_x, p_n) affecting domestic residents in their expenditure decisions, q^D is the vector for the quantities demanded (I_t^D, X_t^D, N_t^D); E_t corresponds to the nominal expenditure on goods $(E_t = p_i I_t^D + p_x X_t^D + p_n N_t^D)$; and f represents a generic utility function.

The solution of this problem permits us to obtain equations 18, 19 and 20, which, assuming that the expenditure elasticity of demand for all goods is equal to unity, correspond to the nominal expenditure on importable, exportable and non-tradeable goods (in logarithmic terms) respectively.[25]

On the basis of these equations it can be demostrated that the demand functions are homogeneous of degree zero on prices, the matrix $(\delta q / \delta p')$ is symmetrical, and the property of additivity is complied with.

The proportion of expenditure on each type of good within total expenditure has been expressed by the variables w_i^d, w_x^d, w_n^d (equations 21, 22 and 23), which are determined endogenously from period to period.

It is interesting to note that the difference between the nominal expenditure, E_t and the nominal income Y_t, corresponds exactly to the deficit on the balance-of-payments current account only if the market of non-tradeables is in equilibrium. During the transition between two equilibrium states, however, situations may be observed where there simultaneously exists a current account deficit and an excess of supply of non-tradeable goods, so that the economy is below its potential output.

It may be noted, finally, that if there is a current account deficit and expenditure is greater than income, equation 16 alone does not enable us to determine the composition of the excess demand for goods, and it is necessary to have recourse to the value of coefficient z of equation 6 in order to determine the proportions in which the economy is consuming and/or investing above its productive capacity.

3. *Prices and inflation*

The general price level has been expressed on the basis of the expenditure deflator, as a Divisia index in which the percentage change in the level of prices is a weighted average of the percentage changes in the prices of importable, exportable and non-tradeable goods, the weighting elements being the proportions of expenditure on each type of good within total expenditure (see equation 24).[26]

In equilibrium conditions, the domestic price of importable goods has been defined as the product of the price of foreign goods (p_F)[27] multiplied by the exchange rate (ER) adjusted by the level of tariff protection.[28]

As the response of domestic prices to variations in P_F, ER or τ is not generally instantaneous, a gradual adjustment has been assumed (equation 25).[29]

The price of exportable goods is made equal to the price abroad multiplied by the exchange rate (equation 26).[30]

The price of non-tradeable goods is determined as a function of the imbalances of supply and/or demand in their own market, and their rate of change responds "autonomously" to the variation of prices of importable goods (equation 27).[31]

The value of coefficient λ_6 is a crucial factor with regard to the velocity with which the price of non-tradeable goods arrives at its equilibrium state. A very small value of λ_6

means that in the face of given changes there will be big delays in returning to an equilibrium state, so that, depending on the value of λ_3, the economy will be for a longer or shorter time at a greater or smaller distance from its potential level of optimum resource use.

Finally, for the expected inflation we have used a traditional model of adaptative expectations, along the lines of Cagan,[32] namely:

$$\Delta\pi_t^e = \lambda_8(\Delta\log p_t - \pi_{t-1}^e)$$

where π_t^e = the expected rate of inflation in period t. On the basis of this expression we have deduced equation (28).

4. *The balance of payments and external indebtedness*

Imports (I_t), valued in foreign currency, are defined as the product of the international price, p_F, multiplied by the difference between the domestic supply and demand of importable goods (equation 29).

Similarly, exports (X_t) correspond to the excess domestic supply of exportable goods, valued at international prices (equation 30).

The balance-of-payments current account (CA), expressed in national currency, is equal to the trade balance ($X_t - I_t$), less the flow of payments corresponding to interest on foreign debt (equation 31).

The behaviour of the balance-of-payments capital account is derived from the assumption that, in addition to certain autonomous flows, international credits enter or leave the country as a function of the difference beween domestic and foreign interest rates ($r_{D_t} - r_{F_t}$), adjusted by the expectations of devaluation of the national currency ($\Delta^e\log(ER)_t$) and by other factors related with risk, differences in reserve requirements, etc., which are incorporated in the term ϱ_t.

In the absence of any controls on capital movements, the flow of the latter $(DK)_t$, expressed in national currency, would be represented by the following equation:[33]

$$(DK)_t = \lambda_4(ER)_t + \gamma_{17}(r_{D_t} - r_{F_t} - \varrho_t) + \gamma_{18}[\log(ER)_t - \log(ER)_{t-1}]$$

The value γ_{17} reflects the velocity at which, in the absence of controls on capital movements, such flows move into and out of the country under consideration.

To the extent that there are controls on capital movements, the "effective" value of γ_{17} will we smaller. Thus, through the policy variable β, which as we see in equation 32, multiplies the determinant factors of the induced flows of external capital, an attempt is made to incorporate the degree of financial restriction *vis-a-vis* the exterior. A value of β=0 means that the economy is totally closed to international capital movements, whereas β=1 indicates total financial openness.

Equation 33 of the balance-of-payments position $(BP)_t$, equivalent to the variation in net international reserves, is defined as the algebraical sum of the current account and capital account balances.

The stock of international reserves, R_t, which equals the stock at the end of the previous period, plus the balance-of-payments position, is defined in equation 34.

It is worth noting the form in which external indebtedness has been incorporated in the model. It is assumed that the initiative regarding ΔK can only come from the exterior, since the model does not include in any way the holding of external financial assets by domestic residents. In addition, it is assumed that only the domestic private sector has issued bonds in the past, so that there is an initial stock of bonds in the

possession of that sector which are traded only among themselves or with the exterior. The flow of bonds issued by the private sector is assumed to be nil,[34] so that if B_{F_t} is the stock of domestic bonds in the possession of foreigners, that is to say, the gross external debt of the country (see equation 35), we have:

$$B_{F_t} = \sum_{i=o} \Delta K_{t-1}$$

It has been assumed, for simplicity's sake, that the initial amount of external indebtedness is nil.[35]

Finally, because of the way in which the external debt has been incorporated in the model, it is worth noting that the flow of payments of interest to which this indebtedness gives rise corresponds to the product of B_{F_t} multiplied by the domestic rate (r_{D_t}), since it is precisely the bigger expected return from domestic financial assets which explains the capital movements induced towards the country.

5. *The monetary sector*

The nominal amount of money (M_t) is defined (in a broad sense) in equation 36 as the sum of domestic credit (broken down into credit to the private sector, *CRP*, and credit to the public sector, *CRG*, plus the value in national currency of the net international reserves.

In the demand for money, M_t^D, expressed in nominal terms in equation 37, the model assumes a type of behaviour which has been extensively worked out in the literature, the argument for it being the nominal income (as a "proxy" for the budgetary restriction), the expected rate of inflation (reflecting the alternative cost in terms of goods) and the nominal rate of interest (which indicates the presence of non-monetary financial assets as substitute for money).[36]

The rate of interest changes as a function of the excess supply and/or demand for money (equation 38).[37]

The model makes explicit the direct link between the external sector and the monetary sector through the effect of the variations in the international reserves on the money supply. This mechanism, as is well known, is the central element in the monetary approach to the balance of payments and expresses the fact that the money supply, when the exchange rate is determined by the economic authority, is not controllable and in the ultimate analysis is determined (through the purchase and sale of foreign currency to the Central Bank) by the demand for money.[38]

Equation 36 also indicates a very close linkage between the financing of fiscal policy and the monetary sector.

6. *The fiscal sector*

The model incorporates the public sector in a very simple form, although for studies centered on this sector this must be suitably disaggregated and specified.

Public expenditure in nominal terms, G_t, is defined as the sum of non-tariff taxation (T_t), tariff collection, and the public sector deficit, g_o, which constitutes one of the variables of fiscal policy (see equation 39).

Non-tariff taxation is assumed to depend on income tax, at a proportional rate, t_1, and on other taxes, t_o (equation 40). These two coefficients, t_o and t_1, also form part of the fiscal policy instruments.

Finally, it is assumed that all public sector deficits are financed by the issue of money by the Central Bank, through credit to the Government (*CRG*), or alternatively, that all surpluses are reflected in absorption of the money by the monetary authority with consequent reduction of the amount of high powered money (see equation 41).

The linkage between fiscal policy and monetary policy is immediate, and is due to the fact that no other forms of financing public expenditure have been modelled (such as, for example, domestic indebtedness with the private sector and/or external indebtedness).

Nor has any direct linkage been modelled between public expenditure and private expenditure, so that any change in *G*, financed through taxation, is exactly offset in the present version of the model by changes in private expenditure of equal magnitude but of opposite sign.

V

Functioning of the global model

In this section an endeavour will be made to give an idea of the global functioning of the model, describing how the different sectors are related with each other and explaining the mechanisms of adjustment to some changes in the macroeconomic conditions. This will make it possible to analyse more readily and precisely in the next chapter some of the simulation exercises.

If an excess nominal supply of money[39] arises, for example, this is manifested in pressure on the market for goods (equation 16) and on the financial sector (equation 38).

In the first case, it should be noted that part of the greater expenditure goes to the market for tradeable goods, generating a deficit on the balance-of-payments current account,[40] and thus causing a reduction in the supply of money, which tends to restore equilibrium.

When expenditure increases, this also produces an excess demand for non-tradeable goods, which is reflected partly in a rise in the prices in the market for such goods (equation 27) and partly in an increase in the effective supply of non-tradeable goods (equation 8). Both effects increase the nominal demand for money, thus helping to reduce the disequilibrium of the monetary sector.

Finally, initial excess supply of money will also affect the financial sector, its impact being directly proportional to the value of γ_{13} (equation 38). The tendency to a drop in the interest rate will help the monetary sector to return to equilibrium through the increase in the amount of money demanded.[41]

It should be noted that, if outside prices do not change, the rise in the price of non-tradeable goods is only transitory because of the properties of the structures of production and expenditure and the unit values of the sectoral elasticities of supply and demand with respect to y_i^* and E_i, respectively. The effect of a rise in p_n is to transfer resources from the production of exportable and importable goods to that of non-tradeable goods and to divert demand towards tradeable goods, all of which explains the deficit on the balance of payments trade account, the reduction in the excess supply of money, and the tendency of the prices of non-tradeable goods to return to their initial equilibrium level.[42]

In other words, once the period of transition is over, whose duration, intensity, specific time path and lags displayed by the various variables naturally depend on the particular values of the parameters and coefficients of the model, the situation returns to one of equilibrium. This is achieved basically through the following adjustment

mechanisms: loss of international reserves and increase in external indebtedness, higher level of economic activity,[43] transitory rise in price levels and temporary drop in interest rates.[44]

The first of these mechanisms, the balance-of-payments deficit with consequent reduction of the nominal supply of money, plays a fundamental role in this model, since leaving aside the possible process of accumulation, prices tend to return to their initial level,[45] as does the rate of interest, which is reasonable enough since there have been no "real" changes in the economy.

Consequently, we observe that if the economy is open (or even protected) with respect to the trade in goods and non-financial services, the model reproduces as its equilibrium condition the situation whereby "the demand for money creates its own supply", in other words, the nominal supply of money is endogenous and its evolution is explained ultimately by the factors determining demand (through the variations in the nominal products, its interest rates, and in expected inflation). In this example there have not been any major changes in the variables which explain the demand for means of payment, so that the bulk of the adjustment takes place through a negative balance-of-payments situation (assuming that domestic credit does not change from the level which it had when the excess supply of money was generated). In this way, the economy gets rid of the surplus money, bringing the supply of means of payment in line with the nominal amounts demanded.

Another case which it is interesting to analyse is that of a devaluation of the exchange rate. This means basically that the prices of tradeable goods, with a greater or lesser lag, rise in proportion to the devaluation (see equation 25 and 26). Moreover, and depending on the value of λ_7, the prices of non-tradeable goods will also rise directly.[46]

Unless the value λ_7 is unity, the terms of trade for tradeable goods initially improve, making their production more profitable and causing demand to move towards non-tradeable goods. This therefore tends to generate a surplus on the balance-of-payments trade account and an increase in the supply of money.

This is coherent with the initial impact of the rise in prices on the real supply of money, causing an excess of demand for money since, even if λ_7 were equal to unity and there were initially no change in relative prices, an excess nominal demand for money arises which depresses expenditure and tends to raise interest rates. The first effect is reflected in a drop in the relative price of non-tradeable goods and stimulation of the transfer of resources to the production of tradeable goods (and the diversion of demand to non-tradeable goods), with consequent improvement in the balance-of-payments trade account and an increase in the supply of money. The second effect, if β is not zero, is to stimulate the entry of capital, thus also helping to close the gap between the demand for and supply of money.

In short, both the "expenditure" effect and the change in relative prices help to restore the monetary equilibrium.

Through this example we see that in the model an exchange rate variation alone does not cause permanent changes in relative prices.[47] However, depending on the initial conditions at the moment of devaluation and the specific values of the lag coefficients (λ_i) and those relating to imbalances in the financial sector, not only is a (one time) improvement in the balance of payments produced, but also the economy can, naturally, be reactivated. Associated with these effects there will certainly be a rise in the level of prices and probably greater external indebtedness.

The foregoing paragraphs contain some of the fundamental elements for understanding the basic functioning of the model: the analysis of the simulations is concentrated on the relative impacts of the different adjustment mechanisms and on the

time paths and the various lags in the variables affected by policy changes, all of which depend essentially on the specific values of the parameters and coefficients of the model.

VI
Analysis of some simulations

This chapter seeks to investigate the specific characteristics of the time paths of the main macroeconomic variables *vis-a-vis* alternative strategies of economic opening up to the exterior.[48]

All the simulations start from an initial situation of global and sectoral equilibrium, assuming that the economy is closed to international capital movementes ($\beta = 0$) and is protected with a uniform tariff of 100% ($\tau = 1$) on all imports. In addition, initially the effective products is equal to the potential products, the prices of goods are in equilibrium for a fixed exchange rate ($ER = 1$), the current account, capital account and balance of payments as a whole are in balance, and the level of international reserves and amount of money remain constant. It is assumed that the crossed price elasticities of demand are zero and that if there is a change in the price of a good the supply of the other goods moves in the opposite direction.

The analysis is concentrated on the dynamic time paths of these and other variables in response to policy changes. Finally, an analysis is made of some policies which, when combined with those of opening up, minimize certain undesirable effects which have been noted in the first simulations.

1. *Commercial opening up policies*

To begin with, let it be assumed that it has been decided to implement a "shock" commercial policy consisting of reducing the value of a tariff to zero over a given period. Figures A.1 to A.7 show the effects of this policy on the endogenous variables of the model.

The initial impact of the policy is to abruptly reduce the price of importable goods[49] (it may be recalled that $\lambda_5 = 1$). This also affects the price of non-tradeable goods, not only through the effect of λ_7, but also because of the change in relative prices, since the initial drop in the price of importable goods leads to a transfer of resources towards the production of non-tradeable (and exportable) goods and diverts demand from the non-tradeable (and exportable) goods market to the market for importable goods.[50] As a result of this, not only does the level of the prices fall[51] (see figure A.1), but an excess supply in the non-tradeable goods market is also produced (figure A.2).

From the monetary point of view, the drop in the level of prices generates an excess supply of money which is manifested in relation to the financial sector through a strong cyclical movement in the interest rate (see figure A.4). This rate drops in the periods following the reduction in tariffs,[52] but subsequently gradually returns to a new equilibrium state, although this is below the initial level because of the drop in the productivity of capital.

The impact of the excess supply of money on expenditure, together with the initial changes in relative prices, is reflected in the current account deficit of the balance of payments. The loss of reserves (a process which lasts for approximately eight periods) culminates in a level which is less than half of the initial one (see figure A.5), with imports which are more than twice their original value.

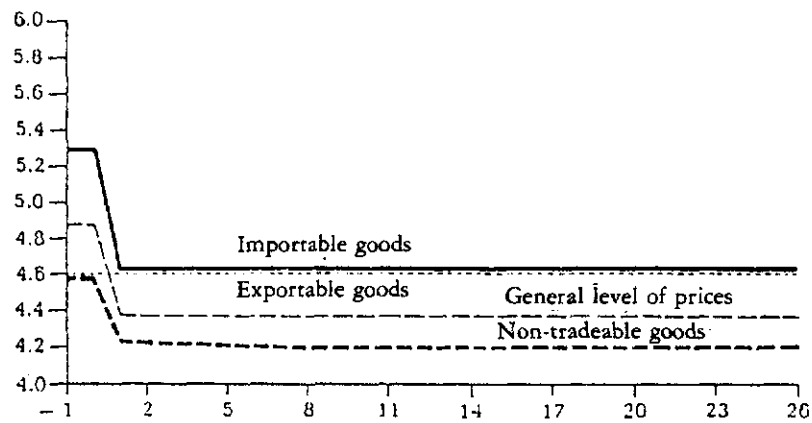
The current account deficit of the balance of payments, expressed as a proportion of the national product, comes to 7.5% for the first period and initially remains high but subsequently goes down until it practically disappears in the eighth period. It may be noted that the excess supply of money tends to go down gradually in proportion as international reserves are lost.[53]

As regards the impact of this policy on the sectoral composition of the national product (figure A.6), it is to be noted that there is a sharp drop in the importance of the sector producing importable goods (import substitution activities), which goes down from 35% to 19% in only two periods. The exportable goods, which are benefited by the drop in the price of importable goods, react more slowly (it may be recalled that $\lambda_2 = 0.4$ and $\lambda_1 = 0.8$), with their share increasing from 17% to 37%. The behaviour of non-tradeable goods is explained by their own and crossed price elasticities of supply and demand.[54]

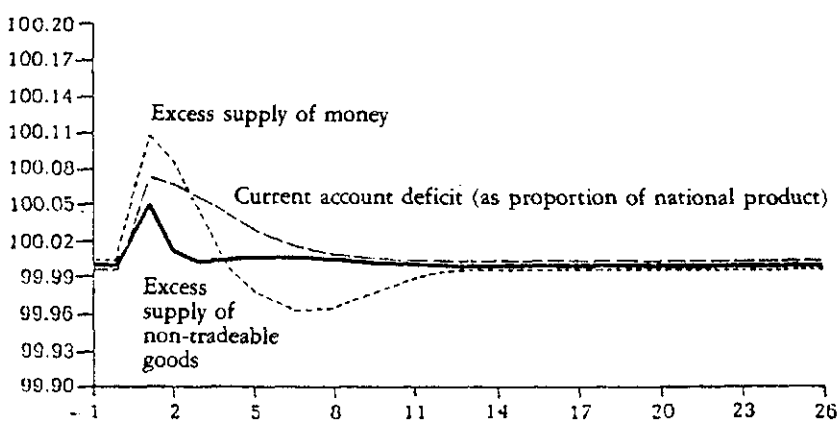
Figure A

EFFECTS OF SUDDEN COMMERCIAL OPENING UP ON THE VARIABLES INDICATED

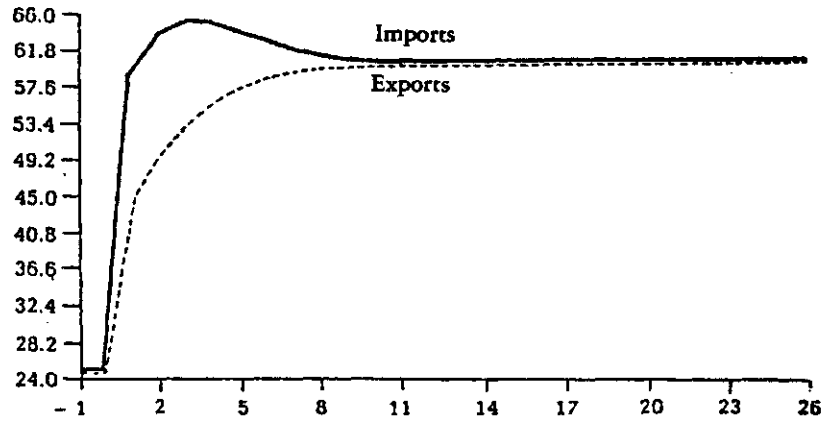
A.1. Evolution of prices *(logarithmic)*



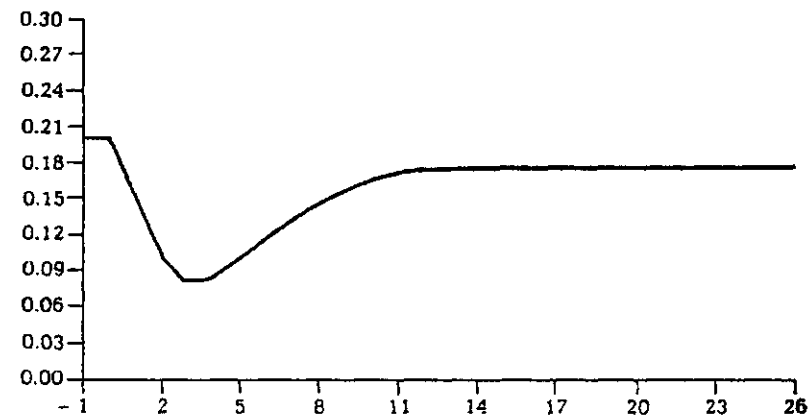
A.2. Disequilibria in various markets *(percentages)*



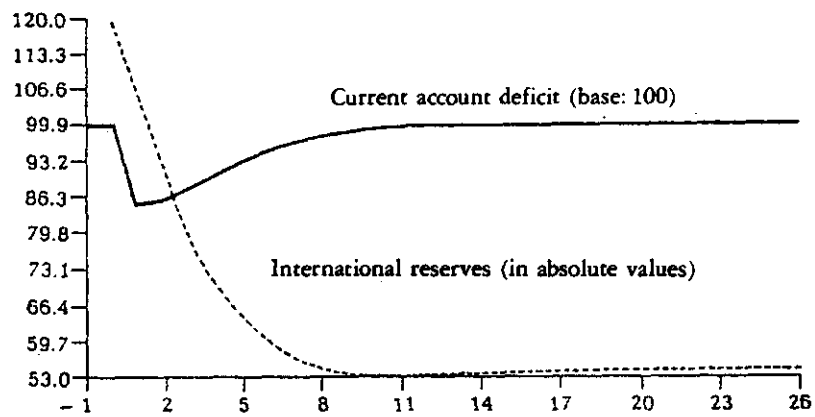
A.3. Imports and exports



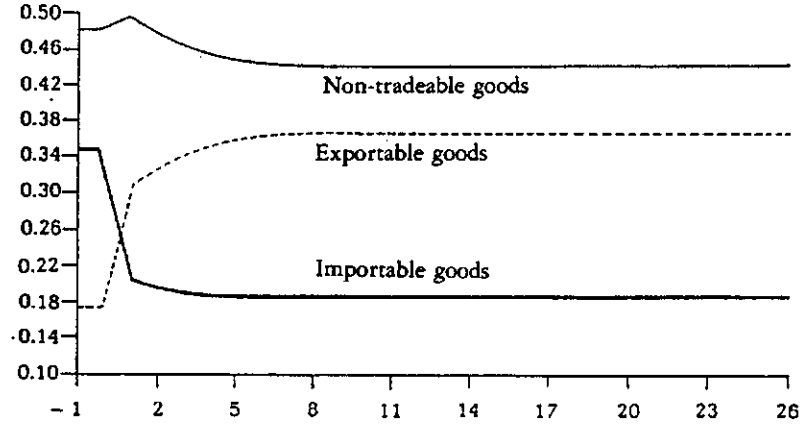
A.4. Rate of interest



A.5. Current account and international reserves



A.6. Structure of supply *(as a proportion of the national product)*



A.7. Gap Between actual and potential product *(long-term equilibrium level: 5%)*

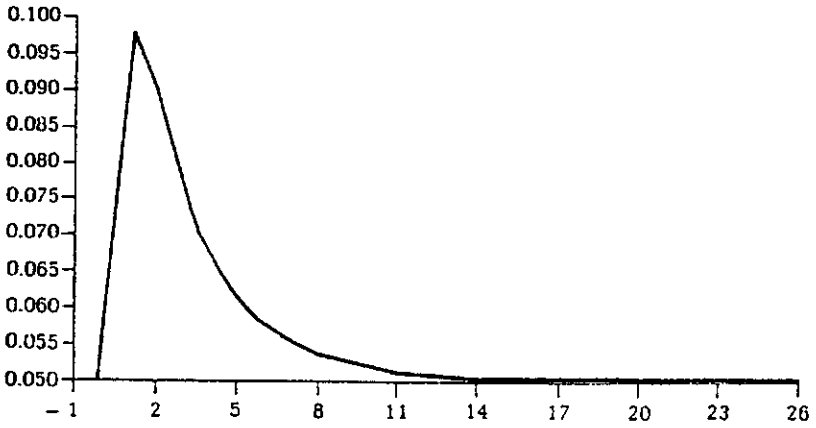
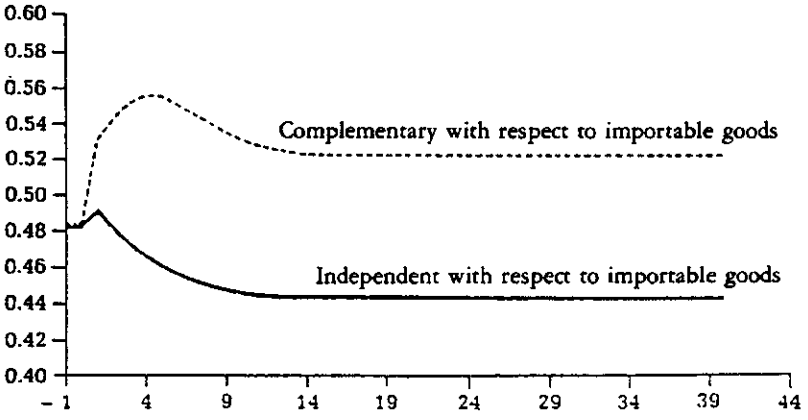


Figure B

EFFECTS OF COMMERCIAL OPENING UP ON THE SHARE OF NON-TRADEABLE GOODS IN THE NATIONAL PROJECT



Finally, it is to be obvserved that as there is no instantaneous adjustment in the sector of tradeable goods and, more specifically, as λ_1 is double λ_2, the resources no longer used in the production of importable goods rapidly become unemployed, whereas their transfer to other sectors takes some time.[55] It is for this reason that, as we may see from figure A.7, the gap between the potential and real product is initially large and returns only very gradually to its initial level.[56]

It is interesting to compare the foregoing case with what could be called a "gradual" commercial opening up policy, which has been defined here as the full liberalization of imports over four periods. Figures D.1 to D.4 display this situation, which is illustrated by comparing it with sudden commercial opening up.

In general, it is observed that the direction of the changes in the variables is the same as in the case of "shock", but the distribution in time of these changes is different: the process of return to a new equilibrium position displays a different distribution in time and is "smoother" than in the "shock" case.

The foregoing is clearly reflected in the evolution of prices (see figure D.1), and something similar also occurs with the time paths of the structure of production.

Resource unemployment[57] and the rate of interest are displaced from their equilibrium values for approximately the same period of time as in the case of abrupt commercial opening up, and their extreme points are less pronounced but further away from their equilibrium values in the rest of the distribution (see figures D.2 and D.3). Strictly speaking, in order to make a comparative appraisal of the cost of resource unemployment it would be necessary not only to consider the differences in the areas under the curves of figure D.2, but also to bring in the social discount rate as a homogenizing element.

It is interesting to note that the accumulated balance-of-payments current account deficit (loss of reserves) does not differ according to the type or context of the opening up (sudden or gradual reform greater or lesser speed of adjustment in the tradeable goods sectors, different situations of disequilibrium in the non-tradeable goods market) (figure E.3). Furthermore, gradual opening up does not tend to distribute the deficit over a larger number of periods[58] compared with the case of shock opening up: what is observed is that initially the deficits are smaller and subsequently greater than in the abrupt commercial opening up (see figure D.4).

To sum up, then, with regard to the real product, it is noted that this falls when tariffs are reduced, and this fall tends to be greater in proportion as there is greater rigidity in the non-tradeable goods market. The main difference observed between the cases of shock and gradual opening up is not so much in relation to the time during which the product remains below that of "full employment", but rather that in the former case the unemployment "peak" is greater and the distribution of the resource gap is more asymmetrical than in the gradual case.

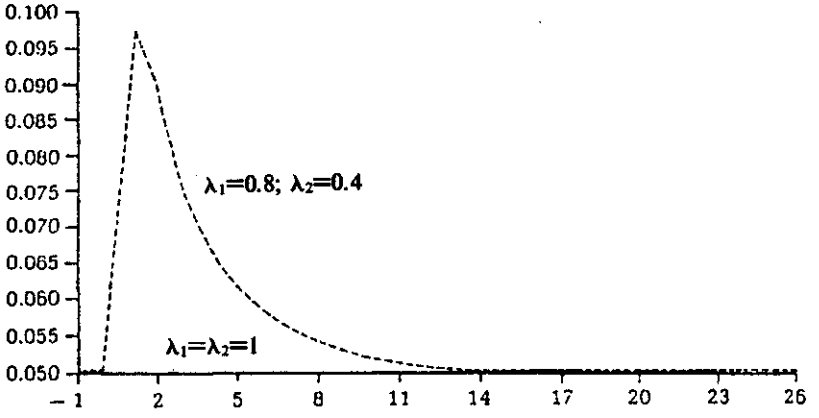
It is also concluded that in both types of commercial opening up there is an immediate deterioration in the balance-of-payments current account, the accumulated deficits being practically identical in both cases. What varies once again, is the intensity of the deficit, which is greater for a smaller number of periods in the case of abrupt opening up, and also the distribution of these deficits in time.

While the production of importable goods drops, as was to be expected, the production of exportable goods grows because of the effects of substitution in production and consumption. In the new equilibrium situation, the share of the production of tradeable goods in the total may be greater or smaller than the original share, depending basically on the own and crossed supply and demand elasticities with respect to prices of importable and non-tradeable goods.

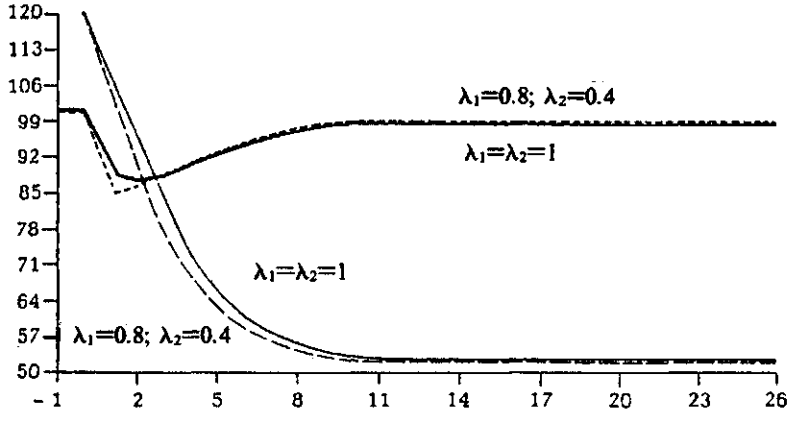
Figure C

EFFECTS OF COMMERCIAL OPENING UP, BY SPEED OF ADJUSTMENTS OF TRADEABLE GOODS MARKETS

C.1. Gap between actual and potential product *(long-term equilibrium level: 5%)*



C.2. Current account and international reserves



C.3. Price level *(logarithmic)*

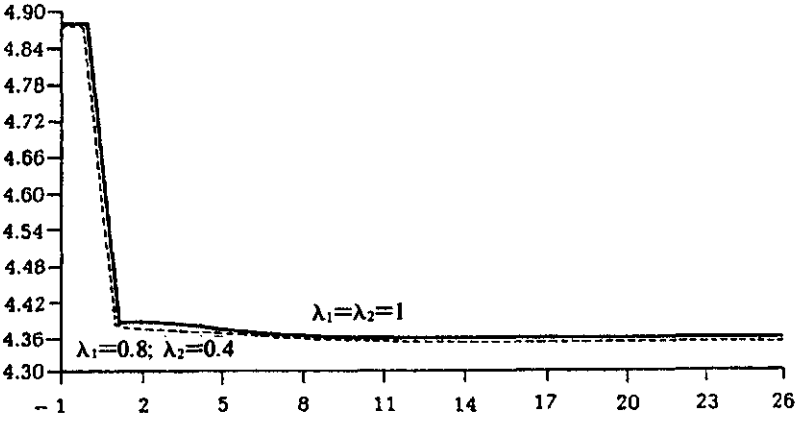
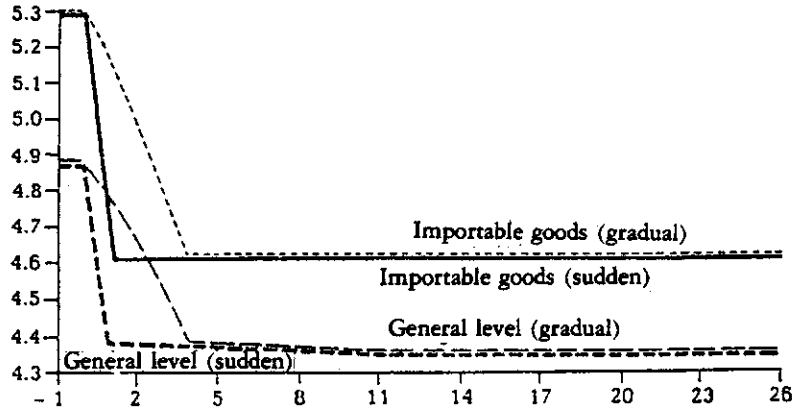


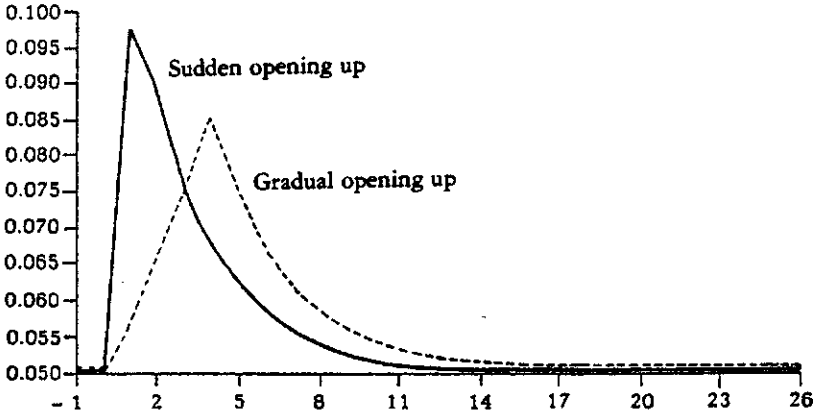
Figure D

EFFECTS OF SUDDEN AND GRADUAL COMERCIAL OPENING UP ON THE VARIABLES INDICATED

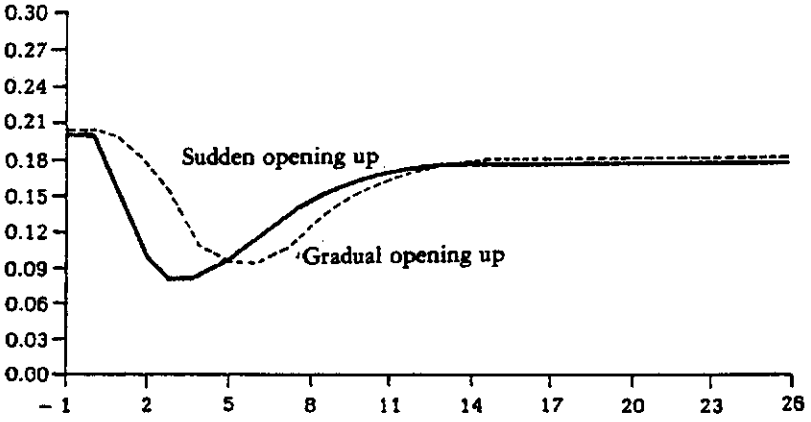
D.1. **Prices** *(logarithmic)*



D.2. **Gap between actual and potential product** *(long-term equilibrium level: 5%)*



D.3. **Rate of interest**



D.4. Current account and international reserves

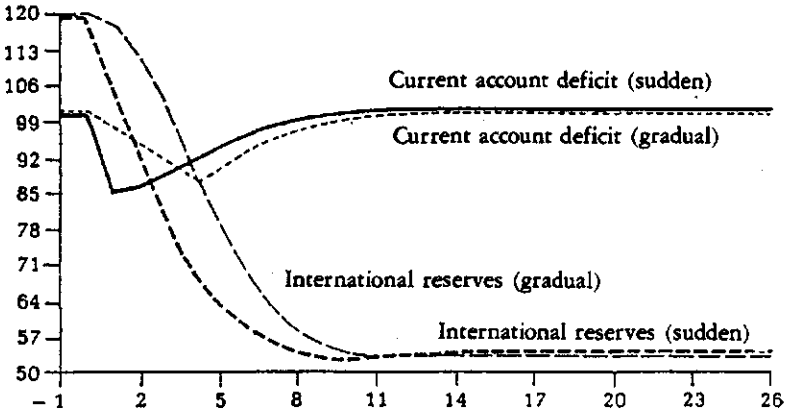
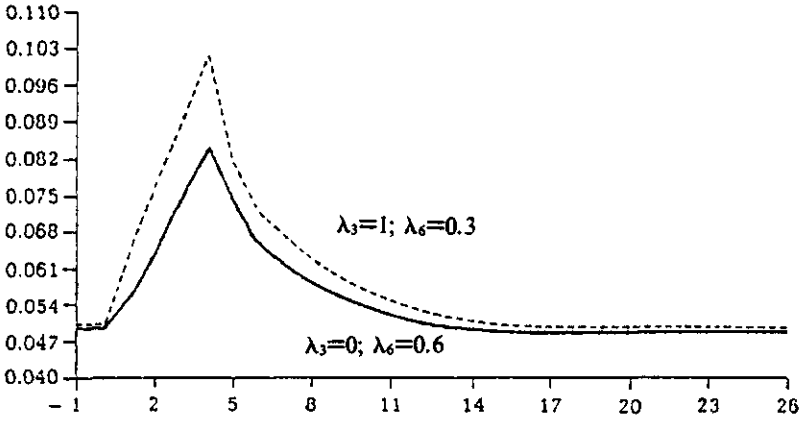


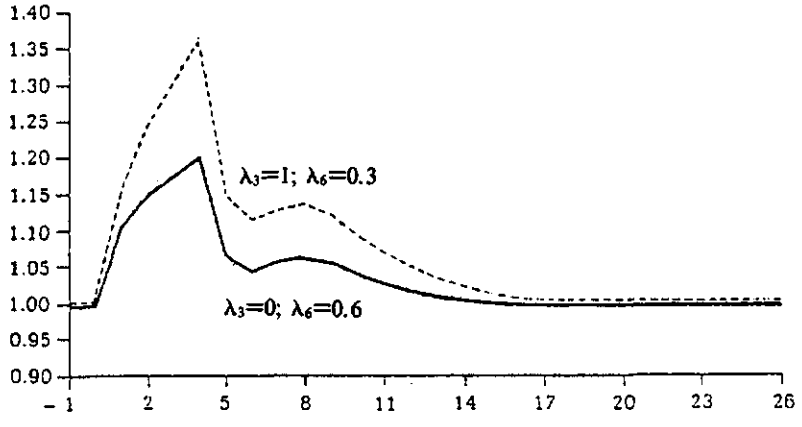
Figure E

EFFECTS OF GRADUAL COMMERCIAL OPENING UP ACCORDING TO SPEED OF ADJUSTMENT OF NON-TRADEABLE GOODS MARKET

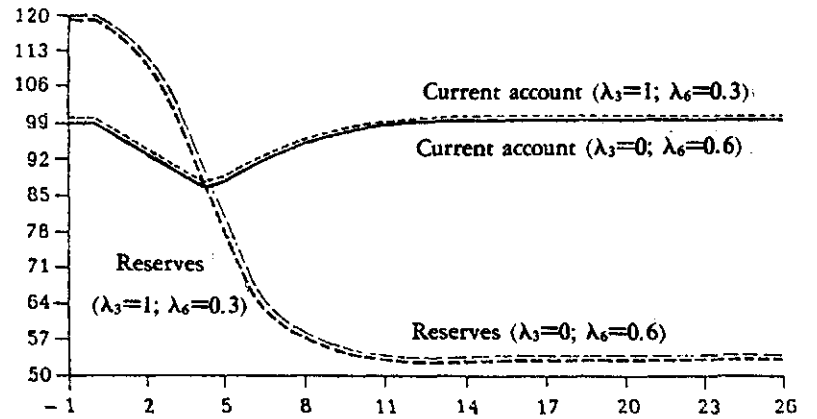
E.1. Gap between actual and potential product *(long-term equilibrium level: 5%)*



E.2. Excess supply of non-tradeable goods *(percentages)*



E.3. Current account and international reserves



Finally, it may be noted that while the nominal rate of interest tends to fall initially, the real rate rises substantially while the level of domestic prices goes down as a result of the tariff reduction.

2. *Financial opening up policies*

These exercises, which start from an initial equilibrium position where there is a 100% tariff maintained constant, and flows of capital are prohibited, are designed to analyse the effects of permitting international movements of capital into and out of the country. It is assumed that the domestic interest rate is initially twice the sum of the international rate and the risk premium ($r_D = 20\%$; $r_F = 5\%$; $\varrho = 5\%$).

A policy of shock financial opening up is understood as one which instantaneously permits the free movement of capital into and out of the country (β goes from a value of zero to unity in one period). Figures F.1 to F.6 describe the evolution of the main macroeconomic variables for this latter situation.

The difference in interest rates causes a flow of capital which increases the supply of money and the external debt. In principle, the excess supply of money causes a drop in the rate of interest and initially has an expansive effect on aggregate demand, which is reflected in the current account deficit and a rise in the price of non-tradeable goods.

In order for the economy to return to a situation of equilibrium which means, *inter alia*, that $DK = 0$, the domestic interest rate must drop to 10%. This phenomenon is produced by the interaction of the excess supply of money, which affects the rate of interest in the financial sector, and the impact of external savings on the accumulation of capital, with a consequent fall in its productivity.

This process is more or less slow, depending basically on the values of γ_{17} (equation 32), γ_{13} (equation 38) and, above all, z (equation 6); this last parameter reflects the impact of external saving on investment.

It may be noted that, for the values adopted for the parameterws, even though the rate of interest falls, it nevertheless remains for over 40 periods above the long-term equilibrium level (figure F.1). The larger the values of γ_{17} and z, the more rapidly r_D with tend to become equalized with $(r_F + \varrho)$.

Moreover, as long as such equality does not exist, external indebtedness will be accumulated, which means that the economy must generate a growing surplus on the trade account of the balance of payments in order to cover the interest payments on the

foreign debt (see figure F.2). In this process there is a slight increase in the share of tradeable goods and a drop in non-tradeable goods as a proportion of the national product (see figure F.3), because of the need to depress aggregate demand so as to generate the resources for the payment of interest on the external debt.[59] This implies a small drop in the price of non-tradeable goods and in the level of prices (see figure F.5).

In spite of the surplus on the trade account, a sustained deficit on the balance-of-payments current account is to be noted, although it decreases gradually as the economy tends towards equilibrium (see figure F.4). All this is accompanied by an increase in the gross international reserves, quite sharp at the beginning because of the larger inflow of capital, and subsequently going down but nevertheless remaining finally at a higher level than the initial one. This is because the drop in the rate of interest and the growth of the product give rise to an increase in the demand for money, which is satisfied through the accumulation of international reserves.

It should be noted that although the process of financial opening up is accompanied by a higher level of international reserves, the gross and net external indebtedness is nevertheless growing (see figure F.6). The real expenditure on goods and non-financial services, which tends to grow at the begninning, as a consequence of the greater external indebtedness, goes down with time not only because of the smaller flow of external indebtedness, but also because of the growing interest payments on this debt.

The counterpart to the greater external indebtedness, associated with the deficit on the balance-of-payments current accoaunt, is reflected in a growing real product whose time path and final level depend essentially on the values of z and γ (equations 6 and 7).

Finally, in contrast with the commercial opening up, the impact of the resource gap is very small (see figure F.7) and is associated with the values of γ_1 and γ_2, that is to say, the time it takes for the investment in these sectors to be actually expressed in greater production.

With regard to gradual financial opening up, in principle this can be defined in two alternative manners: one consisting of the complete but not instantaneous liberalization of capital movements (β goes from zero to unity over "several" periods), and another in which β instantaneously assumes a value which is positive but less than unity. This is the case which is observed in figures G.1 and G.2.

The main differences between gradual and abrupt financial reform lie in the distribution of the variables in question, which is "smoother" in the latter case.[60] It should be noted that external indebtedness, towards the end of the period, shown in the figures, is a good deal less than the corresponding to the "shock" case; however, the process of accumulation (assuming the same value of z) and growth is also smaller.

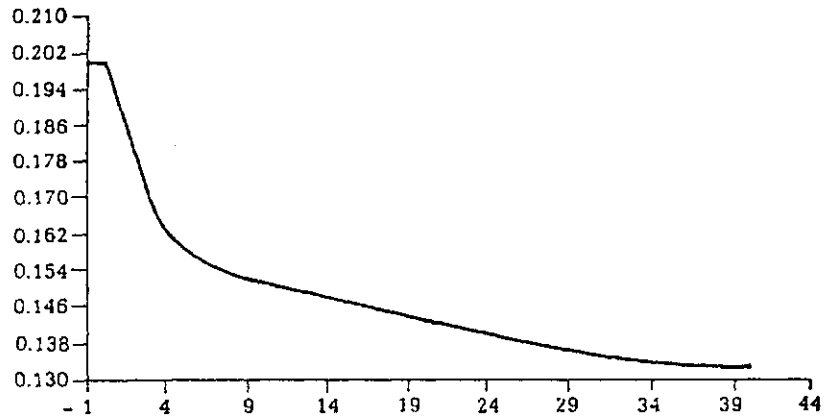
An interesting aspect, valid for both abrupt and gradual financial opening up, is that in so far as the economy must generate resources to pay for the servicing of the external debt, this means that if there are disequilibria in the non-tradeable goods market the activity of this sector will suffer, thus increasing the size of the gap between the potential and actual product.

In short, financial opening up, unlike commercial opening up, does not significantly affect the level of domestic prices or resource unemployment.[61] Nor is there a loss of gross international reserves. There is, however, a process of growing external indebtedness associated with simultaneous surpluses on the capital account and deficits on the current account of the balance of payments, whose impact on the (drop in the) domestic rate of interest depends not only on the speed of response of the flows of capital to the interest differential between the country and the exterior, but also, and in particular, on the effect of the external indebtedness on the process of investment and economic growth.

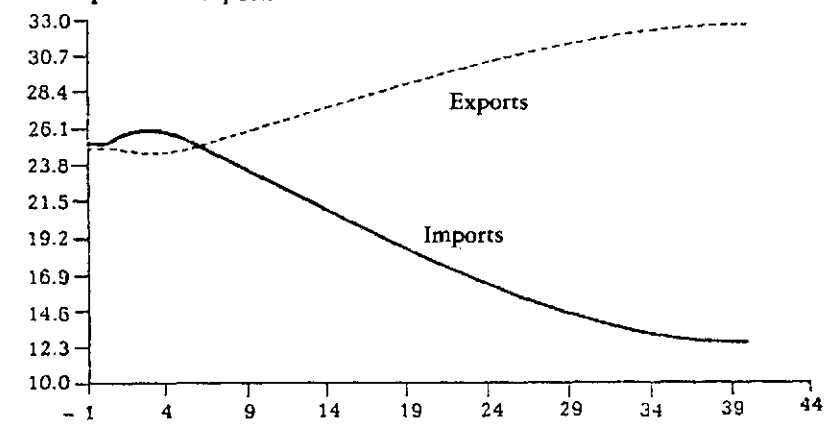
Figure F

EFFECTS OF SUDDEN FINANCIAL OPENING UP ON VARIABLES INDICATED

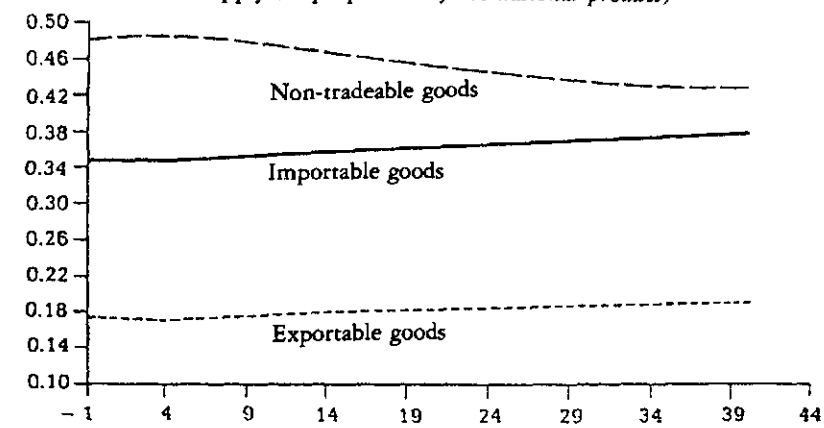
F.1 Rate of interest



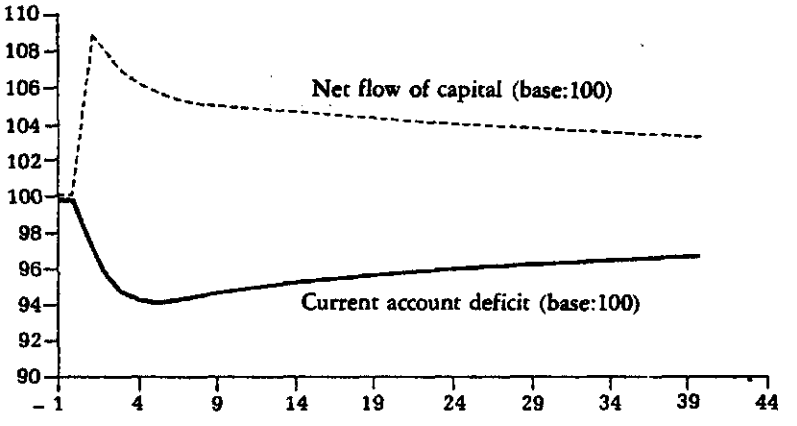
F.2. Imports and exports



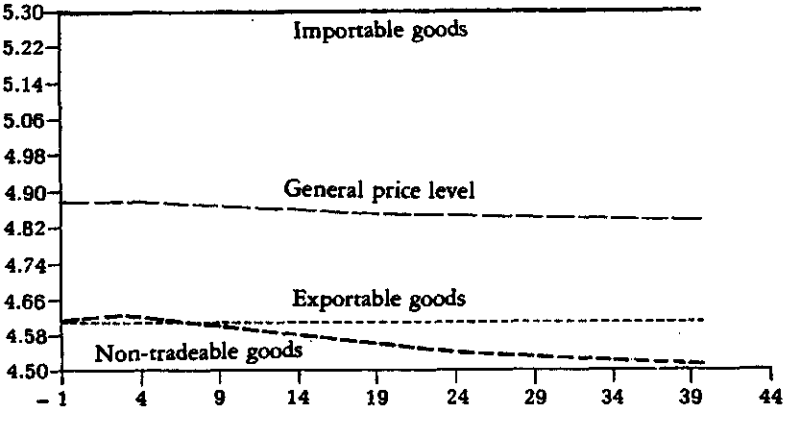
F.3. Structure of supply *(as proportion of the national product)*



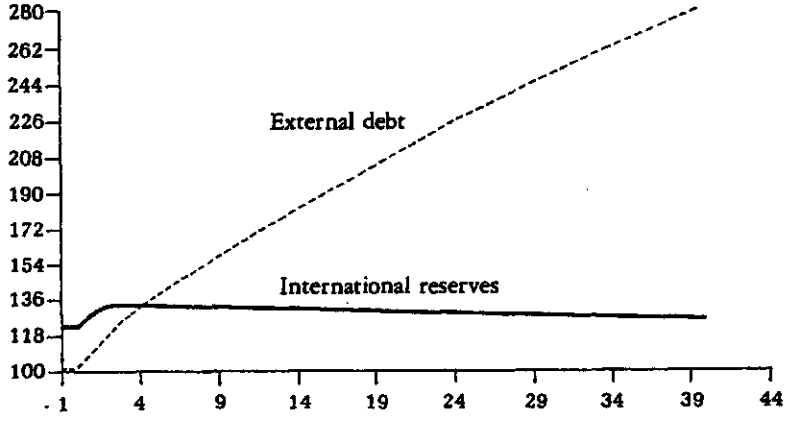
F.4. Balance of payments accounts



F.5. Prices *(logarithmic)*



F.6. International reserves and external debt



F.7. **Gap between actual and potential product** *(long-term equilibrium level: 5%)*

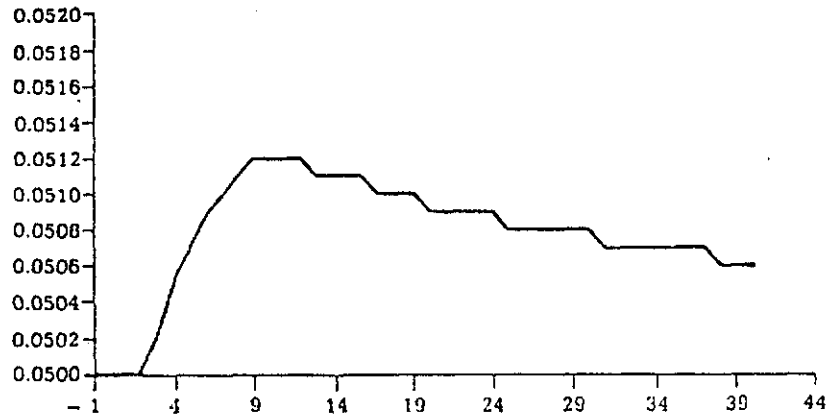
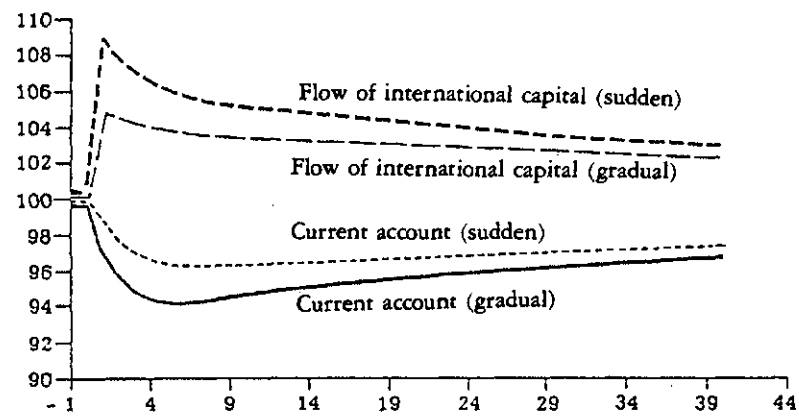


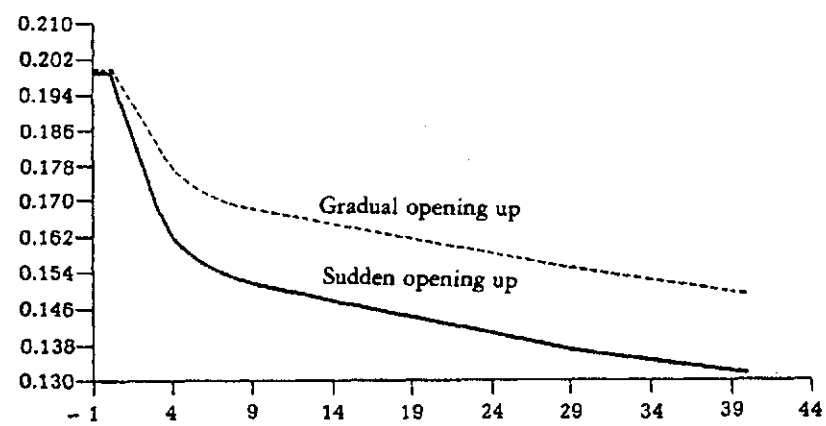
Figure G

EFFECTS OF SUDDEN AND GRADUAL FINANCIAL OPENING UP ON THE VARIABLES INDICATED

G.1. **Balance of payments account** *(base:100)*



G.2. **Rate of interest**



3. *Simultaneity of policies of commercial and financial opening up*

This section describes the results of an exercise which simultaneously combines policies of commercial and financial opening up, both of a gradual nature[62] (see figures H.1 to H.7).

In the first place, it is noted that because of the combined effect of the two policies, which bring about a fall in the nominal demand for money (as a consequence of the drop in the level of prices resulting from the tariff deduction) and an increase in the supply of money (due to the inflow of international capital), the accumulated deficit on the current account (see figure H.1) and the level of the final product[63] are higher, while the rate of interest (see figure H.2) is lower, than in each of the policies considered separately.

The final level[63] of reserves, however, is higher than in the case of commercial opening up (see figure H.3), since the demand for money is in this case higher because of the larger product and the lower rate of interest. At all events, it is to be noted that, as in the case of each type of opening up considered separately, the evolution of the reserves is determined ultimately by the behaviour of the demand for money.

With regard to the external indebtedness (see figure H.4), it is to be noted that this, and hence the accumulated net inflow of international capital, is much lower in the case of the combined policies than in the case of financial opening up considered separately. This is because of the different evolution of the rate of interest in the two simulations, since the inflow of capital is very sensible to changes in this rate. Thus, in the case of financial opening up the excess supply of money goes down gradually from an initial level of barely 1%, whereas in the case of the combined policies this variable shows a cyclical behaviour in which, in the first periods, the excess supply of money grows sharply as a result of the drop in the demand for money, reaching a peak of over 7%. For this reason, the nominal rate of interest drops sharply at the begining (five periods), and even when it begins to grow again it does not manage to exceed relatively low levels, always remaining below the time path followed in the case of financial opening up alone (see figure H.2). When the policies are combined, this leads to an inflow of capital (and consequent external indebtedness) far below the case of financial opening up alone.

As regards the structure of the trade account of the balance of payments, here we note that both imports and exports grow (due to the change in relative prices caused by the commercial policy), but the former grow less than the latter, because of the need to generate a surplus in order to pay for the servicing of the external debt (see figure H.5). Since this debt is smaller than in the case of financial opening up alone (where imports drop by almost 50% and exports rise by 20%), in this case exports grow by 160% and imports increase by 128%.[64]

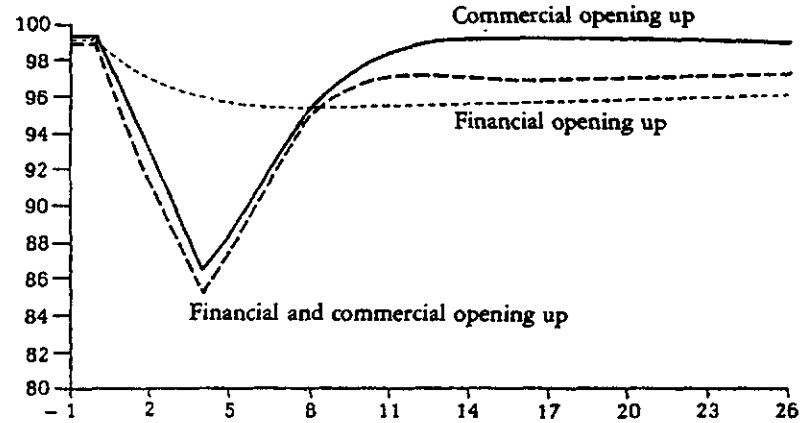
Finally, the structure of production (like the resource gap) behaves in a very similar way to the case of commercial opening up, which is to be explained by the small impact of financial opening up on relative prices. The level of prices is finally slightly below (2%) the level reached with commercial opening up alone, because of the drop in the price of non-tradeable goods which is necessary in order to generate the surplus on the balance-of-payments trade account[65] (see figures H.6 and H.7).

To sum up, it may be deduced that the simultaneous application of the two types of opening up policies is not the same as the "sum" of each of them considered separately. Although the production structure and the resource unemployment, together with prices, tend broadly to reproduce the situation observed in the case of commercial opening up, the financial and external sector variables behave in a different manner from that resulting from the "combination" of the two policies considered separately. This is reflected mainly as a lower level of external indebtedness, a smaller surplus of the

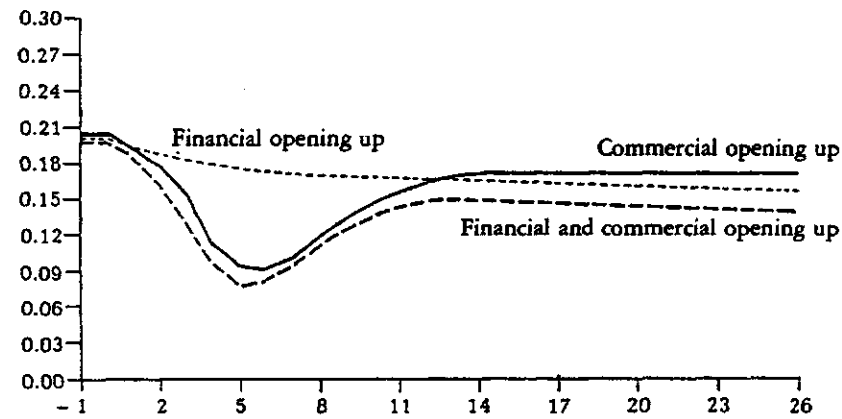
Figure H

EFFECTS OF SIMULTANEOUS POLICIES OF COMMERCIAL AND FINANCIAL OPENING UP (BOTH GRADUAL) ON VARIABLES INDICATED

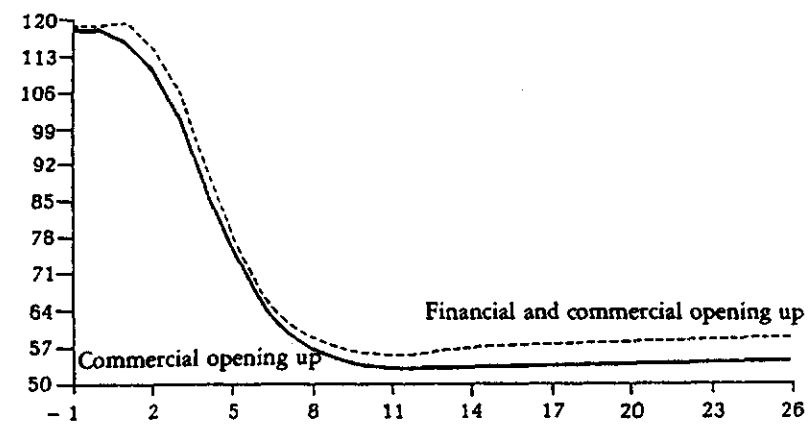
H.1. Current account



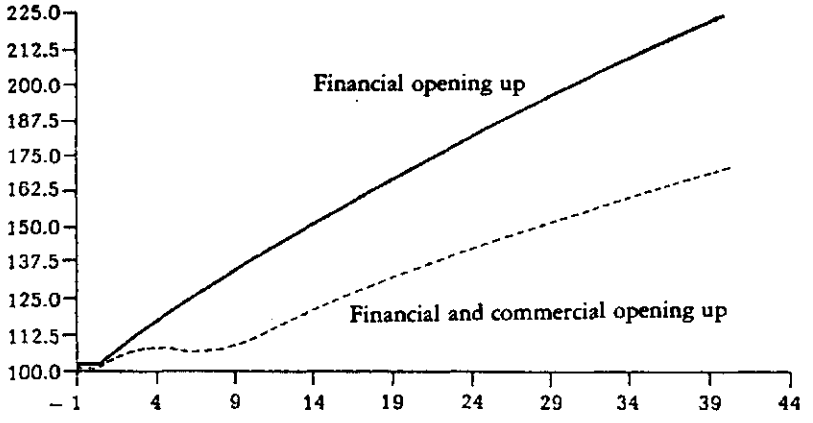
H.2. Rate of interest



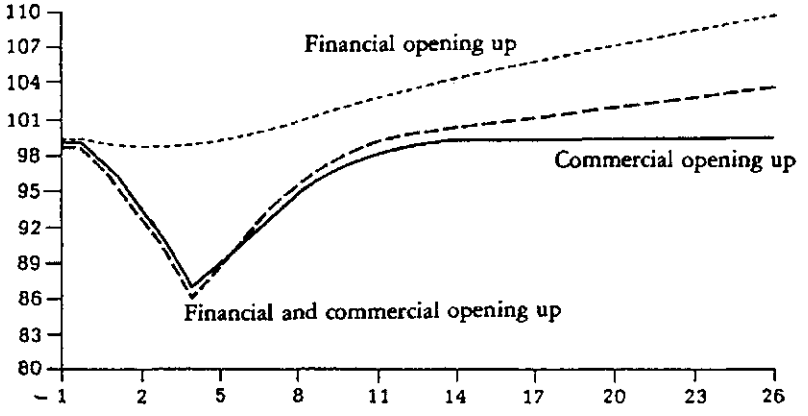
H.3. International reserves



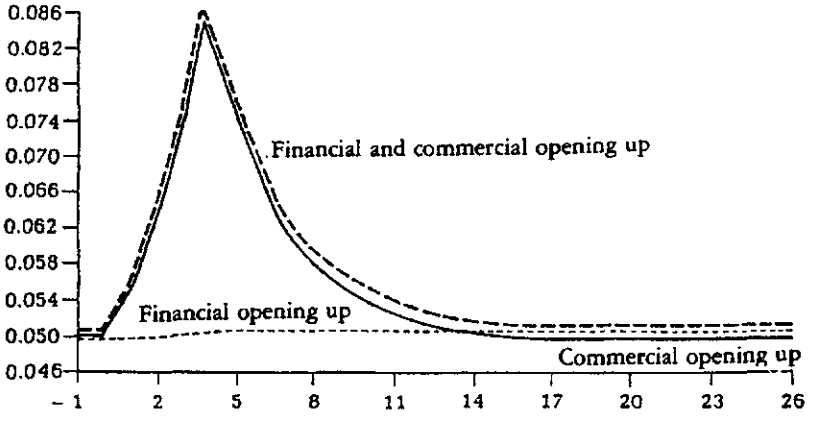
H.4. Foreign debt



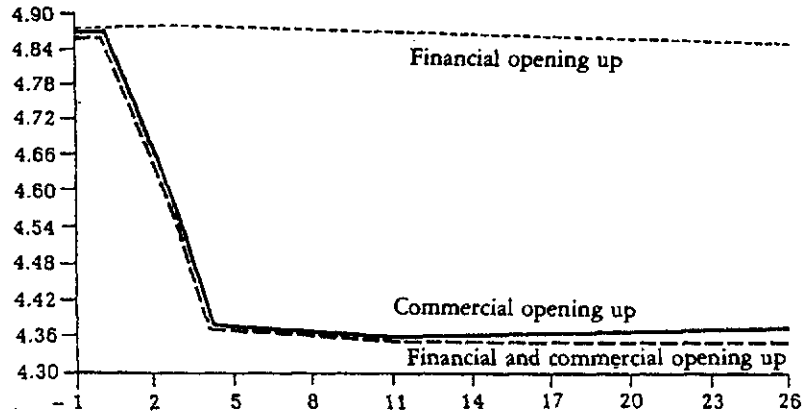
H.5. Trade account



H.6. Gap between actual and potential product



H.7. Price level



balance-of-payments trade account (but with larger imports than in the initial situation) and a different time path of the rate of interest in comparison with financial opening up alone.

4. *Compensatory policies*

It may be deduced from analysis of the simulations associated with the various strategies of opening up that in some cases they may be accompanied by transitory effects (of undefined duration) which may be considered undesirable by the economic authorities. These effects are connected, in the case of the balance of payments, with a deficit on current account, loss of international reserves and/or greater external indebtedness, while in the productive sector the main effect observed is resource unemployment in the case of commercial opening up.[66]

One of the main possibly undesirable effects of a financial opening up policy is external indebtedness. Since, however, this is inherently connected with such opening up *per se*, no attempt will be made to develop compensatory policies with regard to financial opening up at this stage of the research.[67]

With regard to commercial opening up policies, these display the two effects mentioned above which may be considered undesirable during the transition process: loss of international reserves, associated with the accumulated deficit on the balance-of-payments current account, and the gap created beween the potential product and the effective product.

There are various aggregate demand policies (exchange rate, fiscal and/or monetary) which could, in principle, be tried out with the aim of minimizing such effects. In the present case, a type of monetary policy will be developed which can be used with the aim of reducing the external sector gap.

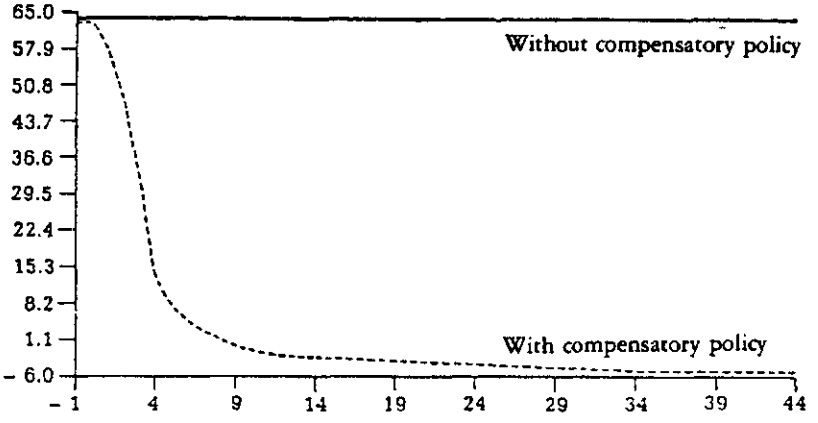
In order to reduce the current account deficit, which is equivalent in this case to reducing the loss of international reserves, it would be necessary to implement a restrictive monetary policy consisting of reducing domestic credit so as not to generate the excess supply of money described in the first section of this chapter.

Figure I.1 describes the magnitude and sequence in time of the domestic credit policy derived from the attempt to secure permanent equilibrium in the monetary sector. Figure I.2 shows how the loss of reserves is substantially reduced, in a policy of gradual commercial opening up, when the compensatory monetary policy is applied.

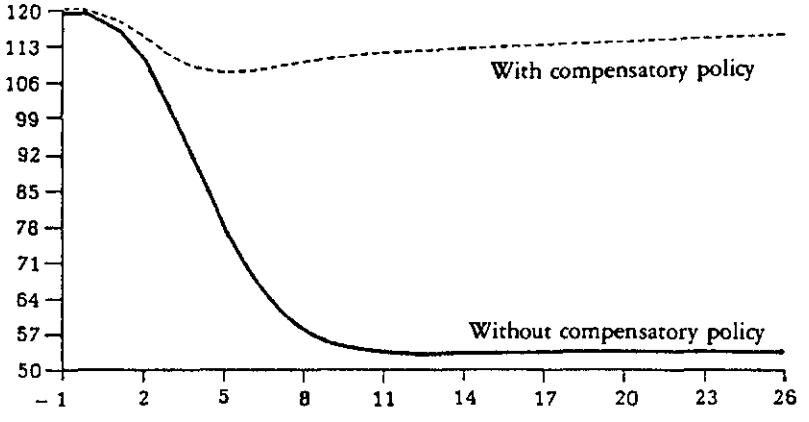
Figure I

COMPENSATORY MONETARY POLICY FOR THE BALANCE OF PAYMENTS

I.1. Domestic credit policy *(absolute values)*



I.2. International reserves



It is deduce that a strong contraction of domestic credit (in this case, that which is directed to the private sector) would be necessary, this being more pronounced in the first periods and subsequently less marked. The reserves drop very gently, above all compared with the opening up without compensatory policy, and the reason why they do not remain totally unchanged is that simply guaranteeing equilibrium of the monetary sector is not sufficient for this. In addition, as the adjustment in the exportable goods market is slower than in the importable goods market, the change in relative prices has an asymmetrical effect (in spite of the fact that there is no excess demand) on the two markets, necessarily generating a transitory though small deficit in the balance of payments in the first periods.

Finally, the elimination of the excess supply of money increases the excess supply of non-tradeable goods, so that, depending mainly on the values of λ_6 and λ_3, a gap would be generated between the potential production and the larger effective production.[68]

In contrast, there is no similar effect on the side of the tradeable goods, since the drop in aggregate demand caused by the restrictive credit policy affects exports and imports, but not the production of tradeable goods, the latter being a function of prices but not of domestic demand.

VII

Summary and conclusions

It may be deduced from this study that the effects of commercial opening up are very different from those of financial opening up. The former are manifested specially in changes in resource allocation and in the structure of pruduction, in a heavy impact on prices (relative and absolute), and in relatively large drops in aggregate production, with the interest rate displaying a cyclic type of behaviour. The impact of financial opening up, in contrast, is seen particularly clearly in the areas of greater external indebtedness and bigger current account deficits and in the drop in the rate of interest, while the effects on the structure of production, prices and the resource gap are very small, although the resource gap does acquire greater importance with the passage of time when the economy has to generate growing trade account surpluses to service the foreign debt.

A second interesting result is the difference in the effects caused by gradual and shock opening up strategies during the period of transition from an initial equilibrium situation to another terminal equilibrium situation. In general, the balance-of-payments current account deficits and the transitory drops in product and prices (or in the rate of inflation, if this is initially positive) are more pronounced at the beginning in cases of shock commercial opening up, but subsequently converge more rapidly, in comparison with the effects of gradual opening up. Moreover, as already noted, the combination of the two policies (trade and financial opening up is not the simple "sum" of each of them considered separately). it may naturally be deduced that the economic authorities cannot remain indifferent in the face of the different sequences and magnitudes of the alternative opening up strategies.

Another result which is worthy of special note concerns the importance of the mathematical sign and magnitude of the correlation which exists between domestic saving and external saving. The value of this parameter, and its consequent implications for economic policy measures which tend to affect it, are seen to be crucial in the determination of the time needed for the economy to return to a (probably different) equilibrium path. Apart from what is described in the present study, this phenomenon can be appreciated if we think, for example, of the way in which the economy will reach and adjust to a rise in world interest rates and/or if it is decided to open up the economy to a greater extent financially. This situation is very closely related with the capacity of the economy to sustain given levels of external indebtedness for long periods. In particular, the linking of external savings (balance-of-payments current account deficit) with national expenditure on investment goods, which increase the productive capacity, assumes great importance in the determination of a new global macroeconomic equilibrium time path.

The foregoing point is also one of the fundamental elements, in addition to the variables traditionally taken into account (expectations of devaluation, risk appraisals, etc.), for explaining a phenomenon which has been observed empirically in several cases of opening up, namely, the long delay in adjustment of the domestic rate of interest to the international rate.

Specifically, the research indicates that even when there is rapid financial opening up it takes a long period of adjustment to secure general macroeconomic equilibrium and, in particular, convergence of the domestic rate of interest with the international rate, if investment and the rate of growth of the output are slow. There are also other parameters whose values are very decisive in conditioning the more or less rapid convergence between domestic and international rates of interest, the principle of these parameters being the elasticity of the flow of international capital to the country and the proportion of the monetary disequilibrium manifested in the domestic financial market.

It must be stressed that these results have strong implications, in addition to external indebtedness, in such areas as the effects of imperfections in the domestic and international capital markets on the processes of saving and investment, redistribution of wealth, etc.

An element which plays a role of great importance in determining the time path of the various macroeconomic variables is the adjustment mechanisms of prices and quantities in the non-tradeable goods market. It is observed that the slower the adjustment of this market and the more decisive the role of effective demand in decisions on the supply of such goods, the costlier the process of commercial opening up tends to be in terms of production losses. Likewise, the greater or lesser correlation between domestic and external inflation in the face of a change in tariff protection depends strongly on the importance of the production of non-tradeable goods with total supply and on the speed of adjustment of prices to imbalances between supply and demand in this market.

Another element which stands out by its importance for the time path of the macroeconomic variables in a process of opening up is that associated with the speed of response of the production of exportable and importable goods to changes in relative prices. The greater the mobility of intersectoral resources and the smaller the differences between the lags in the desired and effective supplies of exportable and importable goods, the smaller will be the transition costs deriving from the economic opening up.

Other interesting results which have been noted are summarized below.

When the economy is opened up to the exterior, the global balnce-of-payments position may improve even though the current account deteriorates and the external indebtedness grows. The more rapid and complete the financial opening up is, the more clearly this phenomenon is to be noted.

The real product temporarily falls when tariffs are reduced. The duration of the resource unemployment is independent of the rapidity of commercial opening up, but the resource gap is greater in the case of "shock" commercial opening up, although in certain periods its magnitude is less than that corresponding to gradual commercial opening up.

The result is also very sensitive to the relative speed of adjustment of quantity and prices in the non-tradeable goods market.

The rate of inflation falls with commercial opening up, while the domestic rate of interest moves towards the value of the international rate when the economy is opened up financially. The two variables do not converge instantaneously towards the international levels, and this depends, although only partially, on the speed of the respective process of opening up. In a general equilibrium context, however, the adjustment of prices tends to be more rapid than that of rates of interest.

Although the production of importable goods falls with commercial opening up as the domestic price goes down, the production of exportable goods rises. The proportion of non-tradeable goods in the terminal situation, compared with the initial situation, depends on the elasticities of substitution of production and expenditure.

In view of the characteristics of the model, the nominal interest rate always tends to go down when the economy is opened up to the exterior, but the real rate may rise substantially above its initial value for some time. This case is frequently observed in abrupt commercial opening up strategies and is explained by the (relatively) sharp drop in the domestic rate of inflation, which is due precisely to the reduction in the price of importable goods.

Compensatory policies can be designed which tend to reduce some of the undesirable transitory effects of the process of opening up. The model makes it possible to indicate the magnitudes and sequences of some of these policies and to evaluate the trade-offs implicit in their application.

Finally, it is expected that the development of this model, since it has been completed and refined, will make it possible to facilitate the analysis of real cases, orienting the work towards the estimation of parameters, lags, and coefficients of adjustment, and helping to evaluate economic policy options in relation to the costs generated in the transitional period.

Appendix

Values of the parameters used in the simulations

Equation	*Variable*	*Parameters*
(2)	I^s	$\gamma_1 = 2.0$; $\gamma_2 = 1.0$; $\gamma_3 = 0.3591$; $\lambda_1 = 0.8$
(3)	X^s	$\lambda_2 = 0.4$
(6)	J	$z = 0.5$
(7)	δ	$\gamma = 1.0$
(8)	$\log N^s$	$\lambda_3 = 0$
(11)	u	$\alpha_3 = 0.05$; $\gamma_{15} = 1.0$
(16)	$\log EPRD$	$\gamma_4 = 1.0$; $\gamma_5 = 0.3$; $\gamma_6 = -0.5$; $\lambda_4 = 1.0$
(18)	$\log(p_i I^d)$	$\gamma_7 = 0.4721$; $\gamma_8 = 0.0833$; $\gamma_9 = 0.4446$
(25)	$\log p_i$	$\lambda_5 = 1.0$
(27)	$\log p_n$	$\lambda_6 = 0.6$; $\lambda_7 = 0.7$
(28)	π^e	$\lambda_8 = 0.5$
(32)	DK	$\lambda_4 = 0$; $\gamma_{17} = 100$; $\gamma_{18} = 0$
(37)	$\log M^d$	$\alpha_1 = -0.2924$; $\gamma_{10} = 1.0$; $\gamma_{11} = -1.0$; $\gamma_{12} = -1.0$
(38)	r_D	$\alpha_2 = 0$; $\gamma_{13} = 0.5$
(40)	T	$t_o = 0$; $t_1 = 0.1222$

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NOTES

[1] For the moment, it has been decided to work with a "typical" economy of the region, and not with particular national cases. For this reason, the model is quite general, with the aim of covering the essential features of a considerable number of countries and not seeking to incorporated institutional or other characteristics which would naturally have to be taken into account if it were desired to apply the model to more specific situations. Consequently, at the present stage the model has not been estimated econometrically but has been used to simulate the behaviour of this "typical" economy.

[2] It is recognized that the degree of trade openness can be measured in different ways. Thus, for example, the existence of "water in the tariff" may or may not be taken into account. The type of measurement adopted depends on the purpose of each study, and in the present case it is sufficient to use the nominal protection for this purpose.

[3] While the exercise is centered on the analysis of the opening up of the economy, the model also makes it possible to study the time path of the various macroeconomic variables when there is an increase in the degree of protection with regard to merchandise trade, international capital movements, or both these factors.

[4] It should be borne in mind that the exact dimension of the time unit has not been defined in the model. We will speak of "periods" without this meaning that they are equivalent to years or months or any other habitual measurement of time used in the real world.

[5] This assumption is of fundamental importance and, to a certain extent, a limiting factor, in the analysis of the process of opening up. Ways of modelling the financial sector in a more complete and complex way are being studied, in order to permit a situation in which a distinction can be drawn between the credit market and the money market, or, alternatively, distinctions can be drawn between active and passive interest rates and between domestic reserve requirements different from the international ones.

[6] At all events, it must be stressed that the model is designed to permit a dynamic analysis of the evolution of the variables in relation to long-term dynamic equilibrium situations.

[7] See, for example, Fry, W. (1980), Grinols, E. and Bhagwati, J. (1976), Mikesell, R. and Zinser, J. (1973), Griffin, K.B. and Enos, J.L. (1973) and Weisskopf, T. (1972).

[8] It should be borne in mind that this way of modelling the relation beween changes in the potential product and in external saving derives from the need of the model for consistency. There is no intention of comparing final levels of the potential product associated with different strategies of opening up of the economy to the exterior. It may be recalled once again that the main purpose of the exercise is to analyse the process of transition in the context of these strategies, and not the characteristics of the long-term situation.

[9] This does not mean that there is no theoretical and practical interest in analysing this situation, since one of the most frequently discussed aspects of policies of opening up is precisely whether they really do bring an increase in productive capacity or whether, in contrast, they merely bring about an increase in consumption expenditure of such magnitude that it even raises doubts about the capacity of the national economic system to maintain such a situation in the future.

[10] In particular, the model does not explicitly take into account sectoral production functions.

[11] Another area which calls for study and which can be of decisive importance in the process of redistribution of wealth associated with some forms of opening up to the exterior is that related with the functioning of the domestic capital market and the greater or lesser ease of access to international credit by different domestic economic agents. See Zahler, R. (1980).

[12] The productivity of labour in different sectors is usually heterogeneous, so that changes in the levels and structure of production caused, for example, by a particular policy of economic opening up may be asymmetrical with regard to their impact on employment.

[13] This discussion usually incorporates considerations which are not easy to handle in a model like that used in this study. These include the uneven initial structure of the protection given to consumption and investment goods, possible initial situations of disequilibrium with regard to stocks of consumption goods (usually associated with excesses of demand for consumption goods), the impact of opening up on the demand for domestic credit and, in more general terms on the evolution of the capital market, etc.

[14] See Clements, K. (1980a). Some of the basic blocks in the model were designed on the basis of this study.

[15] The first part of the determination of the desired sectoral supplies is based directly on the analysis of Clements, K. (1980a).

[16] In the model, a diagonal matrix is used for simplicity's sake: $\Lambda = \text{diag}[\gamma_1, \gamma_2, \gamma_3]$.

[17] The weights depend on the proportion of each of the goods in the product w_i^s, w_x^s and w_n^s (equations 12, 13 and 14), which are variable and are determined in the model endogenously from period to period.

[18] This equation permits N^s to exceed N^{s*}, so that it implicitly assumes the prior existence of inventories. Likewise, if $\lambda_3 = 0$ when there is excess supply of non-tradeable goods, inventories would be accumulated. The model does not analyse the determining factors for inventories or the optimum desired levels of them.

[19] Note that $\lambda_3 = 0$ implies total dissociation between aggregate supply and demand. With this assumption, any aggregate demand policy would fail to have any impact on real aggregate supply, even in the short term. Therefore, assuming that $\lambda_3 > 0$ is the only mechanism which makes it possible to link real aggregate supply directly with aggregate demand in this model.

[20] Strictly speaking, both terms correspond rather to the sale of final goods and services, unless $\lambda_3 = 0$. In the text we refer to these as the real product (y) and the nominal product (Y). The first of these, y, is compared with y^* in order to evaluate the degree of slackness or overheat of the economy with respect to the potential use of resources. In Y the tariff collection revenue is added because this corresponds to income generated in the production process, although it is not received by the producers but by the Government.

[21] Naturally, if $\lambda_1 = \lambda_2 = 1$, and $\lambda_3 = 0$, this process takes place instantaneously.

[22] This last variable, δ, can also be identified as the rate of time preference, so that if, for example, the rate of interest is less than δ, present consumption is stimulated in relation to future consumption, and private sector spending increases.

[23] It is implicitly assumed, although not so modelled, that this case corresponds to a situation in which the desired wealth equals the actual wealth, so that the entire (disposable) flow of income is consumed ($\gamma_4 = 1$ in equation 16).

[24] The model assumes that only the private sector can become indebted with the exterior. See the section on the balance of payments and external indebtedness in this same chapter.

[25] Note that, unlike the case of supply, where we worked with an explicit production function, the demand equations are expressed in terms of rates of change, and not levels. The derivation of the equation for sectoral expenditure is based on the work by Clements, K. (1980b) for multisectoral supply.

[26] Note that the weights are variable.

[27] In this study it has been assumed that the foreign price of exportable and importable goods is the same. this does not introduce any loss of generality, since if it were desired to study, for example, the impact of a variation in the terms of trade, all that would be necessary would be to differentiate p_{F_x} from p_{F_i}.

[28] The model takes no account of transport costs and assumes that all kinds of imperfections, restrictions or distortions which imply a gap between $(p_F(ER))$ and p_i, are expressed in the value of τ, which is a variable representing the homogeneous tariff. In this study, the value of this variable reflects the degree of trade openness to the exterior.

[29] The simulation exercises described in the following chapter use the value $\lambda_5 = 1$.

[30] Elements can be incorporated which introduce a gap between the two terms of equation 26 (for example, an export subsidy) as well as gradual adjustment mechanisms, etc.

[31] This latter term can represent such factors as elements of expectation, expected costs of replacement, etc., and in addition to its effects during the transition it helps to accelerate the adjustment of the prices of non-tradeable goods when changes take place in the prices abroad, the exchange rate, and/or τ.

[32] See Cagan, P. (1956).

[33] It has been assumed that the expectation of variation of the exchange rate are equal to the effective (actual variation of this rate). In addition, it is assumed that $\varrho_t = \varrho$ is constant; naturally, a more specific study of the determining factors of the flows of external credit could incorporate more complex functional relations for $\Delta^e \log(ER)_t$ (for example, as a function of past inflation, or of the differences between inflation in the country and abroad) and for ϱ_t (for example, as a function of the balance-of-payments current account deficit, the external debt, etc.).

[34] For the present, we have not taken into consideration the issue of government bonds, because of the complexity involved in the possible "net wealth effecs" (it is assumed in the present version that there are no net redistributive effects from changes in the composition of holdings of funds and/or money by the private sector), the difficulty in adopting a clear rule with regard to financing of the public sector deficit, and the problem involved in a particular form of segmentation implicit in the bonds market in this case.

[35] In the present version of the model it is assumed that the international reserves do not generate a flow of interest, and we have worked only with the gross external debt. Some results, however, are presented in terms of the net external debt.

[36] It should be noted that in open economies the holding of foreign exchange and/or other financial assets expressed in foreign currency acquires greater importance in the portfolio of assets of enterprises and persons, so that variables such as r_F and $\Delta^e \log(ER)$ must play a role of growing importance as determining factors of the demand for money. At present, it is assumed in the model that domestic residents do not maintain wealth in this form.

[37] In a similar manner to the market for non-tradeable goods, we could include an element designed to reflect the direct effect of, in this case, the exterior rate of interest (adjusted for risk and for expectation of devaluation) on the domestic interest rate, which would accelerate the adjustment of the monetary sector to changes in β, r_F, ϱ and $\Delta^e \log(ER)$.

[38] "Pure" monetary policy is exercised, in this case, through control of domestic credit to the private sector.

[39] This may be due, *inter alia*, to an expansive domestic credit policy, a drop in the level of prices (because of a reduction of tariff levels, for example), a decline in the demand for money (through the creation or development, for example, of financial assets which are money substitutes), etc.

[40] If there is no perfect substitution between domestic and external saving, an increase in production takes place, accompanied by a drop in interest rates (as a consequence of the grater accumulation and its effect on the productivity of capital), both of which help to increase the demand for money and thus restore the equilibrium of the monetary sector.

[41] When the interest rate falls, this once again causes greater expenditure, this time because of the effect of γ_6 (equation 16); if there is accumulation of capital, then δ falls generating a set of "second order" consequences, all of which goes to show the analytical complexity (and hence the need for numerical experimentation) involved in trying to apprehend all the direct and indirect effects of various policy measures or changes in certain variables.

[42] Note that if $\beta \neq 0$, the initial drop in the interest rate leads, through the outflow of international capital and the consequent reduction of base money to another effect tending to restore the monetary sector to equilibrium.

[43] Unless λ_3 and z are zero.

[44] This latter effect will be permanent if z is positive.

[45] If the economy were totally closed to international trade and finance, the *relative* prices would eventually be the same, but the absolute level of prices would have increased in proportion to the excess supply of money.

[46] Other effects which could be analysed are connected with the initial increase in tariff taxation and the possible impact on capital movements (equation 32).

[47] It should be noted that usually those who use the monetary approach to the balance of payments (or the exchange rate) maintain that, in inflationary conditions, the rate of change of domestic prices equals international inflation plus the rate of devaluation. Although this latter factor tends to be valid in certain conditions and above all in the long term, it does not always guarantee that the *levels* of prices (adjusted by the exchange rate) become equal. In order for this to occur it might be necessary, for example, that in the initial moment, when the exchange rate policy was implemented, there should have been equilibrium between the country and the exterior as regards absolute price levels. Consequently, the fact that the rates of domestic inflation tend to become equal to international rates, for a fixed exchange rate, does not guarantee that there will be equilibrium in the external sector accounts.

[48] As noted early, the model can be used to simulate other types of policies and/or changes in exogenous variables. In the present case, the analysis is concentrated on foreign sector policies of opening up.

[49] In this exercise, as the tariff is reduced to zero there is also a drop in tax collection and, in the absence of an active fiscal policy there is a drop in government expenditure (as a proportion of the national product) from 20% to 12%. If it is desired to maintain the initial percentage, it would be necessary to increase t_o and/or t_1, or, alternatively, finance the deficit, g_o, through the issue of currency and the continual loss of reserves. Naturally, if the reduction in the tariff is not total ($0 < \tau < 1$), the public sector may end up with greater, equal or less tariff income, depending on the magnitude of the reduction and the elasticities in the importable goods sector.

[50] These effects naturally indicate the tendency to an increase in imports and exports. Because of the values of λ_1 and λ_2, however, this process is not symmetrical (see figure A.3).

[51] In an initial scenario with positive inflation, there would be a temporary drop in the growth rate of prices. This would also obviously depend on the existence or absence of other economic policy measures, such as devaluation.

[52] It should be borne in mind that the real rate of interest rises at the beginning because of the initial reduction in the rate of inflation. This is valid in all commercial opening up exercises.

[53] In the new equilibrium the nominal supply of money adjusts to the smaller demand for money resulting from the drop in the price level, precisely throuth the loss of reserves.

[54] For simplicity's sake, the model uses unitary sum price elasticities for demand, so that the proportion of spending on each type of good with respect to total spending remains constant. If the demand elasticity of non-tradeable goods with respect to the price of importable goods were -0.5, for example, instead of zero (that is to say, if importable and non-tradeable goods were complementary in demand), the non-tradeable goods sector would actually benefit from the reduction in tariffs and its share in the product would grow (see figure B).

[55] it should be recalled that we are working with $\lambda_3 = 0$. If its value were positive, then as there is initially an excess supply of non-tradeable goods, the magnitude of the unemployment of resources would be greater.

[56] If $\lambda_1 = \lambda_2 = 1$, for $\lambda_3 = 0$, we observed that the commercial opening up basically causes the same effects as regards the magnitudes and time paths as those referred to here, except, naturally as regards the resource gap, which is zero, since it is assumed that there is instantaneous speed of adjustment in the transfer of resources between sectors (see figures C.1 and C.3).

[57] If there is rigidity in the non-tradeable goods market (λ_6 small and/or λ_3 positive), the highest rate of resource unemployment is greater than in the cases where this market adjusts rapidly (see figures E.1 and E.2).

[58] Naturally, this is valid for gradual opening up covering "a few" periods, since if the tariff reduction is prolonged, in relation to the case of figure D.4, over more than 12 periods, then by definition the current account deficit for the gradual opening up which would be very small per unit of time, would last longer than that associated with abrupt trade opening up.

[59] As may be seen in figure F.4, the net flow of capital to the country goes down with time as a consequence of the reduction in the interest differential between the country and the exterior.

[60] The value of the rate of interest in period 40 (which is not one of equilibrium is smaller in the "shock" financial opening up than in the commercial opening up precisely because of the greater flow of external credit, the greater investment and the drop in the productivity of capital in comparison with the gradual case.

[61] This latter situation is more probable in proportion to the slowness of the adjustment of prices and quantities on the non-tradeable goods market.

[62] Results are also available for simulation which combine the other alternatives of abrupt and gradual reforms. In the next stage of the research an attempt will be made also to carry out simulations of different sequences of the two policies.

[63] This refers to period 40, which is not necessarily one of equilibrium.

[64] It may be recalled that in the case of commercial opening up, both exports and imports increase by a similar amount (140%), thus maintaining trade (and current) accounts of the balance of payments in equilibrium.

[65] This effect would increase with time if, λ_6 went down and/or λ_3 were positive.

[66] Other areas which could be analysed concern the evolution of prices and the rate of interest.

[67] If it is desired to minimize the current account deficit associated with financial opening up, this must be achieved through some mechanism which tends to equilibrate the monetary sector, and this involves the growing accumulation of international reserves and gross external indebtedness. Assuming that the international reserves do not receive any kind of pecuniary return, the interest payments would make necessary an increasing surplus on the balance-of-payments trade account, associated with increasingly marked reduction of expenditure and excess supply in the non-tradeable goods market.

[68] In the simulations which appear in figures I.1 and I.2 it has been assumed that $\lambda_3 = 0$, which, by definition, minimizes the impact of the restrictive monetary policy on resource unemployment.

Trade and financial liberalization in the context of external shocks and inconsistent domestic policies

Mohsin S. Khan and Roberto Zahler

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I
Introduction

The move towards the elimination of restrictions and artificial impediments to foreign trade and capital flows, or what has come to be termed "liberalization" or "opening up" of economies, by some developing countries in the mid to late 1970s created a great deal of interest on the part of academics and policymakers alike. The Southern Cone countries —Argentina, Chile and Uruguay— where the liberalization strategy was pursued most aggressively, and one might say with considerable fanfare, were being touted as the success stories of the last decade in both the international financial press and banking circles.[1] Developing countries were being continually apprised of the benefits of "outward-looking" policies and encouraged to emulate the examples offered by the experiences of the Southern Cone countries. By now, however, the earlier enthusiasm has dissipated quite sharply as these very same countries have found themselves in serious economic difficulties, precipitating the adoption of strong stabilization programmes, and even a reversal of direction in the liberalization policies. The sharp declines in growth rates in all three countries, and the increases in current account deficits to levels that were no longer sustainable, exerted considerable pressures on the authorities to retreat from their earlier-announced policies. As these difficulties persist, the resolve of even the national authorities most committed to an open economy model is being severely tested. Needless to say, not many developing countries are being persuaded that the benefits of liberalization clearly outweigh the costs in the present set of circumstances. It seems that the euphoria that accompanied the initially successful attempts at liberalization have come to be replaced by serious misgivings, and perhaps even a degree of pessimism, about opening up.

What went wrong in such a short space of time is a question that is being repeatedly raised by a number of interested parties, both within and outside the countries that undertook the trade and financial reforms. Broadly speaking, it is possible to identify four main lines of thought on this issue. First, there is the view that the liberalization policies were themselves misconceived and were not really relevant for developing countries even at the theoretical level. For various reasons, given the institutional and structural characteristics of developing countries, it is argued that opening-up is destined to fail, and therefore it is of no great surprise to find the countries that pursued such policies in their present straits. A second view, which is related to the first, while not condemning liberalization policies *per se*, holds that it was the implementation of these policies that was at fault. In other words, the proponents of this view, while tending to accept the neo-classical premise that opening up has long-run advantages, are nevertheless critical of how the policies were in fact executed. Third, it is possible that the countries were the victims of exogenous, specifically external, shocks that coincided with their attempts to liberalize, and it was the deteriorating international environment that bears some part of the responsibility for the problems that these countries encountered. It is generally recognized that liberalization is fraught with difficulties even under the most ideal circumstances, and the task for the policymaker is made doubly demanding when the country is faced with external shocks while it is in the process of liberalizing. Finally, there is the argument developed by Edwards (1982), Pastore (1982), Sjastaad (1983), and

Dornbusch (1984), among others, that lays the principal blame on what are referred to as "domestic policy inconsistencies". In essence their position is that fiscal, wage, credit, and exchange rate policies were not sufficiently co-ordinated, and furthermore towards the end, proved to be in basic conflit with the overall strategy of opening up.

The true picture most likely combines elements of the arguments listed above to some degree, and it would be difficult to pick only one as being the predominant cause of the "failure" of the liberalization experiments. For example, there is little dispute, even by the most ardent proponents of liberalization, that opening up does involve costs in the short and medium-term. Whether these outweigh the potential benefits is a matter that has not yet been examined in detail, and it is also a very difficult issue having strong welfare overtones.[2] In addition, it has to be noted that a number of developing countries, principally in South-East Asia, have been relatively successful in pursuing outward-oriented policies (although of a selective nature and with active government support) for many years now. The experience of these countries does provide a counter-example against any broad indictment of liberalization policies. How the policies ought to be implemented, namely whether they should be undertaken gradually or suddenly, and whether they should be simultaneously or sequentially applied to the trade and capital accounts, is also a difficult question. The short-run outcome for the economy is not independent of the way in which barriers to trade and capital flows are removed,[3] and while different strategies may yield similar results in the long run, during the transition the behaviour of the main macroeconomic variables can be quite different and the choice between strategies would naturally have to depend on the government's objective function.

From a less normative perspective, developing countries involved in the process of liberalization benefited at the beginning from quite favourable external economic conditions, namely bouyant export markets, improving terms of trade, and very low (even negative) foreign real interest rates and abundant capital inflows. However, in the late 1970s and early 1980s these same countries were facing a worsening of the international economic climate, including declining terms of trade, falling growth rates in industrial countries, sharp changes in the availability of foreign financing that were accompanied by a dramatic increase in real interest rates on external borrowing, and finally, the growth of protectionist pressures in their principal export markets. While these external changes affected most developing countries in some degree, the countries that were opening up found that their liberalization policies had perhaps made them relatively more vulnerable to shocks emanating from abroad than other developing countries that continued to maintain restrictions on trade and capital flows. Furthermore, serious domestic policy inconsistencies arose in a number of countries that were liberalizing, possibly because, to quote Sjastaad (1983), of the absence of any "master plan" of reforms. The level of fiscal deficits and the rapid growht in private expenditures financed by foreign borrowing turned out to be incompatible with the desired expansion in aggregate demand in certain cases; institutional wage indexation schemes continued to be the rule; domestic financial and other structural reforms together with stabilization programmes led to excessively high real interest rates which had a negative impact both on investment and the cost structure of production; and, with the benefit of hindsight, it is now clear that exchange rate policies adopted often led to steady real overvaluation of the respective currencies.[4]

In a previous paper (Khan and Zahler (1983)) we analysed the macroeconomic effects of opening up and dealt with the issues of the timing and sequencing of reforms in some detail. However, as the focus of that paper was exclusively on the subject of liberalization, the analysis was conducted with two critical assumptions. First, we

assumed that the international environment was unchanged, and second, that for the most part there was no change in domestic fiscal and monetary policies, and the nominal exchange rate was fixed. While these two assumptions were obviously necessary in order to isolate the direct effects of liberalization, they are of course unrealistic from a historical perspective. The main purpose of the present paper is to relax these assumptions and to conduct some further simulation experiments with the model that was developed in our previous paper, comparing the outcomes with and without external and internal shocks. This type of exercise allows us to ascertain whether such shocks could indeed significantly alter the paths taken by the main macroeconomic variables following the opening up of the foreign sector. It should be noted that, we purposely exclude from discussion the broader question of whether liberalization is in some sense beneficial or not, and which particular type of liberalization strategy is "optimal" for developing countries. Issues of this nature, although very important, are outside the scope of the essentially quantitative approach adopted here. It should further be stressed that while the types of shocks we study have in fact occurred in the 1970s, the exercise is still basically hypothetical and we do not pretend to reproduce the experience of any specific country.

The remainder of the paper covers the following: in section II we discuss the changes in the international picture and how it affected developing countries as a group, and also some of the domestic policies implemented by developing countries that embarked in the liberalization direction. Section III presents the basic framework of analysis, including a brief description of the model we utilized. The results from the various simulations are presented in section IV. The concluding section brings together the main results and attempts to provide a judgement on the significance of the role played by external and internal factors in the liberalization experiments, and whether these factors were sufficiently important to unravel the whole opening-up process itself.

II
The international scenario and domestic policies

The late 1970s and early 1980s have been characterized as a period of considerable strain for non-oil developing countries as the international environment became increasingly inimical to their growth and current account prospects. Recent papers by Khan and Knight (1983) and Massad and Zahler (1984) have identified three external factors as being mainly responsible for the serious current account difficulties of this group of countries, namely the deterioration in the terms of trade, the slowdown in economic activity in the industrial world, and towards the end of the decade, the sharp rise in real interest rates in international capital markets.[5] At the same time, domestic developments, as evidenced by rising fiscal deficits and consequent inflationary pressures, or by increased private expenditures financed by excessive foreign borrowing,[6] combined with rigid exchange rate policies, compounded the external payments difficulties that resulted from the deterioration in the international economic climate.

In so far as the external factors are concerned, the terms of trade of the oil-importing developing countries deteriorated at an average rate of 2% per annum during the period 1973-1983 (table 1).[7] After falling sharply in 1974-1975 in the wake of the fourfold jump in the world price of energy products in 1973-1974, the terms of trade improved somewhat in the following two years as primary commodity prices in the world markets registered substantial increases. From 1978 to 1982, there was a steady

worsening of the terms of trade as commodity prices continued to fall at the same time that these countries were again faced with another significant increase in the price of imported oil during 1979-1980. Exacerbating the problem further was the decline in the growth rates in industrial countries.[8] After increasing at about 3% during 1973-1977, the average growth rate in the industrial world declined in the following six-year period to around 2% per annum. During 1980-1983 real GNP of the industrial countries grew only at an average rate of a little over 1% per year (table 1). The increase in petroleum prices, the decline in primary product prices, and the fall in growth rates in industrial countries, combined to worsen the terms of trade of oil-importing developing countries at an annual average rate of over 3% during 1978-1983; by contrast, the terms of trade had been relatively constant on average during the earlier period 1973-1977.

The other major external factor affecting the payments positions of oil-importing developing countries during the late 1970s was the increased level of service payments on foreign debt. In the years prior to 1977 debt service had not posed a serious problem for many oil-importing developing countries because conditions in the international credit markets were generally favourable and, even though the foreign real interest rate rose in 1975,[9] for the period 1973-1977 the average was still strongly negative, i.e., -7.1% (table 1). From 1978, however, the picture changed quite dramatically as developing countries began to acquire increasing amounts of external debt at floating rates while interest rates in the international capital markets were climbing to post-war highs and export prices were beginning to weaken.[10] Foreign real interest rates rose sharply and became positive —averaging about 9.5% per year during 1978-1983— and in fact in the last three years (1981-1983) had reached the astronomical average level of over 17%. This turnaround of more than 16 percentage points between the periods 1973-1977 and 1978-1983 forced a number of oil-importing countries to undertake strong adjustment efforts once the limits on their recourse to financing had been reached.[11]

While these external events were obviously beyond the control of the developing countries, inappropriate domestic policies also contributed in no small measure to the

Table 1

NET OIL-IMPORTING DEVELOPING COUNTRIES: SELECTED MACRECONOMIC VARIABLES, 1973-1983

(Percentages)

	1973	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*
Terms of trade	4.0	-8.7	-7.5	5.6	6.8	-4.5	-2.1	-7.1	-4.8	-2.9	1.8
Foreign real interest rates[a]	-16.2	-17.3	6.4	-0.6	-7.7	3.4	-3.2	1.7	19.9	20.3	11.6
Growth of real GDP	4.1	5.5	3.3	5.2	5.7	6.4	4.7	4.7	2.2	1.6	2.2
Inflation[b]	23.8	29.9	30.1	29.7	23.8	21.4	25.9	33.2	32.3	31.1	39.1
Current accounts[c]	-9.0	-24.5	-27.6	-16.2	-12.7	-15.7	-19.4	-22.0	-22.5	-18.8	-13.4
Memorandum item											
Real GNP growth of industrial countries	**6.1**	**0.5**	**-0.6**	**5.0**	**3.9**	**4.1**	**3.5**	**1.3**	**1.6**	**-0.1**	**2.3**

Source: IMF, *World economic outlook* (1984).

[a] Three-month Eurodollar rate adjusted for percentage changes in export unit values.

[b] Consumer prices.

[c] As percentage of exports of goods and services.

overall difficulties faced by these countries. Fiscal policies in the non-oil developing countries continued to be expansionary as a rule and budget deficits, expressed as a proportion of GDP, more than doubled —from about 2% in 1973 to 4.6% in 1983.[12] The pressure on available resources created by rising government expenditures, as well as the rapid increase in liquidity resulting from the financing of these deficits and of private sector expenditures through the banking system, led to a significant upsurge in inflation. Since exchange rate changes typically tended to lag behind domestic price increases that were in excess of those experienced by trading partners, upward pressure was put on the real exchange rate which was allowed to appreciate substantially in a number of developing countries during the decade.[13]

The combined impact of the external shocks and inappropriate domestic policies on the main macroeconomic variables in the oil-importing developing countries is evident from table 1. Taking the year 1978 as a convenient breakpoint, we find that the annual average growth rate fell from about 5% in 1973-1977 to an average of a little over 3% during 1978-1983. The steady decline in the growth of real GDP from 1978 is particularly noticeable, and in the last two years 1982-1983 real GDP grew by an average of less than 2%. After averaging about 10% in the period 1968-1972, inflation rose to an annual average rate of nearly 30% per year during 1973-1983; for the most recent years 1980-1983, inflation was running at an average annual rate of about 34%.

Finally, the current account position of the oil-importing developing countries, expressed as a proportion of exports of goods and services, deteriorated sharply following the first major oil price increase in 1973-1974, with the deficit reaching a peak of nearly 28% of exports of goods and services in 1975. Favourable movements in the world prices of primary commodities led to a marked improvement in the current account balances in 1976-1977, but from then on the deficit rose steadily through 1981. Since the possibilities of increasing exports significantly were small in view of the relatively flat foreign demand situation, the adjustment policies initiated by a number of countries in late 1981 consequently put considerable emphasis on reducing aggregate demand, which caused a decline in imports and economic activity; the current account picture did improve as a result of these efforts, and the average ratio of the current account deficit to exports of goods and services during 1982-1983 was reduced to about 16%. All in all if one looks at the economic situation in 1983 one cannot help but be struck by the deterioration that took place on all fronts. The decade of the 1970s, except for the years of abundant foreign financing and low real foreign interest rates, contained some of the worst periods from an economic standpoint for countries that were perhaps the least equipped to handle them.

The relative influence of external and domestic factors on the current account positions during 1973-1980 was tested empirically by Khan and Knight (1983) for a sample of 32 non-oil developing countries. The results in this study showed that the most important determinant of the current account balances was the terms of trade, followed by foreign real interest rates, fiscal deficits, and real effective exchange rates, which were roughly equal to each other in importance. The growth of real GNP in industrial countries played a relatively minor role, but it can be argued that the effect of this variable is already captured to some extent in the terms of trade and foreign real interest rate variables.

Given the empirical results obtained by Khan and Knight (1983), it would be fair to hypothesize that the experiences of countries engaged in opening up their economies would have been similar to the other non-oil developing countries. In fact the economic situation of the Southern Cone countries during the last two to three years has been far worse than the average outcomes for the group reported in table 1. Growth rates in Argentina, Chile and Uruguay had turned negative by the early 1980s; inflation in Argentina was far in excess of the average rate for net oil-importing countries;[14] and, the

ratio of the current account deficits to exports of goods and services was markedly higher in all three countries.

It would seem therefore that there is at least some *prima facie* evidence that external shocks and domestic policy inconsistencies had a more severe impact on the countries that were liberalizing their foreign sectors. This is the basic question we focus on, and by analysing it we should be able to have a somewhat firmer basis to try and explain the failures of the liberalization experiments.

III
Framework of analysis

The analysis of the effects of shocks that occur while the foreign sector is being liberalized is conducted within the framework of the dynamic general equilibrium model that was developed by Khan and Zahler (1983) to examine the transitional macroeconomic effects of changes in barriers to trade and capital flows. The model has its roots in the general equilibrium econometric models developed by Clements (1980), the computational general equilibrium models such as the ones designed by Feltenstein (1980) among others, as well as the more monetary-oriented models typically specified to analyse short-term stabilization policies.[15]

A detailed description of the basic model is given in Khan and Zahler (1983), so that here we only present a brief outline of some of its main features. The model contains three composite goods —exportables, importables and non-tradeables— for which supply and demand equations are separately defined. The supply equations are derived in a manner outlined by Clements (1980) in the framework of a multiproduct supply model. The supply of each good depends exclusively on the relative prices of the three goods, the technical conditions of transformation of one good into another, and the initial resource endowment.[16] Total output of the economy is simply the aggregate of the outputs of the three goods, and the unemployment of resources is modelled as a linear function of the difference between potential output (equal to the resource endowment) and total output.

The demand system incorporated in the model represents a fairly straightforward application of standard demand theory. The private component of total aggregate expenditures is related to disposable income, the excess supply of money, and the domestic interest rate; government expenditures, as is customary, are assumed to be exogenous.[17] By invoking separability we argue that once total expenditures are determined, the distribution between importable, exportable and non-tradeable goods is determined by a process of maximization subject to a budget constraint represented by the (given) level of aggregate expenditures. This yields demand equations for each good, as a proportion of aggregate expenditures, that depend solely on relative prices, satisfying the properties of symmetry and additivity.

The domestic price of exportables (Px) is taken to be equal to the product of the international price of tradeables (Pf) and the exchange rate (ϵ), and the domestic price of importable goods, allowing for tariffs, is defined as:

$$(1) \qquad Pi = (1 + \tau)\epsilon Pf$$

where Pi is the domestic price of importable goods, τ is the tariff, ϵ is the exchange rate, and Pf is the international price of tradeable goods. As the prices of importable and exportable goods are esentially given from abroad,[18] disequilibrium in the tradeable goods markets results in changes in imports and exports. Imports are defined as the difference

between domestic demand and domestic supply of importables, and similarly exports are equal to the domestic excess supply of exportables.

The price of non-tradeable goods (Pn) is, however, endogenously determined and is assumed to respond positively to excess demand for non-tradeable goods (and variations in foreign prices). The general price index, constructed as a Divisia index of the three composite goods, with the (endogenous) weights corresponding to the expenditure shares of each of the three goods, is therefore endogenous as well. Expectations of inflation are also incorporated into the model, although in a fairly simple fashion using an adaptive-expectations formulation.

The monetary sector of the model contains three basic relationships: a money demand function, a money supply identity, and an equation that links changes in the domestic interest rate to the excess demand for money. The demand for money is specified in the customary way, i.e., relating money holdings to income, inflationary expectations, and the domestic interest rate. The supply of money is made up of net international reserves, credit to the private sector, and credit to the government. It is assumed that all fiscal deficits are financed by government borrowing from the banking system, so that there is a one-to-one correspondence between the budget deficit and variations in the money supply brought about by changes in credit to the public sector. For the case of the interest rate, a standard LM mechanism is assumed so that an excess demand (supply) for money leads to an increase (decrease) in the domestic interest rate. In the model, monetary disequilibrium affects aggregate demand both directly through the spillover into private expenditures, as well as indirectly through changes in the interest rate.

Capital flows, aside from an autonomous component, are assumed to be determined by the differential between domestic and foreign interest rates, adjusted for expected exchange rate changes and a country risk premium. The presence or degree of controls on capital movements is represented by a parameter β which scales the explanatory variables in the following way:

$$(2) \qquad DK = DK + \beta[\gamma(rd - rf - \dot{\epsilon} - \rho)]$$

where DK is the flow of capital (with DK representing the autonomous component), rd is the domestic interest rate, rf the corresponding foreign interest rate, $\dot{\epsilon}$ is the expected change in the exchange rate,[19] and ρ is the risk premium. In this formulation, by varying β one can control the extent of capital flows; for example, for $\beta=0$ the economy is completely closed and for $\beta>0$ capital flows are assumed to respond to variations in the explanatory variables.

To allow for the possibility of an upward sloping supply curve of foreign credits the risk premium is made a function of the ratio of external debt to income:

$$(3) \qquad \rho_t = \rho_0 + \rho_1 \, (Bf/Y)_t$$

where ρ_0 is a constant, Bf is the stock of external debt, and Y is the level of income. The parameter ρ_1 is assumed to be positive so that as the ratio (Bf/Y) rises the risk premium will also increase. This will reduce net capital inflows to the country even though domestic and foreign interest rates, and the expected exchange rate, remain unchanged.[20]

Basically, despite its high level of aggregation, as compared for example to the computational general equilibrium models, the model is sufficiently detailed to be able to provide meaningful answers relating to the short-run consequences of opening up. The model explicitly incorporates the linkages between the balance of payments, fiscal, and monetary sectors, as well as their relationship to expenditures and output. Moreover,

considerable attention is paid to the role of relative prices in the demand and supply functions for the three composite goods. Finally, since it is formulated in dynamic form the model is able to provide the path of adjustment of the main macroeconomic variables from one equilibrium to another.[21] The analysis of the transition path, which is essential in devising operational liberalization strategies, clearly requires the introduction of some type of dynamics into the system.

The main theoretical characteristics of this model can be shown through some simple experiments relating to trade and financial liberalization. Consider first the case where a country has a 100% tariff on imports, which it then reduces to zero. Following Dornbusch (1974) the relative price effect of this measure can be analysed through the aid of figure 1. In this figure, assuming that income and expenditures are equal, along the HH schedule there is no excess demand for tradeable goods, and by Walras Law, excess demand for non-tradeable goods is zero as well. North-east of the HH schedule the relative price of non-tradeable goods is too low and there is an excess supply of tradeable goods (trade balance surplus), and an excess demand for non-tradeable goods. Similarly south-west of HH there would be trade balance deficit and an excess supply of non-tradeable goods.

Assuming that $\tau=100\%$, the nominal exchange rate fixed (and for simplicity set equal to unity), and that the economy is closed to capital movements, the initial equilibrium is at point A where the ray OT (the slope of which measures the domestic price of importables in terms of the price of exportables) intersects HH. At A the relative prices of importable and exportable goods in terms of non-tradeable goods are Pi^0/Pn^0 and Px^0/Pn^0,respectively, and there is equilibrium in both the trade balance and the non-tradeable goods market.

If τ is reduced to zero the domestic price of importables falls (to Pi^1) and rotates the ray to OT'. Assuming that Pn is unchanged, the initial effect of the tariff reduction is represented by a movement from A to B,[22] which involves an appreciation of the real exchange rate (defined as the ratio of the price of non-tradeables to the price of tradeables). Obviously this is not an equilibrium position since at B there is an excess demand for tradeable goods and an excess supply of non-tradeable goods, requiring a fall in Pn along OT' so as to restore general equilibrium at point C, with $Pn^1<Pn^0$. This movement from B to C has been identified in the literature as the real exchange rate depreciation associated with trade liberalization. Although at point C the trade account is in balance with both imports and exports above their respective values in the original equilibrium (A), it should be recognized that the initial effect of opening up (point B) generates a trade balance deficit. In other words, the depreciation of the real exchange rate associated with the movement from B to C represents a transitory equilibrating movement necessary to close the foreign exchange gap created by the trade deficit that occurs in the process of moving from A to C (through B).

The changes in relative prices and their effects on demands and supplies that result from tariff removal correspond to a sort of production and expenditure "switching" effect. However, it should be noted that opening up also creates an expenditure "augmenting" effect. Assuming that inflation is zero initially,[23] the fall in the prices of importable and non-tradeable goods causes a reduction in the general price level which in turn creates an excess supply of money and a fall in the domestic interest rate. This stimulates expenditures which reinforce the trade balance effect, and in the short run, dampen the fall in the relative price of non-tradeable goods.[24]

The effect of trade liberalization on aggregate supply and output can be seen in figure 2, which relates the production possibilities between importables and exportables, assuming that resources utilized by the non-tradeables sector remain constant.[25] At the

initial relative price DD the economy would be at point A, producing X_A of exportables and I_A of importables. When the tariff on imports is reduced to zero the country will face the new (domestic) terms of trade FF and the new equilibrium will be at B. If adjustment were instantaneous we would simply move along the transformation curve from A to B, and output of tradeables would be unchanged. However, if the reduction in the production of importables is faster than the expansion of exportables, then the path of tradeables output would be pushed inside the transformation curve (indicated by the dashed line). In such a case, during the transition period as the economy moves from A to B, it will be operating below its productive potential, creating greater resource unemployment and a larger output-gap, as compared to the respective long-run equilibrium levels of these variables.

In summary, as demonstrated in figures 1 and 2, the main theoretical results of a tariff reduction in the short run are a trade balance deficit and consequent loss of international reserves, an increase in both imports and exports, a lowering of the price level, a fall (rise) in the nominal (real) interest rate, and assuming the production of importables adjusts faster than the production of exportables, a temporary decline in output and increase in resource unemployment.

To analyse financial opening up, as in Khan and Zahler (1983), we start from an initial equilibrium in which the domestic interest rate is above the foreign rate plus the risk premium, and capital movements are completely restricted (β=0). Financial liberalization takes the form of increasing the value of β, and capital movements then take place as long as:[26]

$$r^d > r^f + \rho$$

In the traditional IS-LM framework (figure 3) the initial equilibrium point would be A, with real income at y^0, the domestic interest rate equal to rd^0, and zero foreign debt (Bf=0).[27]

With a constant risk premium and foreign interest rate, the (small) country faces an infinitely elastic supply of international financial capital which, when monetized, makes the effective LM curve horizontal.[28] The short-run effect of financial opening up is therefore represented by shifting LM to KK. At point B expenditure (y^B) exceeds income (y^0) and induces a current account deficit.[29] Whether international reserves rise or fall depends obviously on the size of the capital inflows relative to the current account deficit. As a consequence of the capital inflow the stock of foreign debt would naturally rise.

In Khan and Zahler (1983) it was assumed that the resource endowment (potential output) was fixed, which implies zero net savings and investment.[30] Consequently, as output remains constant and foreign debt increases, the risk premium rises and increases the total cost of financing faced by the country. This shifts KK upwards to K^1K^1, reducing the difference between expenditures (y^C) and income (y^0) and, therefore, the current account deficit. At the point C the inflow of capital is smaller due to the lower interest differential, and the foreign debt rises at a smaller rate. The process continues until a new overall equilibrium is reached at the original values of income and the domestic interest rate (point A), with expenditure equal to income, and current account equilibrium. However, now at A there is a larger stock of foreign debt and higher risk premium, and a lower level of real expenditures on goods and non-financial services, as compared to the initial equilibrium.

The main results of financial opening up are that the domestic nominal interest rate initially declines and then rises back to its original level. The current account deficit is financed by increases in foreign debt rather than by a fall in international reserves, as was the case in the trade liberalization. During the transition period real expenditures on

Figure 1

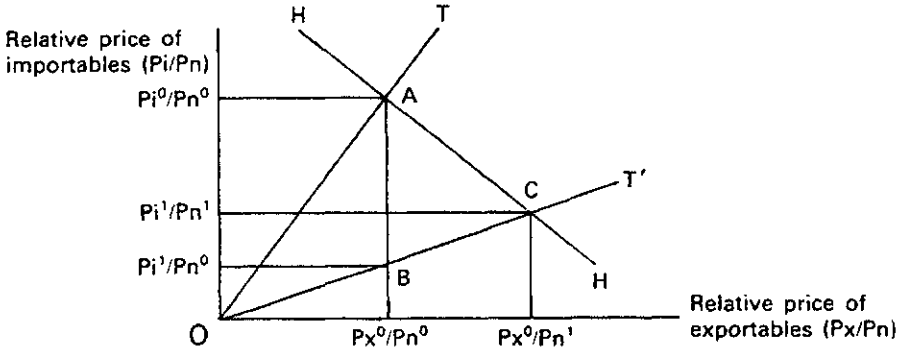


Figure 2

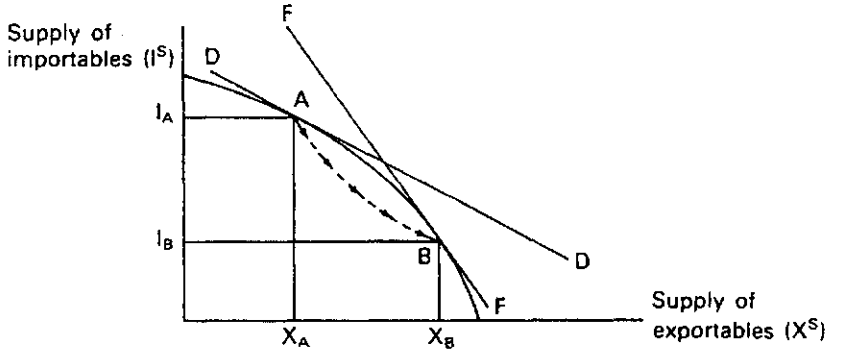
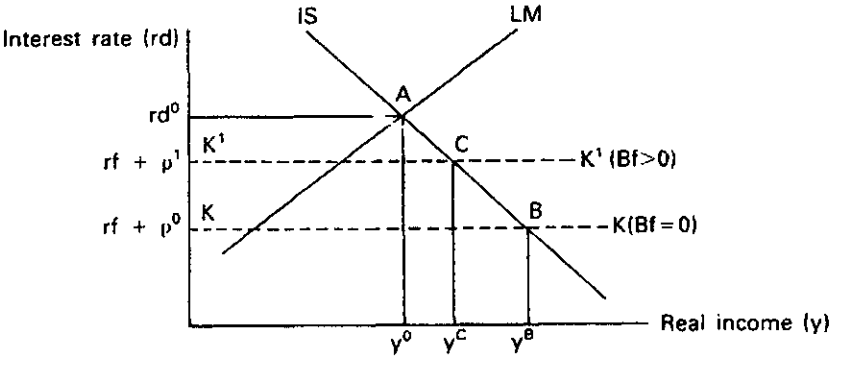


Figure 3



goods and non-financial services increase, but then would be lower in the final equilibrium due to the need to service the now larger stock of foreign debt.[31]

The model embodying the characteristics described was simulated in the earlier paper for a variety of opening up strategies, including among others, the gradual and sudden removal of barriers to trade and capital flows, both simultaneously as well as in different sequences, and was found to yield generally sensible results. The way in which this model is structured it is quite capable of handling a large variety of shocks aside from those directly related to opening up. The only change we made to the original model was to introduce a distinction between the price of importables and exportables, which had previously been assumed to be equal to a single international price level. This change had to be made so as to be able to discuss terms of trade variations, and therefore the current version of the model contains two separate foreign prices —one for importables and the other for exportables.

Formal models of any type are clearly not able to analyse all of the interesting questions arising from foreign sector reforms, nor for that matter can they capture the complex nature of some of the other structural changes implemented which are less amenable to quantification. However, the advantages of using a model, such as the one here, to determine the effects of liberalization, external shocks, and autonomous domestic policy changes, over the approaches taken by, for example, Ffrench-Davis and Arellano (1981), Ffrench-Davis (1982), Pastore (1982), Edwards (1982), Harberger (1982), Hanson and de Melo (1983), Sjastaad (1983), Wogart (1983), Zahler (1983) and Ramos (1984), are quite obvious. A number of things tend to be occurring simultaneously during the period of interest, namely opening up itself, stabilization efforts, etc., and it is really only with a model that one can hope to identify and isolate the effects of different sets of factors. In other words, by using a model one is able to make suitable *ceteris paribus* assumptions, something which is not really possible in the type of studies that have hitherto addressed the issue.

The simulation experiments start with the case of a gradual reduction in trade barriers and restrictions on capital movements. This particular case was studied by Khan and Zahler (1983) as well, and here it is taken as the "control" or base-line simulation to which the other simulations are compared. The specific foreign shocks we consider are a simultaneous temporary increase in the nominal foreign interest rate, and a temporary deterioration in the terms of trade. The change in the terms of trade is taken for purposes of this particular exercise as a decline in the price of exportables relative to the price of inportables.[32] The domestic policy inconsistency scenario analysed here is represented by a simulation in which there is a temporaray increase in the fiscal deficit.[33] Furthermore, as it is assumed in all the simulations that the nominal exchange rate is fixed, this implicitly yields a second inconsistency that has been stressed in the recent literature. Keeping the exchange rate unchanged while opening up in the presence of certain external shocks or an expansionary fiscal policy will generally lead to a real appreciation, defined here as an increase in the price of non-tradeables relative to the price of tradeables, a weakened external payments position, and increased vulnerability to speculative attacks on the currency. In each of these simulations that are undertaken we trace the response of the following macroeconomic variables: the general price level, the domestic interest rate, the current account balance, international reserves and foreign debt, the real exchange rate, and real expenditure on goods and non-financial services.

These various simulations obviously do not cover all the possible shocks that occurred during the 1970s. For example, we do not explicitly consider the effects of a slowdown in the growth rates in industrial countries. As this effect was not found to be particularly significant in the results reported by Khan and Knight (1983) we felt we

could exclude it from consideration here. Furthermore, we do not attempt to determine the effects of growing protectionist pressures in industrial countries on the exports of developing countries. Neither of these simulations is particularly difficult to perform, but they would require some respecification of the basic model to incorporate a foreign demand function for exports. As the model is currently formulated it utilizes a small country assumption and implicitly assumes that foreign demand for exports is infinitely price elastic. Finally, we do not go into the wage indexation question since the model does not include an explicit wage-determination equation, although it is possible, as discussed in Khan and Zahler (1983), to handle this indirectly. Nevertheless, we feel that the simulations here provide sufficient information to enable one to form a reasonable judgement on the principal effects that some specific external shocks and certain policy changes are likely to have in the course of liberalization.

IV
Results

In the initial equilibrium the economy is assumed to have a uniform tariff of 100% on imports and capital flows are completely restricted.[34] In other words, the economy is *not* completely closed to trade since imports are allowed, although at a domestic price substantially higher than the world price, and the country does engage in export activities. On the other hand, neither capital inflows or outflows are permitted. The balance of payments, the current account, and the government budget are all in balance; prices are constant; the economy is assumed to be on its aggregate transformation curve;[35] and the exchange rate is fixed. In specific terms, liberalization involves lowering the tariff rate gradually to zero over four periods, and simultaneously eliminating restrictions on capital flows, also over four periods.[36] In the control simulation the foreign interest rate, the terms of trade, and the government budget deficit are kept unchanged (chart 1). For the external shocks scenario the nominal foreign interest rate is raised to 15% in period 3 and is then lowered back to its original level of 5% after four periods —chart 1-A. Concurrently with this, the terms of trade are assumed to deteriorate by 5% per period for four periods, and then progressively improve so that by the seventh period they are at their original level (chart 1-B). The domestic shock is represented by the emergence of a fiscal deficit (approximately equal to 7-8% of national income) for four periods (chart 1-C), after which the budget is once again assumed to be balanced.

A very important point to note in analysing the simulations reported here is that the outcomes for the variables under consideration are conditional on the numerical values of the parameters of the underlying model.[37] Clearly alternative scenarios could be created by changing the parameter values employed. It should also be stressed that the values chosen for the shocks, and the periods over which they extend, are only illustrative and not intended to be necessarily realistic. However, even though these specific shocks are arbitrary, they nevertheless should give a reasonable flavour of what can be expected to happen if one superimposes shocks of certain types on the opening-up process.

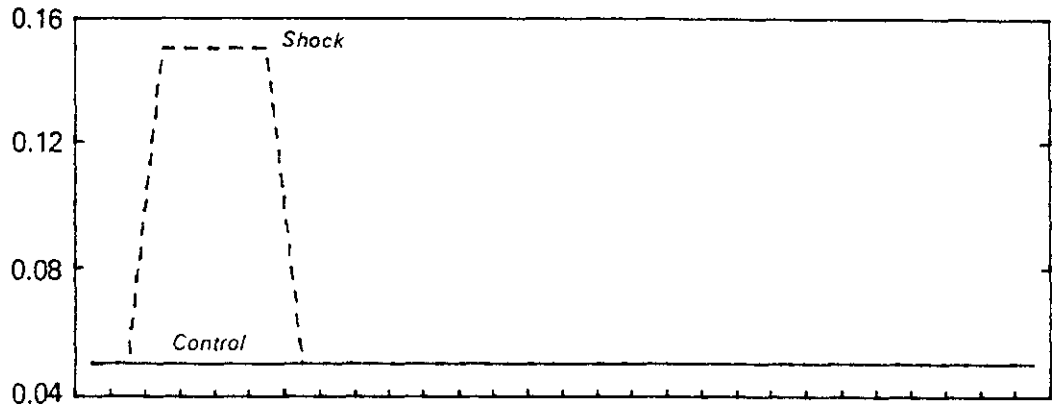
1. *Control simulation: simultaneous removal of restrictions on trade and capital flows*

The liberalization of the trade and capital accounts directly lowers the price of importables (by the amount of the reduction in the tariff rate), and thus initially raises the relative prices of both exportables and non-tradeable goods in terms of importable goods.

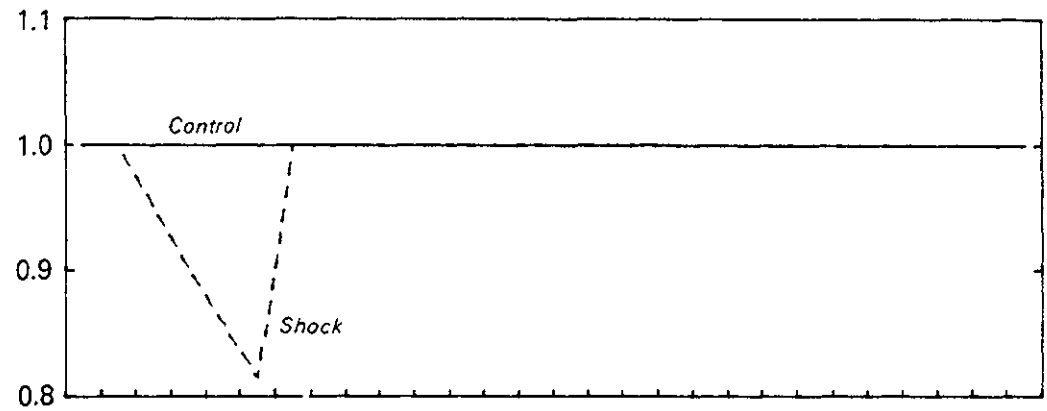
Chart 1

EXOGENOUS SHOCKS

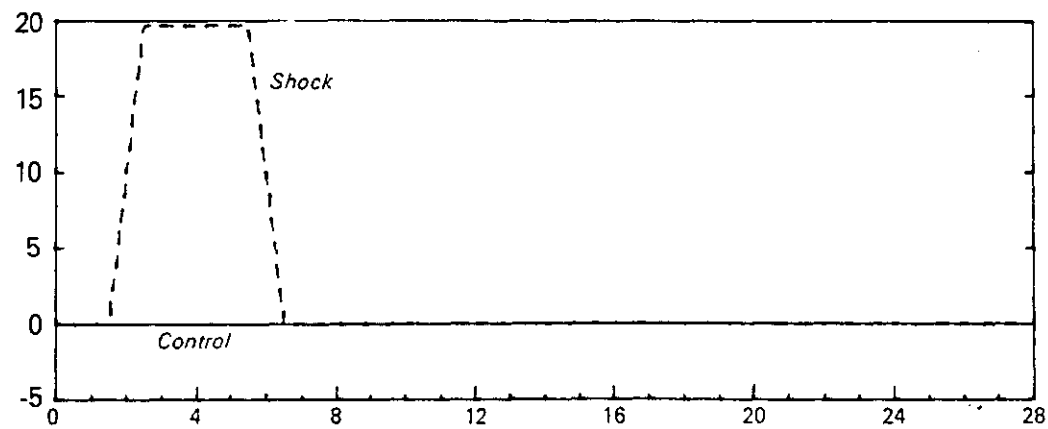
1.A. Increase in foreign interest rate



1.B. Deterioration in terms of trade



1.C. Increase in fiscal deficit



Periods

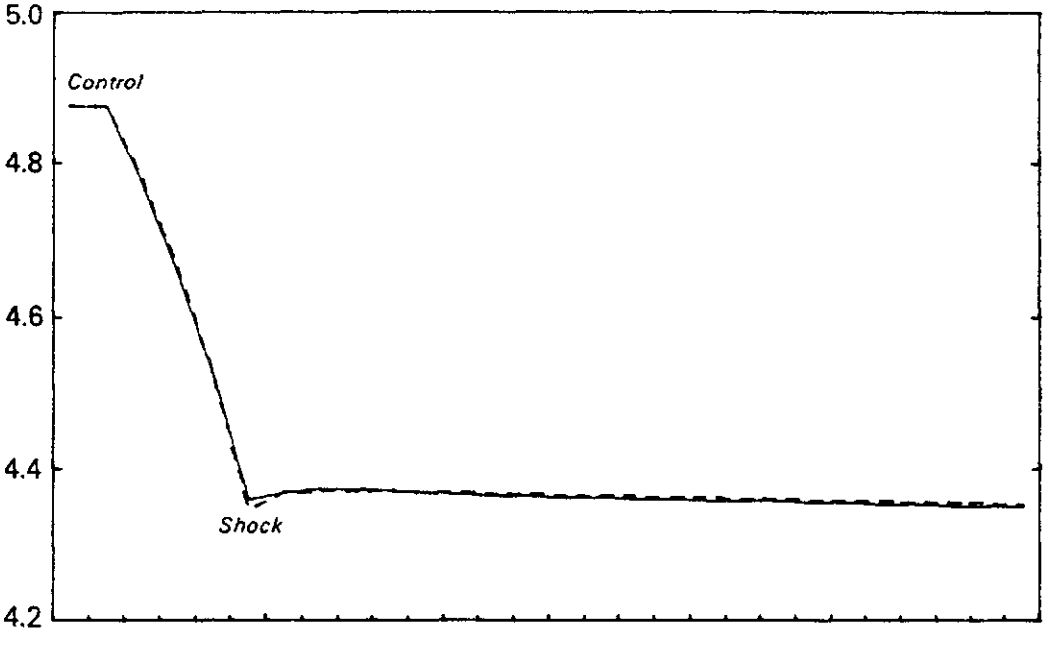
The change in the pattern of demand and production resulting from the change in relative prices tends to exert downward pressure on the price of non-tradeables as well. As a consequence, the general price level falls quite rapidly in the beginning, and then once the effects of the tariff reduction have worked themselves out, stays permanently at the new lower level (chart 2-A).

As expected, the fall in the overall price level lowers the nominal demand for money; furthermore, since initially the domestic interest rate is assumed to be above the corresponding foreign rate, with the removal of capital controls there is a large inflow of capital from abroad which augments domestic liquidity. The resulting excess supply of money causes the domestic interest rate to decline (chart 2-B), and both these factors have an expansionary effect on aggregate demand. The combination of the change in relative prices and the rise in domestic absorption results in a pronounced deficit in the current account (chart 2-C) that persists for a number of periods.[38] The volume of trade (imports plus exports) however is larger than in the initial equilibrium, which is the desired result of the liberalization policy. Given the parameters of the model, the capital flows generated by the interest rate differential are not adequate to cover the deficits in the current account, so that the country will continue to lose international reserves until monetary equilibrium is re-established (chart 2-D). By the end of the transition the stock of international reserves falls to less than one half of their original level. In the context of our model this result points to an important precondition for liberalization policies, namely that when starting off the process of opening up the policymakers should ensure that the country has a comfortable cushion of reserves. The foreign debt of the country rises in a somewhat cyclical fashion, reflecting closely the path taken by domestic interest

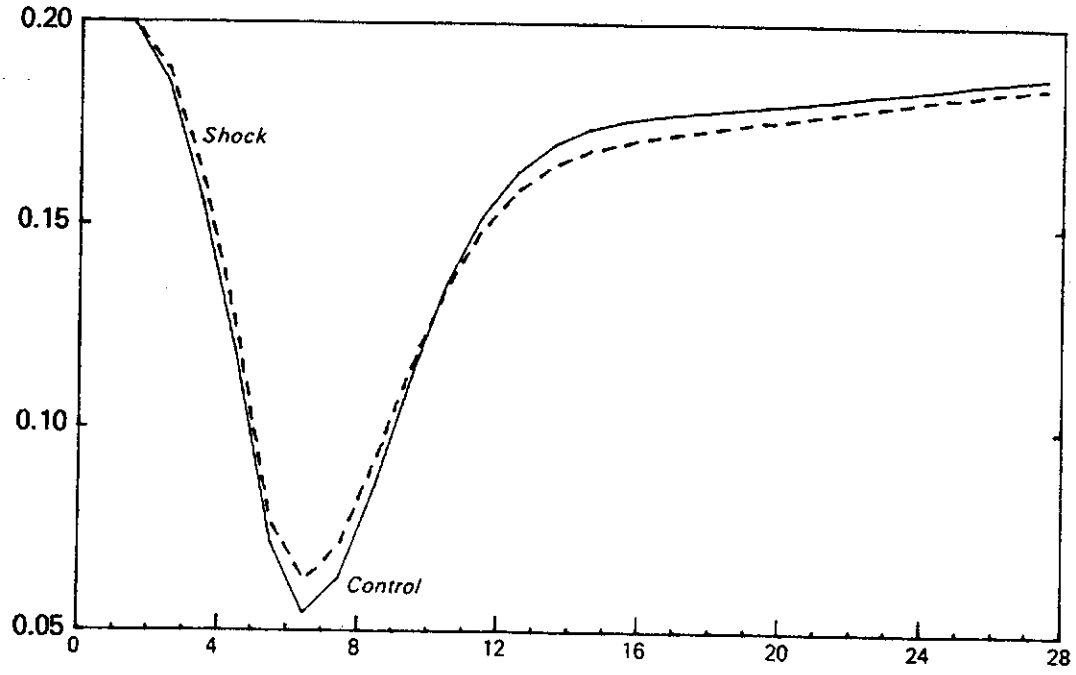
Chart 2

COMBINED EFFECTS OF EXTERNAL AND FISCAL SHOCKS

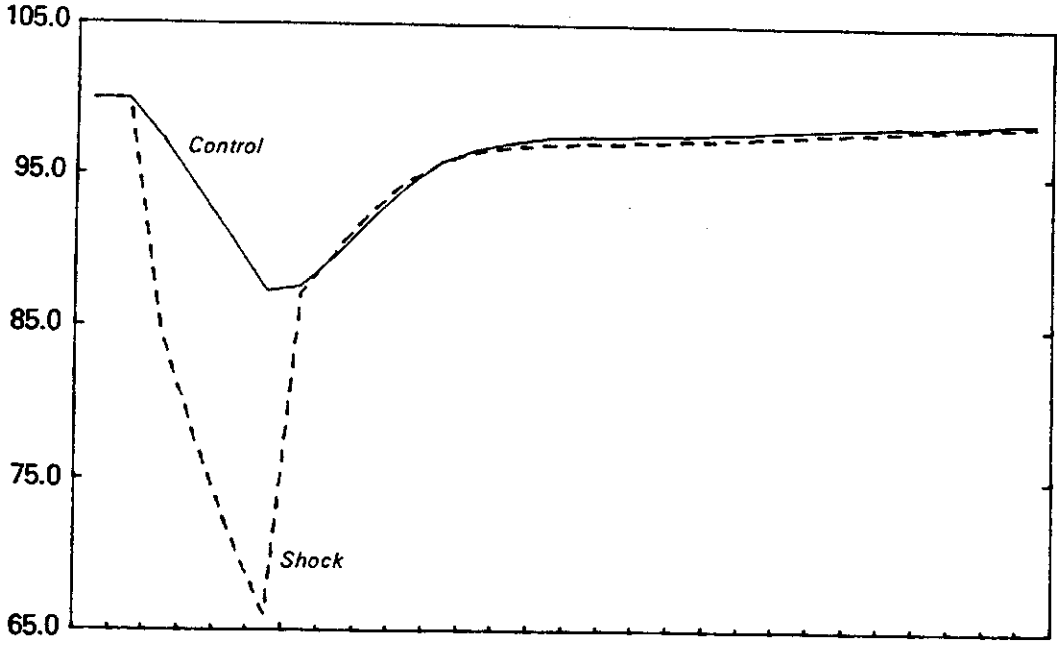
2.A. General price level



2.B. Domestic interest rate



2.C. Current account balance

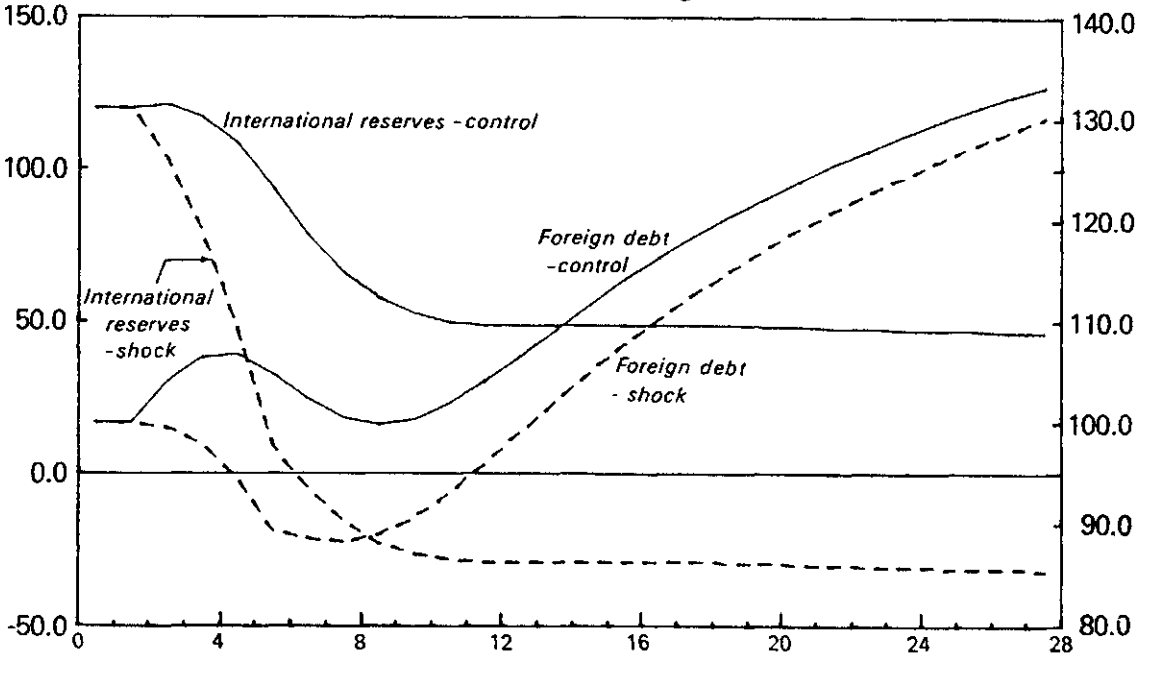


rates and the resulting capital inflows. Until the risk premium rises by enough to close the differential between domestic and foreign interest rates, the stock of foreign debt will continue to increase. In this particular simulation equilibrium is reached when the final stock of foreign debt is about 25% of national income (chart 2-D).

Two additional results, which were not stressed in Khan and Zahler (1983), are worth mentioning. First, real expenditures on goods and non-financial services, which can be treated as a proxy measuring the welfare effects of liberalization policies, increase substantially when the domestic price of importable goods falls (chart 2-E).[39] This tendency is then reversed as interest payments on foreign debt absorb an increasing proportion of the income of residents, although, given the model structure and specific parameter values, in the long-run equilibrium real expenditures on goods and non-financial services are still higher than their pre-reform level.

Second, as was analysed in figure 1, during the course of liberalizing the domestic relative price of importable goods with respect to the other goods decreases, and the relative price of exportables tends to rise. With the assumed parameter values, and the initial shares of the three goods in total output, the real exchange rate, defined as the ratio of the price of non-tradeable goods to the price of tradeables, will appreciate (chart 2-F). This real appreciation is a natural consequence of the removal of tariffs on importable goods, and the economy has to move to a new equilibrium real exchange rate. Other things being equal, this appreciation will result in a loss of international competitiveness and a worsening of the current account for a period of time. Although this movement represents an equilibrium change, the authorities could reduce its impact on the curent account through appropriate exchange rate policy.[40] What is more important, however, is the prevention of a real appreciation beyond the new equilibrium real exchange rate that is consistent with the elimination of restrictions on trade and capital movements.[41]

2.D. International reserves and foreign debt[a]



[a] International reserves: left scale; foreign debt: right scale.

2. *Effects of external and domestic shocks*

The effects of a combination of external shocks and the emergence of a budget deficit while the foreign sector is being liberalized are also shown in chart 2. It is quite evident from chart 2-A that the various shocks appear to have little impact on the path of the general price level that results from only opening up. We would expect the deterioration in the terms of trade to exert additional downward pressure on prices, as the decline initiated by the fall in the domestic price of importables is amplified by the reduction in export prices. However, at the same time the fiscal deficit, by increasing aggregate spending, would tend to push up the price of non-tradeable goods. The values of the parameters of the underlying model are such that these effects tend to offset each other, and the net impact on the general price level turns out to be negligible.

While the domestic interest rate does fall when the shocks are superimposed, the decline is somewhat smaller than in the control simulation (chart 2-B). Since the foreign interest is increased there is a net capital outflow during the first few periods and a smaller excess supply of money, despite the fact that the financing of the fiscal deficit expands the nominal money supply.[42]

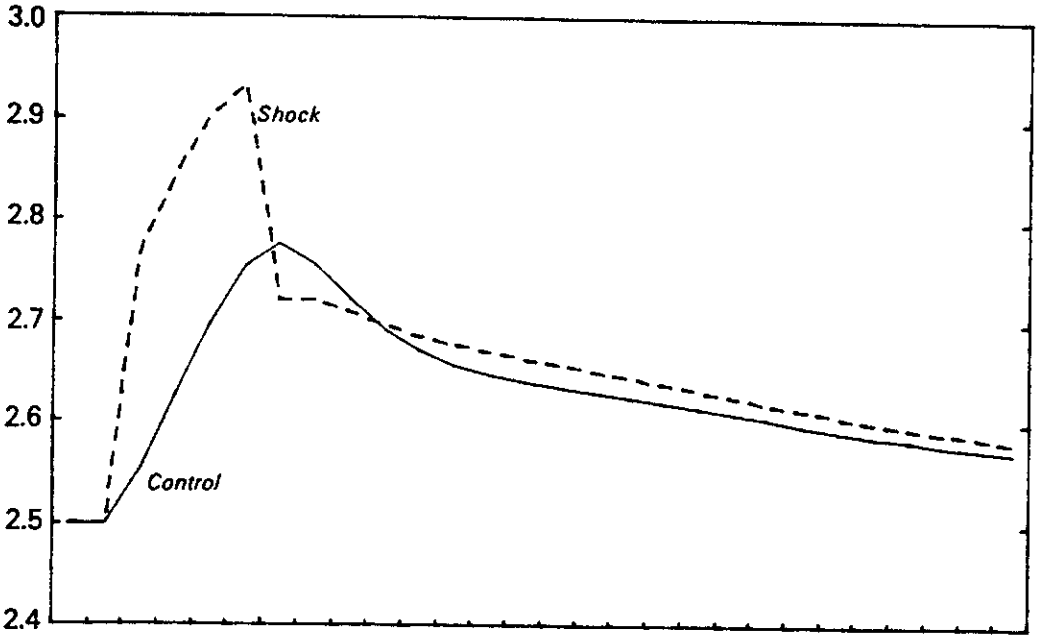
A more striking difference between the two sets of simulations can be observed in the case of the current account position (chart 2-C). Even though there is less excess liquidity in the economy during the initial periods, the combined effect of the deterioration in the terms of trade and the expansionary fiscal policy causes the current account balance to be significantly worse than it would be in the absence of such shocks. Starting from an equilibrium position, the current account deficit, as a proportion of nominal income, reaches around 18% by period 6, as compared to less than 7% in the same period in the control simulation. Once the shocks have worked themselves out the paths of the current account balance from the two simulations become quite close.

Accompanying this larger current account deficit there is also an initial outflow of capital because of the increase in the foreign interest rate, and the decline in the domestic interest rate brough about as a result of the removal of capital controls. As a consequence, international reserves decline much more rapidly in this scenario (chart 2-D); in the final equilibrium the stock of international reserves actually becomes negative. In marked contrast to the control simulation, the stock of foreign debt falls for the first 8 periods or so,[43] and rises steadily thereafter, although its level remains permanently smaller than in the control simulation (chart 2-D). This would necessarily mean that debt service payments would be smaller than in the scenario without shocks, despite the temporary increase in the foreign interest rate.

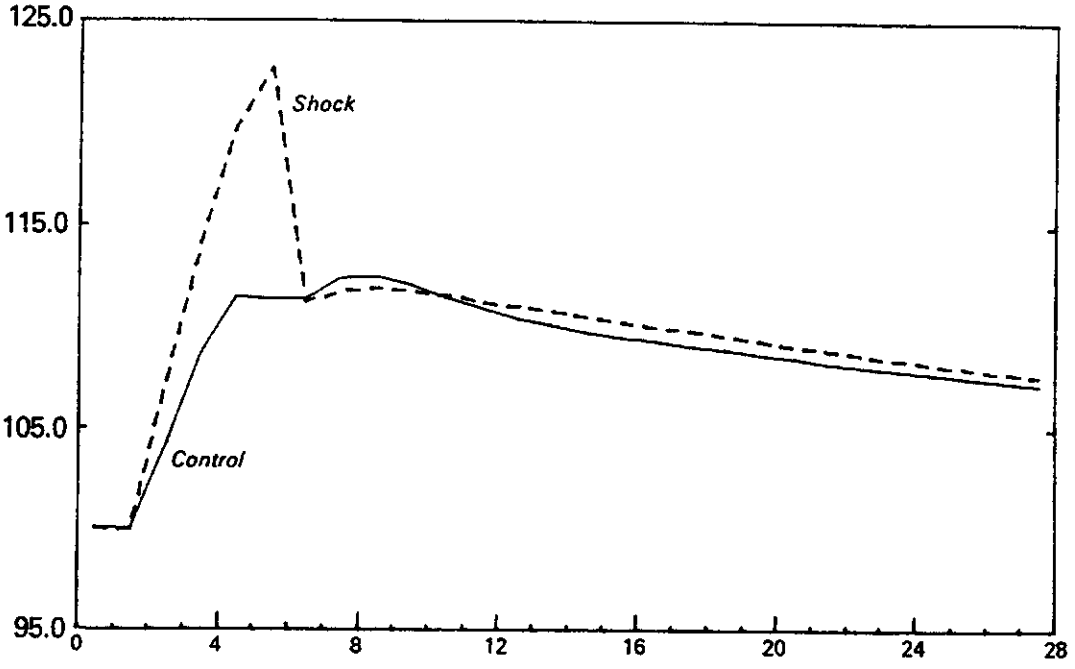
From periods 2 to 6 real expenditures on goods and non-financial services increase significantly more than in the control simulation —chart 2-E. This is primarily due to the expansionary effect of the budget deficit, moderated somewhat by the impact of the terms of trade deterioration on domestic spending. As the terms of trade and the foreign interest rate return to their respective original levels, and the fiscal deficit is eliminated, real expenditures end up being slightly higher than in the control simulation because of the smaller debt service payments.

The appreciation of the real exchange rate also turns out to be more pronounced when there are external and domestic shocks (chart 2-F). This occurs basically for two reasons: first, the price of tradeable goods falls relatively more, with the decline in import prices caused by the tariff reduction now being accompanied by a fall in the price of exportables. Second, the expansion in aggregate demand caused by the fiscal deficit increases the price of non-tradeable goods. Eventually, as the foreign price of exportables returns to its original level and the fiscal balance is re-established, the real exchange rate

2.E. Real private expenditures



2.F. Real exchange rate



first depreciates (relative to the control simulation path) and then move to a slightly higher equilibrium level. This long-run result occurs because less resources from the tradeable goods sector, i.e., smaller trade balance surpluses, are required to service the now lower stock of foreign debt.

The movements in the real exchange rate clearly highlight the importance of adopting an appropriate exchange rate policy during the liberalization process. Maintaining a fixed nominal exchange rate, or for that matter simply operating a policy that does not permit the exchange rate to move in line with the relative price of tradeables to non-tradeables, when there are external shocks or domestic fiscal imbalances, would not appear to be suitable. In particular, budget deficits, and excessive private expenditures financed by foreign borrowing, result in an expansion in aggregate demand that is basically inconsistent with the reduction in the price of non-tradeable goods that would keep the current account deficit, and consequent loss of international reserves, within reasonable limits. In such circumstances fixing the nominal exchange rate would exacerbate the situation. This issue of inconsistency between excess domestic expenditures and exchange rate policies has been discussed by a number of authors engaged in analysing the experience of the Southern Cone countries during the 1970s.[44]

In connection with the exchange rate issue an interesting question arises as to what would be likely effects if the country in fact did adopt a more flexible exchange rate policy while it engaged in opening up. We analysed this case by repeating the experiment of reducing tariffs and eliminating capital account restrictions, but now instead of maintining a fixed exchange rate we allowed for a gradual depreciation of about 50% between periods 3 and 6. This policy led to a much smoother evolution of the real exchange rate over time, although, as expected, in the final equilibrium there was still a real appreciation. The decline in the general price level and domestic interest rate was markedly smaller, as was the increase in real expenditures, relative to the control (fixed exchange rate) simulation. There was also an improvement in the current account position even though restrictions on trade and capital flows were removed, and the stock of international reserves rose initially before settling down to a value very close to the original equilibrium level. Although the policy of steady depreciation is not totally without costs, since there is an increase in the foreign debt above what was observed in the control simulation, and the price level falls by a smaller amount, nevertheless it can be argued that at least some of the negative aspects of the transition period following liberalization can be moderated if the authorities pursued a more flexible exchange rate policy.[45]

V
Conclusions

The widespread interest generated by countries that embarked in the direction of opening up the economy to allow for the freer flow of goods and capital across borders still continues. There has, however, been a radical shift in the type of questions being raised about the relative economic performance of these economies. Initially the questions focused on the success these countries achieved in some areas on the macroeconomic front, but now in the light of their current situation, equally relevant questions are being asked about the supposed failure of outward-oriented policies. The burgeoning literature analysing the experience of the countries in the Southern Cone of Latin America continues to attest to the fact that there remains considerable puzzlement as to how the situation could change so dramatically in the space of only a few years.

Certainly, there has been no shortage of reasons presented for this turn of events. In this paper we focused on two specific reasons: first, the role of certain external shocks; and second, various domestic policy actions that proved in the end to be inconsistent with the overall strategy of opening up. These particular factors are ones that are relatively more amenable to quantitative analysis. It is well-recognized that external events contributed to the difficulties experienced by developing countries, and these events were obviously outside the control of these countries. Nevertheless, it can be argued that opening up in order to increase economic efficiency and improve resource allocation, made the countries more vulnerable to foreign shocks. Furthermore, in some cases the inability to control excessive domestic spending, whether public or private, and the general inflexibility of exchange rate policies, during the liberalization process compounded the problems, and can thus be held partly responsible for the negative consequences that later emerged.

In this paper we specifically examined the short and medium-run effects that certain types of external shocks and an expansionary fiscal policy can have on key macroeconomic variables while the economy is being opened up. The simulation experiments, conducted using a general equilibrium model, were not intended to be completely realistic, in the sense of either applying to any particular country, or reproducing the actual shocks that hit developing countries, but rather should be treated as providing essentially hypothetical scenarios. Specifically it was shown that the removal of barriers to trade and capital flows produces some costs in the short run. While the rate of inflation and domestic interest rate tend to approach their respective international values, this is accompanied by a rise in the real rate of interest, a decline in output and employment, a worsening of the current account, a loss of international reserves, and a significant build-up of foreign debt. There is, furthermore, an appreciation of the real exchange rate to a new equilibrium level. In the context of this particular exercise, the negative effects of opening up become magnified if one then further allows for the possibility of domestic policy inconsistencies and an adverse international climate during the liberalization process.

Whether the liberalization experiments would have been successful in the absence of external shocks, and if the right macroeconomic policies had been in place, is something we have purposely stayed away from. What we can say, however, is that the possibilities of success were greatly diminished once the international picture worsened, and countries pursued other domestic policies that apparently worked at cross purposes with the policy of liberalization. Based on the results here it is possible that if external shocks are large and persist for long enough and inconsistent domestic policies are maintained, then it is quite likely that the economy would go into a recession if compensatory action is not taken. In reality, limits on external borrowing prevented developing countries from financing their way out of their difficulties brought about by the various shocks and inappropriate policies, and finally forced them to undertake painful adjustment, and even to reverse the overall strategy and reimpose barriers to trade and capital flows.

What then is the policy lesson that can be drawn from the analysis conducted here? The conclusion that comes out quite forcefully is that opening-up policies have to be actively supported by domestic macroeconomic management. This becomes even more imperative if the country is subjected to external shocks while it is in the process of liberalizing the foreign sector. While the individual developing country can do little about changes in the international environment and has to take those as given, it would seem that a judicious combination of external financing, use of international reserves, and domestic adjustment would be called for at an early stage to offset or minimize the effects

of any external shocks that occur. Since there are quantitative limits to the amount of international reserves and foreign financing, it is obvious that eventual adjustment of the basic supply-demand balance in the economy is necessary. Fiscal and monetary restraint to control both public and private spending, coupled with a more flexible exchange rate policy, would seem to be the relevant instruments of adjustment in the circumstances that a number of developing countries found themselves in the late 1970s and early 1980s. While there were attempts in this general direction they can perhaps be characterized as probably being too little and too late. As a consequence, many developing countries, and particularly those engaged in the process of opening up, found that they had to eventually undergo more painful adjustment than would have been necessary if action had been taken more promptly.

NOTES

[1] See Harberger (1982). Recent papers by Edwards (1982) and Díaz-Alejandro (1983) contain an interesting sampling of quotations from the financial press on this issue.

[2] An interesting recent attempt to analyse these types of welfare-related questions is contained in Edwards and van Wijnbergen (1983).

[3] See McKinnon (1982), Frenkel (1982), Edwards (1983) and Edwards and van Wijnbergen (1983), for a discussion of the issues involved in the sequencing of reforms.

[4] See, for example, Dornbusch (1984).

[5] See also Khan and Knight (1982). Other external factors would include the growth in protectionist pressures in the principal export markets of developing countries, and the fairly drastic contraction in capital flows to the non-oil developing countries in 1982 and 1983 that sharply increased the costs of adjustment of debtor countries. It is, however, difficult to deal with either of these in a quantitative fashion.

[6] See Massad (1983) and Zahler (1983).

[7] This group basically includes all non-oil developing countries except those referred to as "net oil exporters". For a precise classification, see IMF (1984), Statistical Appendix.

[8] There is some empirical evidence available now on the positive relationship between growth in industrial countries and the international prices of non-oil primary commodities; see Goreux (1980) and Goldstein and Khan (1982).

[9] The foreign real interest (rr) is defined here as the nominal foreign interest rate (rf) adjusted for percentage changes in the export prices of oil-importing developing countries (DXP), i.e.,

$$rrf = (rf - DXP)/(1 + DXP)$$

[10] The empirical evidence on the relationship between high real international interest rates and prices of primary commodities is discussed by Gotur (1983).

[11] See Massad and Zahler (1984).

[12] See IMF (1984) page 51.

[13] See Khan and Knight (1982), (1983).

[14] The rate of inflation in Uruguay was close to the average rates experienced by developing countries as a group, while that of Chile was well below.

[15] We can include in this group the models of Blejer (1977), Blejer and Fernández (1980) and Khan and Knight (1981).

[16] Since the resource endowment is fixed we do not allow for any net investment or savings.

[17] Private expenditures on goods alone require that interest payments on foreign debt be subtracted out. It should also be noted that we assume that the pattern of government spending on the three goods is identical to that of the private sector.

[18] Assuming that the exchange rate and the tariff level remain unchanged.

[19] The expected change in the exchange rate is assumed throughout to be equal to the actual change.

[20] The relevance of this particular formulation to the analysis will be made clear below.

[21] This is generally not possible in the larger computational general equilibrium models.

[22] Following Khan and Zahler (1983) it is assumed here that non-tradeable goods substitute with each of the tradeable goods, but for simplicity we rule out cross price effects between importables and exportables. This assumption does not change the conclusions reached by Khan and Zahler (1983) in any important way.

[23] Starting with a positive rate of inflation would not alter the analysis.

[24] See Blejer (1978).

[25] In general a change in relative prices would change production of non-tradeable goods, and the transformation curve between importable and exportable goods would have to shift. We make this restrictive assumption in figure 2 only for expositional purposes.

[26] We assume here that the expected (and actual) nominal exchange rate is constant.

[27] Starting with a positive stock of foreign debt would not change any of the basic results.

[28] In the Khan and Zahler (1983) model it was assumed that the response of foreign capital to interest rate differentials was high, although not instantaneous. The approach adopted here for the graphical analysis, i.e, shifting the LM curve, yields qualitatively similar results.

[29] The current account deficit is also marginally increased by the increase in the relative price of non-tradeable goods that results from the excess supply of money created by the inflow of capital.

[30] This would hold, for example, if domestic and foreign savings were perfect substitutes.

[31] It should be stressed that by assuming that net savings are zero the potential benefits of financial opening up are in a sense being minimized. For an alternative approach where productive capacity grows with foreign savings, see Zahler (1982).

[32] Obviously one could also obtain the same decline in the terms of trade by increasing the price of importables relative to the price of exportables. The outcomes, however, are not symmetrical so that one has to be careful to note that our results are conditional on how the terms of trade change is specified.

[33] A similar set of results are obtained if private sector expenditures are increased through an expansion in domestic credit.

[34] For the reasons for choosing an equilibrium position to begin from, see Khan and Zahler (1983), page 245.

[35] The model assumes a "normal" rate of unemployment of 5%.

[36] All changes in the exogenous variables are assumed to occur in the third period.

[37] For these values see Khan and Zahler (1983), Appendix II.

[38] In equilibrium the current account is set equal to 100; values below 100, therefore, imply a current account deficit.

[39] Real expenditures, as defined here, are closely related to the concept of national income adjusted for changes in the terms of trade.

[40] Of course nominal depreciation of the currency would entail certain costs, particularly with respect to inflation.

[41] For a discussion of the reasons why the real exchange rate may appreciate in the course of a stabilization programme, see Dornbusch (1982), (1984).

[42] One would normally expect an increase in the fiscal deficit to result in a greater excess supply of money, but in this framework there is a larger increase in the demand for money (due to the increase in nominal income); furthermore, the additional monetary expansion created by the deficit leaks out very rapidly through the current account.

[43] In the model only foreign residents are allowed to acquire domestic debt, and domestic residents (including the government) are restricted from holding foreign debt. As such, an increase in foreign interest rates, by reducing the incentive for foreigners to invest, leads to a smaller (or even negative) inflow of capital and a lower stock of foreign debt.

[44] See, for example, Edwards (1982), Pastore (1982), Sjastaad (1983), Zahler (1983) and Dornbusch (1984).

[45] This result confirms the argument put forward by Dornbusch (1984) that the exchange rate policies in the Southern Cone countries led to steady overvaluation of their respective currencies, and that this outcome could have been avoided through more flexible exchange rate management.

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Recent Southern Cone liberalization reforms and stabilization policies: The Chilean case, 1974-1982

Roberto Zahler

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I
Introduction

Since the mid-1970s, the Southern Cone countries of Latin America have experienced profound political, institutional, and economic reforms. Their immediate causes can be found in the evolution of their relatively recent (prereform) political situation, which saw marked polarization of different groups and political forces, social unrest, and a general feeling of dissatisfaction with the countries' economic performance.

These events were followed by the installation of military régimes, with the new characteristic of trying to go far beyond the traditional attempt of introducing social (and particularly, labour) discipline and put the "house in order". In fact, in Argentina, Chile and Uruguay, an attempt was made, at least in the economic sphere, to drastically reform the pattern of economic development, institutions and policies that, according to the new authorities, had prevailed since the end of World War II.

In Chile, the rupture of the new economic authorities with the traditional economic thought and policies has been almost complete. It is difficult to find any other country in recent history that has embarked so wholeheartedly on a programme of extreme monetary orthodoxy with free market-oriented development economic policies.

It is very important to point out at the beginning that the régime intended to go far beyond technocratic and bureaucratic modernization; in fact, an attempt has been made to reshape the foundations of the Chilean society, its values, its structures and its behavioural patterns, which included as a main component a clearcut economic model. Although we will concentrate on the economic analysis, no relevant and comprehensive study of the recent evolution of Chile's economy can be undertaken without an understanding of the philosophical, ideological, and political framework that characterized the economic reform.[1]

In this respect, a great part of the interest of the recent Southern Cone "experiments", and particularly of the Chilean one, has concentrated on a combination of quite rigid and strict authoritarian régimes (closed polity) in which political freedom was extraordinarily limited, together with an economic vacuum in which, contrary to the political sphere, liberalization (mainly in the goods markets, and to a much lesser extent in factor markets) was the name of the game —open economy.[2] Initially most of the economists favouring these experiments tried to abstract from ethical, political, social and institutional considerations; as time has passed, increasing concern about the long-run difficulties of economic liberalization cum authoritarianism has been expressed (Friedman, 1982).

Besides the academic interest in the Chilean economic experience, its study is also important from a more practical and policy-oriented point of view. Until recently the Chilean case was perceived by some financial, international and political institutions as a "success case" and even as another "economic miracle",[3] an example to be imitated by other LDCs. Therefore, the relevance of its analysis exceeds the interest of one more case study per se.

This article analyses the main macroeconomic developments of the recent Chilean experience that started with the military coup in September 1973, consciously abstracting from the above-mentioned philosophical, ideological, and political considerations. More

specifically, it analyses the main characteristics of the Chilean economic model, its general orientation and its implementation, trying to highlight important lessons as well as unresolved issues, both of which may improve the understanding and the design of economic development policies in Chile as well as in other LDCs.

One last introductory note: be cautious when trying to evaluate the results of recent Southern Cone economic experiments. On one hand, many different policies with different objectives, magnitudes, speeds and sequences were implemented, which makes it difficult to evaluate them separately —specially when trying to correlate causes and effects appropriately (Zahler, 1983). It is also difficult to separate the effects of changes in the international scenario, the development strategy, or the stabilization effort and other short-run policies on major economic variables. Finally, even though the time-span of these experiences has extended for several years, given the initial conditions they faced and the nature and magnitude of the reforms, we necessarily have to concentrate more on the evolution of the adjustment and transition paths of the main macrovariables than on the medium and long-term prospects of the model. Nevertheless, some characteristics of the economic policies implemented during the transition period (which has been quite long already) have had strong implications for the long-run results of these reforms. In fact, at this date there is strong evidence that in Chile the experiment has failed to achieve its main economic objectives (Cortés, 1982; Ffrench-Davis, 1982; Euromoney 1982; Sjastaad, 1982).[4]

II
General background[5]

The Chilean economic model has its roots in different grounds. Modern neoclassical theory and monetarist-oriented framework blossomed in some academic centers and in the economic policy-making of certain important countries of the industrial world in the early 1970s. In addition, there was the "demonstration effect" of some developing countries, especially in East Asia, that had performed extraordinarily well through more outward-oriented policies that opened their economies to the world trade and financial flows (Bhagwati and Srinivasan, 1979; Eng Fong and Lim, 1981; Keesing, 1979, Krueger *et al.*, 1981; Krueger, 1981).[6] More important was the abundant availability of international liquidity related to the radical changes associated with the oil shock, especially increasing importance of private banking international flows in the world financial markets. This not only made it attractive to engage in financial opening up, but created an unknown phenomena for LDCs, namely that the foreign exchange constraint tended to disappear through the availability of international financial capital flows.[7]

On the domestic front, the neoliberal critique toward the development strategies and economic policies implemented in the postwar period was far-reaching, comprehensive, and had as its logical consequence an alternate and completely different developmental approach.[8] According to that school, the economic growth rate of Chile in the 30-year period from 1940 to 1970 —which averaged 4% in annual terms— was much lower than the country's potential. This, together with the persistence and acceleration in the early 1970s of inflation and the chronic balance of payments crisis were, according to that view, caused by the size of government, the nature of its intervention in the economy, and the magnitude of its deficit, as well as erroneous economic strategies based upon a combination of Keynesian and import-substitution policies and distortions of the price system through generalized and often irrational price controls.

The economic situation prevailing at the moment of the military coup was charaterized by low growth, accelerating inflation, multiple and heavy distortions of the price system, shortages and widespread parallel markets, a critical international reserves situation, and a rapid loss in creditworthiness. The political scenario showed a high degree of polarization and conflict.

The coming into power of a military régime allowed a group of economists, defining themselves as "non-political", to join the government and pursue the implementation of their particular view of economic and social policies with very little institutional, political, or social restrictions, especially if compared to Chilean historical standards in which Congress, unions, political parties, the press, and so on, played a very important role in the actual design and outcome of economic policies. The "economic team"[9] not only shared a common belief in an extreme version of a market-oriented economy but also offered an economic programme emphasizing a way out of the foreign exchange problem facing the country in 1974 and 1975, and making no specific mention of issues such as human rights, democratization, and so on. Having no definite time-horizon, and having eliminated the traditional short-run and eminently temporary nature of the economic policy, they concentrated all their efforts on the design and implementation of what is called the Chilean economic model.

III
Main theoretical characteristics and framework of the Chilean economic model

In broad terms, one can distinguish the two basic components of the model: development strategy (with structural transformations), and stabilization policies.

On one hand, the core of development strategy consisted of price liberalization and free markets, and the effect of the resulting structural transformations, financial reforms, and opening up of the economy to world trade and capital flows on income and wealth distribution, and on intra- and intersectoral production changes. On the other hand, private enterprise was encouraged, minimizing and reorienting the economic role of the State in conformity to the "subsidiarity principle". These two were the basic instruments needed to eliminate government-induced "distortions" and to give appropriate signals to entrepreneurs (both national and foreign) and consumers. These also would help stimulate competition and initiative, which would put the country on a higher, stable, and well-grounded growth path along the lines of comparative advantages. Furthermore, the idea of a "non-political" society and bias against State intervention implied that its economic action should be "neutral", "non-discretional" and "impersonal", in the double sense of not favouring any particular group or sector[10] and not altering through intervention the price system determined by market forces.

Price stabilization policies played a fundamental role not only because of the quasi-hyperinflation at the end of 1973, but principally because of belief that the undistorted price system was the crucial element in resource allocation decisions. Ideally, all price changes should reflect relative price movements and therefore the goal of a zero inflation rate. With it, the stability and transparency of the price system constituted a basic component of the stabilization as well as of (although indirectly) the development policy.[11]

The new authorities' initial approach to Chilean inflation was based on the assumption that the main cause of the inflation was the excessive growth of the money

stock. Therefore, a restrictive monetary policy was postulated corresponding to a closed-economy monetarist view of inflation. Once the Chilean economy opened up commercially and the public sector was balanced, the objective changed from "zero inflation" to "world inflation" based on the "law of one price". Associated with a strict monetary approach to the balance of payments was a fixed nominal exchange rate. Consequently, monetary policy became essentially passive.

IV
The initial situation

Between 1971 and 1973, an attempt was made to modify profoundly the political foundations of Chilean society and to alter drastically the distribution of power, income and wealth in the country. In the long term, this implied an alteration of the structure of production, of the economy's mode of operation and more broadly, of the type of relations predominating in the Chilean society up to that time. Economically speaking, this involved an intensification of agrarian reform and the establishment of an area of social ownership in the sphere of production, finance and marketing.

The creation of social ownership and the price policy applied to it, together with the increasing gap between government expenditures and tax revenues, led to a marked increase in the fiscal deficit. While the deficit represented on average 14.6% of fiscal expenditure and 3.3% of gross domestic product (GDP) between 1960 and 1969, the corresponding values between 1970 and 1973 were 35.5% and 12.5%. In 1973, the fiscal deficit was equivalent to 55.1% of fiscal expenditures and 23.6% of GDP; in real terms, it was seven times as large as in the period from 1960 to 1969.

Developments in the monetary sector also showed signs of severe imbalances. Whereas in 1960 to 1969 the average growth rate of private nominal money (M_1) was 37% a year, this figure rose fivefold from 1970 to 1973 and in 1973, growth in M_1 was 419%. Inflation reached levels unprecedented in the economic history of Chile. From 1970 to 1973, the annual average increase in consumer prices (CPI) was above 300% and reached around 600% by September 1973, revealing a tendency to accelerate to hyperinflation; during 1960 to 1969, the average annual rate of inflation was 25%

The country's external position, the level of international reserves, and the capacity to secure external loans had sharply decreased also. The accumulated current account deficit reached almost one billion dollars from 1971 to 1973. By the end of 1973, net international reserves were minus US$ 231 million, while in December 1979 they had been positive and over US$ 400 million.

The situation described above was partly due to and was aggravated by increasing government intervention with inconsistent and diverse quantitative restrictions and price controls that affected the functioning of the foreign exchange, financial and money markets, and the market for real goods and services.

Multiple undervalued exchange rates, heterogeneous tariffs and non-tariff barriers, import bans, prior import deposits, and other quantitative limitations on the foreign exchange market coexisted with negative real interest rates, high and differential reserve requirement ratios, and quantitative and selective control of bank credit in the financial sector; in addition, the government intervened with a profusion of price controls in the market for real goods and services, all of which resulted in extremely inefficient resource allocation and in the emergence of generalized shortages, cues, and parallel markets. The Central Bank offered no resistance to the demands of the government sector and the State-owned enterprises, thus helping to accentuate inflationary pressures.

Although the unemployment rate stood below its historical levels (largely because of excess demand, and the rise in employment of the public sector and in the area of public ownership), the share of gross domestic fixed capital investment in GDP in the period 1971 to 1973 was 20% lower than in the 1960s. Furthermore, after growing 9.0% in 1971, GDP fell by -1.2% in 1972, and by -5.6% in 1973.

V
Implementation and results of the new economic policy [12]

Although the initial disequilibria demanded high priority be given to short-run macroeconomic policies, the authorities tried to deal with both those problems and the major structural transformations of Chile's economy. It is therefore difficult to isolate the different policies. For analytical purposes, however, we will analyse the different main components of the macroeconomic policies and their principal results. An attempt to evaluate them from a more global perspective is developed in the next two major categories to follow.

Stabilization policy

Given the magnitude of the initial macroeconomic disequilibria, short-run policies — even though formulated as anti-inflationary— directly contributed to what was perhaps a more pressing and unavoidable problem: the balance of payments and international reserves position, as well as the country's precarious creditworthiness.[13]

The anti-inflationary policy had two common factors, and, until mid-1982, three different approaches. The first common trait was not to use the traditional administrative price-control mechanism as a stabilization instrument. (Cortázar and Marshall (1980) correctly point out, however, that the official estimates of price increases during 1976 to 1978 underestimate substantially the "true" inflation for that period.) With the important exception of wages and the exchange rate as a means of controlling production costs and inflationary expectations, almost all other prices have been under no official control in the last nine years.[14] The other general characteristic of the stabilization effort was the reduction of fiscal and public sector deficits and the attempt to reduce government expenditures.

Inflation has been tackled in different ways over time. At first, the authorities' interpretation of inflation was that of a traditional monetarist view for a closed economy, that is, the cause being the high growth rate of the money supply. The initial counterinflation strategy rested on the effort to control the growth rate of the monetary base, issued by the Central Bank, and M_1. The new economy authorities believed that the Chilean inflationary process stemmed from monetary causes derived from the deficit incurred by the public sector and enterprises in the area of social ownership.

Consequently, the monetary authorities sharply restricted credit to the government sector. As a result of these restrictions, not only did the central government fail to demand resources from the Central Bank in its domestic currency budget, but it reimbursed the monetary authority; from 1975 to 1979, the central government represented -21.5% of the accumulated flow of base money. Furthermore, there was a systematic reduction in the government's share of the total credit of the monetary system: internal credit to the private sector, as a proportion of total domestic credit, increased from less than 8% in 1973, to 14% in 1974 to 1976, 41% in 1977 to 1979 and more than 75% in 1980 to 1982.

This stabilization policy was consistent with the spirit and philosophy of the new economic policy in general, regarding the size and self-financing of the State sector and the need for a sharp reduction in the fiscal sector deficit. The latter was implemented by tightly controlling outlays, increasing tax revenues through a tax reform,[15] raising the tariffs of public enterprises and services and, though to a lesser extent, by borrowing domestically from the private sector. Another important source of finance for the State was the sale on some of its assets, an element that played a crucial role in transforming the Chilean economy at that time: asset concentration by a few private business conglomerates with very important economic consequences.

Despite the appreciable effort of the public sector to accommodate itself to the requirements of the new economic policy, growth in the monetary base up to the end of 1977 remained extraordinarily high for what was termed a "monetarist" stabilization strategy. Only at the end of 1977 did annual growth in the monetary base fall below the level recorded in 1971 to 1973, and even then it remained excessively high in comparison to the periods prior to 1970. The reasons for this were the following: first, the lack of sound instruments of monetary control, mainly the embryonic nature of the long-term capital market that prevented adequate open market operations; and second, the increasing importance of foreign currency inflow, stimulated by extraordinarily interest rate differentials associated with the domestic financial reform, and representing nearly

Table 1

CHILE: MONEY AND PRICES

(Percentage change from December to December)

Year	*High-powered money*	*Private sector money (M_1)*	*Consumer price index*[a]	*Consumer price index*[b]	*Income velocity*[c] *(times per year)*
1966	60.3	38.9	17.0	17.0	12
1967	21.1	25.1	21.9	21.9	12
1968	46.0	38.3	27.9	27.9	13
1969	41.8	35.2	29.3	29.3	13
1970	70.3	66.2	34.9	36.1	12
1971	132.7	113.4	22.1	355.4[d]	8
1972	173.7	151.8	163.4		8
1973	461.6	363.0	508.1	605.9	10
1974	222.5	231.2	375.9	369.2	20
1975	312.9	267.2	340.7	343.3	24
1976	266.3	189.3	174.3	197.9	25
1977	94.4	113.5	63.5	84.2	20
1978	56.2	65.0	30.3	37.2	17
1979	44.9	57.8	38.9		20
1980	36.8	59.4	31.2		18
1981	-8.9	8.7	9.5		17
1982	-26.5	-9.0	20.7		18

Source: Central Bank of Chile (1979), (1983a), (1981), (1983b); Lüders (1982); INE (1983); Cortázar and Marshall (1980).

[a] Official price index.

[b] Calculated by Cortázar and Marshall (1980).

[c] Defined as the gross domestic product expenditure divided by M_1. These figures correspond to observed values, which are not necessarily the equilibrium values.

[d] Accumulated inflation rate during 1971-1972.

70% of the accumulated flow of high powered money (base money created by the country's Central Bank) from 1975 to 1977.[16]

In terms of a reduction in price rises, the results were quite poor: in mid-1976, inflation was above 200% in annual terms (table 1). Besides difficulty in controlling money growth, the high interest rates, the creation of very good money substitutes, and the persistence of high inflationary expectations raised the income velocity of money, which was twice its 1965-1970 values and three times its 1971-1973 figures (Zahler, 1980: section 2). Furthermore, during this period importers could exercise an important monopoly role, delaying the downward pressure on inflation that should have come from the first steps of the tariff reform. Given the way in which monetary and restrictive fiscal policies were implemented, output was more affected than prices. In 1975, GDP fell by 12.9%, and during 1975-1976 the average unemployment rate was 16.5%, nearly three times as high as in the 1960s.

The second stage of the stabilization policy combined the monetarist view of a closed economy with the attempt to affect inflationary expectations (and to a lesser degree, costs) through preannouncing a diminishing rate of devaluation of the peso against the dollar.

This policy did not try to maintain a stable real exchange rate. Instead of adjusting the exchange rate to past inflation, the opposite was intended: the "tabla" would influence the future rate of price increases. In June 1976 and March 1977, two revaluations took place followed by important drops in the inflation rate: the monthly rate was reduced from 10% in mid-1976 to less than 4% by mid-1977. By then, the annual increases in the cost-of-living index was less than 100%. At the end of 1978, its growth rate had fallen to between 30% and 40% (Cortázar and Marshall, 1980). These rates were slightly higher than the average price increase of the 1960s, and were an improvement relative to the corresponding periods' international inflation rates. The steady opening up of the Chilean economy, however, was becoming contradictory to the view that the supply of money (as opposed to that of internal credit) could be controlled by the monetary authority (Zahler, 1980: section 2, 1-2). Given the orthodox monetary policy, the inflow of foreign money and the increasing importance of credit to the private sector required the public sector to absorb a disproportionate burden of the effects of the stabilization policy.

Since the authorities interpreted the lower inflation rates as the result of using the exchange rate as a stabilization instrument, with the economy increasingly integrating into the world economy and with the government budget in surplus, a shift in policy occurred in mid-1979: while still being monetarist in nature, it changed from a closed economy to a totally open one. The new interpretation was based on the law of one price and was intimately linked to the monetary approach of the balance of payments, in which the domestic inflation tends to approach, *ceteris paribus*, the foreign relevant inflation plus the rate of depreciation of the exchange rate in an open economy. In June 1979, the exchange rate was fixed in nominal terms at the rate of 39 pesos per US dollar. Since the government did not anticipate financial problems, the authorities expected international inflation to provide a ceiling for domestic price increases. Since then, and until June 1982, monetary policy was essentially passive, with base money movements primarily reflecting the monetization of variations in the international reserves.[17]

As a result of this policy (and of previous reductions in money growth), inflation was lowered in 1980; by the end of 1981, it was close to the international level. During the first two years of its implementation (until mid-1981), however, it was far above this latter rate, which led to a significant deterioration of the real exchange rate. No consideration was given to the fact that at the moment of implementing such a policy, the

domestic inflation rate may have been higher than that of the rest of the world, or that because of lags in the adjustment process, for some time domestic inflation may have exceeded the international one; as it happened, the country could have had at the end a higher price *level* than that of the rest of the world.

The law of one price refers to equalization of *price levels* between a country and its major trading partners. It applies only to *inflation rates* (for fixed nominal exchange rates) *in equilibrium*. In June 1979, that clearly was not the situation for price levels and rates of change, and the pegging of the nominal exchange rate created a systematic overvaluation of the peso. That in turn stimulated large current account deficits, which were easily financed given the extraordinary high supply of international credit during the period.

When these deficits emerged during 1980 and especially 1981, the official position was that the private sector had spent "too much", and since the country was practically under a dollar standard, the "automatic adjustment" of the specie-flow mechanism had to work. Theoretically, that mechanism would reduce the money supply, increase interest rates, and put downward pressure on domestic real expenditures and non-tradeable goods prices in such a way that the Chilean economy would recover its international competitiveness. Given the magnitude of the lag in the real exchange rate (*atraso cambiario*), expenditure-reducing policies were not enough and expenditure-switching policies were required. Since the authorities insisted on pegging the nominal exchange rate, the only solution to the balance of payments problem was an improvement in the relative prices of tradeable goods. This implied that non-tradeable goods prices would have to rise by less than foreign inflation. In practice, this required non-tradeable prices and wages to *fall in absolute terms*, especially since the dollar itself had appreciated *vis-a-vis* the currencies of the major Chilean trade partners.

In fact, wages (for institutional reasons) and prices, as well as interest rates and asset values, did not prove flexible enough downwards. Even though inflation was lowered to international levels —reaching 9.5% in annual terms in December 1981 and becoming negative during the first months of 1982— the fall in the money supply caused by the fall in international reserves, with M_1 decreasing by 9% in 1982 and high-powered money falling by 27%, had a major impact in losses of production and in unemployment. GDP fell 14.1% in 1982, and the open unemployment rate peaked in the third quarter of 1982 at higher levels than the all-time record of 1975.

With no measures taken on the exchange rate and monetary and financial policies passive, the change in relative prices was slow. The losses of production, increasing unemployment, accumulating debt, and generalized bankruptcies —due to the recession and the extremely high real interest rates, the latter aggravated by the almost nil inflation— were so big, that the stabilization programme finally collapsed. After using the exchange rate as a price stabilization instrument for almost three years, a series of frequent and big devaluations started to take place in June 1982. Since then, diverse and somewhat contradictory efforts have been made to isolate money changes from the balance of payments situation.

Although inflation did not follow devaluation —by December 1982 the free market peso price of the dollar had increased by more than 100% as compared to its June value, with exchange controls and parallel markets becoming of increasing importance— it has reversed the tendency of the previous two years: CPI increased by 10% in the three months after the first devaluation, and inflation in 1982 more than doubled that of 1981.

Briefly, even though stabilization policies lowered annual price increases from over 600% in 1973 to less than international inflation during the first six months of 1982, the costs associated with these policies became prohibitive: initially, in terms of recession and

unemployment (Ramos, 1975), and later (1980-1981) through its effect on the real exchange rate and balance of payments disequilibrium. This finally led to even higher unemployment and production losses than those of 1975.

Economic liberalization reforms [18]

There have been many major economic innovations in the Chilean economic policy, such as the privatization of public enterprises and the social security system, a drastic change in the legal and institutional aspects of labour union organizations, tax reforms, and the reorientation of the role of government. For reasons of space, these and other events are dealt with here mainly in relation to the macroeconomic effects of what are generally considered to be the core of Southern Cone economic reforms: those affecting the foreign sector, thus allowing the country to pursue comparative advantages and integrate its financial market to that of the world's economy; and, related to this latter reform, the domestic financial liberalization.

Commercial opening up

Following a development strategy based on the gains from free trade (associated with the "small country" case in economic development literature), and given the above-mentioned characterization of the Chilean foreign trade of goods and non-financial services at the end of 1973, the authorities decided to implement drastic reforms in this field. There was a simplification and reduction of rules applying to external trade, a quick dismantling of all non-tariff barriers, progressive, rapidly lowering, and standardization of tariffs, and the elimination of all allocation criteria other than the tariff and price of foreign exchange. In October 1976, tariff reform as well as a new and liberal treatment of direct foreign investment led the country to abandon the Andean Group —a common market to which Chile had belonged since its inception in 1969 and in which it was relatively competitive. Although the tariff programme was revised on more than one occasion, the outcome was straightforward, since in less than five years almost all Chilean imports —with the major exception of automobiles— were subject to a uniform tariff of only 10% (see table 2).

The other crucial component of a trade reform is related to the time path of the real exchange rate. This policy was less clear and precise than the tariff reform, and had different objectives during the course of the programme. From October 1973 to June 1976, after an initial major devaluation, a crawling peg prevailed which was complemented by occasional discrete adjustments. The main objective during that period was to unify the exchange rate for all transactions, and this was accomplished by the third quarter of 1975. In June 1976, the peso was revalued by 10% on arguments of the preceding depreciation of the peso, the monetary impact of reserve accumulation, and the eventual anti-inflationary effect through both cost reduction of imports and the lowering of inflationary expectations. In March 1977, another 10% revaluation of the peso took place. As mentioned, from June 1976 to June 1979, the exchange rate was used mainly as a price stabilization instrument. This was reinforced from June 1979 to June 1982 with a fixed nominal exchange rate system. Since mid-1982, a maze of radically different policies has been implemented.

The real exchange rate changed substantially over the 1975-1982 period (see table 3). During the first years of the trade reform, it was relatively high compared to 1971-1973 levels. This, together with the lower internal cost of imported raw materials, intermediate goods, and other inputs reinforced by tariff reductions, created incentives for exportable goods production and importable goods consumption. In fact, as expected

from the commercial opening up, exports and imports of goods as a proportion of the GNP increased from less than 15% in 1961-1970 to more than 22% in 1974-1981.[19]

The annual figures show a very high variability and should be qualified. Imports grew at a much faster rate than exports: from 1977 to 1981, the average annual volume of exports grew by less than 8%, while that of imports rose by nearly 20% per year (see table 4). The reasons for this seem to lie, first, in the systematic appreciation of the real exchange rate since mid-1978. Related to this was the overabundant supply of credit in world financial markets and the domestic monetary and credit policies, which stimulated borrowing abroad and brought significant capital inflows to the Chilean economy, especially since 1979. These have contributed to generate a trade balance deficit in two ways: by increasing expenditures (through the monetization of the inflow of reserves), and by changing relative prices in favour of non-tradeables through not only its influence on the *atraso cambiario* but also through its impact on increases in home goods prices. These increases absorbed the bulk of the inflationary pressures from the excess supply of money generated by the capital inflows.

Before 1979 the use of the exchange rate as a counterinflation mechanism was initiated, with devaluations smaller than former price rises and even with some sudden revaluations. Nevertheless, only when the public sector budget appeared to be under control, and more important, when there was no immediate nor foreseeable foreign exchange constraint due to the extraordinary affluence of foreign financial capital, did the Chilean authorities put all of their effort into price stabilization through the pegging of the nominal exchange rate.

Table 2

CHILE: NOMINAL TARIFF, 1973-1979

(Percentage of CIF values)

Year	*Date*	*Average tariff*	*Maximum tariff*[a]
1973	31 December	94	Over 500
1974	1 March	90	200
	27 March	80	160
	5 June	67	140
1975	16 January	52	120
	13 August	44	90
1976	9 February	38	70
	7 June	33	60
	22 December	27	60
1977	8 January	24	50
	30 April	22	50
	29 August	20	35
	December	16	25
1978	March	15	20
	June	14	20
	December	12	15
1979	June	10	10

Source: Zahler (1980: 134, table 6).

[a] The are a small number of exceptions to the maximum tariffs, the most important relating to cars.

Table 3

CHILE: EVOLUTION OF THE EXCHANGE RATE AND PRICES INDEX

(Average for 1974=100)

Year (averages)	*Index of the nominal exchange rate* (1)	*Index of wholesale prices of domestic products* (2)	*Index of wholesale prices in the United States* (3)	*Index of the real exchange rate*[a] [(1)/(2)] (3) (4)
1974	100	100	100	100
1975	595	590	108	109
1976	1 580	1 920	114	94
1977	2 607	3 514	121	90
1978	3 828	5 097	130	98
1979	4 473	7 735	146	84
1980	4 715	10 793	166	73
1981	4 715	11 906	180	71
1982	6 164	12 907	183	87

Source: Central Bank of Chile (1983b); IMF (1982, 1983).
[a] For alternative calculations of real exchange rates, see Corbo (1982: table 1) and CEPAL (1982b: table 16) for real effective exchange rates.

Table 4

CHILE: TRADE ACCOUNT INDICATORS

(Rate of change)

	1975	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*[a]
Exports of goods (value)	-26.1	33.1	3.3	12.6	55.9	22.7	-18.4	-3.3
Imports of goods (value)	-20.1	-3.1	46.0	34.2	45.2	30.5	19.1	-44.1
Exports of goods (volume)	1.8	21.5	3.8	7.3	19.1	9.2	-3.7	16.6
Imports of goods (volume)	-34.1	-4.5	31.4	24.1	18.2	4.7	11.1	-39.3
Terms of trade	-39.6	7.4	-10.3	-2.8	-7.3	-8.3	-21.2	-10.8

Source: CEPAL (1982b: 25, table 17).
[a] CEPAL estimates.

The exchange rate policy, reinforced by the overabundant inflows of capital, created a price substitution effect in favour of the consumption of tradeable goods but against their production. This asymmetric result can also be explained by the fact that the signals to release resources from importable goods production and to stimulate their consumption (generalized and increasing doubts regarding the maintenance of both the low tariffs and the pegged exchange rate) were more clearly and quickly perceived by the economic agents in this sector than in the exportable sector. Furthermore, there is strong evidence of a repressed demand for imported goods at the end of 1973. On the other hand, the instability of the exchange rate in the early years and its continuous deterioration afterwards, coupled with extremely high interest rates and an inconsistent wage policy,

squeezed the exports sector profits and therefore its growth potential. Finally, the revaluation of the dollar *vis-a-vis* other major currencies during 1980 and 1981, also contributed to the loss in competitiveness of the Chilean economy.

Foreign sector liberalization reforms and the opening up policy can be better identified, in the Chilean case, with import liberalization than with export promotion. In fact, given the neutrality of government and the extreme confidence in comparative advantages, no explicit export promotion policy was implemented. Even though non-traditional exports expanded substantially during the period under analysis, their share in GDP grew by five points between 1970 and 1980 (Ffrench-Davis and Arellano, 1981: 9), and given their small initial importance they did not play a major role as a source of growth for the Chilean economy. In fact, with 1976 the exception —the only year when the current account was in surplus— GDP growth of non-tradeable goods always exceeded that of the tradeables sector (Corbo, 1982: 26, table 3).

The above-mentioned evolution of exports and imports of goods and non-financial services led to a trade deficit, which increased from US$ 267 million in 1977 to an annual average of US$ 640 million in 1978-1979, rose to US$ 1 056 million in 1980, and peaked at US$ 3 366 in 1981.

From a global and macroeconomic perspective, the most important lesson from the Chilean commercial opening up policy is that if the purpose is to increase the integration of the economy to the world markets (and not only that of imports), more attention should be given not only to velocity and timing and the final *level and composition* of the tariff structure, but also to the appropriate *time path of the real exchange rate* and other major "macro" prices, such as interest rates and wages.

Financial liberalization

While the trade reform took place relatively rapidly, and was based essentially on the dismantling of all non-tariff barriers and the use of price as a rationing and resource allocation scheme, the financial opening up had very different characteristics because the economic authorities were worried about the eventual inflationary and balance of payments effects if the capital account opened suddenly (Tapia, 1979). This turned out to be worrisome after the domestic financial system was quickly liberalized by mid-1975. The latter reform consisted of the privatization of the majority of the Chilean banks, the elimination of selective and quantitative restrictions on bank credit, and stimulation of competition within the financial system by removing barriers to entry for both domestic and foreign banks as well as for non-banking financial enterprises (financieras, fondos mutuos, etc.). Complementing these measures, interest rate controls were eliminated, with interest to be determined by market forces.

As a result of domestic capital market liberalization —in an economy with high rates of actual and expected inflation, with efforts by authorities to apply restrictive monetary policies (selling to the private sector an appreciable number of State shareholdings), and with the country having little global access to foreign savings— the real interest rate increased enormously: between 1976 and 1978, ex-post annual loan interest rates were higher than 50% in real terms. This was accompanied by substantial spreads between active and passive rates as a consequence of inflation, large reserve requirements, high operational costs of some financial intermediaries, and the profits made by the financial system during the first years of the reform. Rates to depositors, while positive, were much lower than lending rates (see table 5).

The differential between the domestic dollar-denominated interest rate and the international rate was so large (using the LIBOR rate, the differential was 112% in 1976,

Table 5

CHILE: 30 DAY BANK INTEREST RATES

(Annual percentage domestic rate)

	Nominal (pesos)			*Real[a] (pesos)*			*Nominal[b] (dollars)*			*LIBOR*
	Charged	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	*Charged*	*Paid*	*Margin*	
1975	411.3	267.4	143.9	16.0	-16.6	32.7	0.4	-27.9	28.3	7.2
1976	350.7	197.9	152.7	64.3	8.6	55.7	118.5	44.4	74.2	6.1
1977	156.4	93.7	62.7	56.8	18.4	38.3	58.4	19.6	38.8	6.4
1978	85.3	62.8	22.6	42.2	24.9	17.3	51.1	32.7	18.4	9.2
1979	62.0	45.0	16.9	16.6	4.4	12.2	40.5	25.9	14.7	12.1
1980	46.9	37.4	9.4	11.9	4.8	7.2	46.9	37.4	9.4	14.0
1981	51.9	40.8	11.1	38.7	28.6	10.1	51.9	40.8	11.1	16.6
1982	63.1	47.8	15.3	35.1	22.5	12.7	-12.1	-20.4	8.2	13.6

Source: Central Bank of Chile (1982b), (1983b).
[a] Methodology similar to Zahler (1980: table 8).
[b] Methodology similar to Zahler (1980: table 9).

52% in 1977, and 42% in 1978) that the fear of massive capital inflows and their impact on the Chilean economy led the authorities to delay and then implement the financial opening up reform gradually (Zahler, 1980).[20]

Opening up in the financial field was not only slower than the tariff reform, it also differed drastically from the general approach followed in almost all other areas of economic policy. There was a different treatment, especially until mid-1977, for banks in relation to natural persons and non-bank enterprises. The latter sectors engaged in foreign financial transactions under Article 14 of the Ley de Cambios Internacionales, with important restrictions that have varied through time regarding the size of the loans as well as minimum time periods for borrowing external funds. The banks' capital and reserves restricted their access to foreign financing and their capacity to issue guarantees. Only in the second quarter of 1979, and then only partially, price restrictions were introduced in the form of a deposit in the Central Bank, whose rate was inversely proportional to the period of the loan. In June 1979, global limits to external borrowing were eliminated, but there still were limits on the minimum period for Article 14 loans as well as on the banks' capacity to issue guarantees.

The way in which the gradual financial opening developed meant, in practice, that quantitative controls on imports of financial capital prevailed through almost all the period, with a tendency towards its gradual liberalization. As a consequence of these policies, one does not find high global foreign indebtedness during the first years of the programme. Following the general pattern of privatization of economic activities, however, the access of public enterprises and the Central Government (the sector that usually gets the best terms) to foreign financing was strictly limited, and a very important change in the composition of foreign debt took place (see table 6). The differential access by the government and by groups within the private sector to the (restricted) foreign financing had important redistributive consequences and are analysed below.

During 1975-1981, the public sector's foreign debt increased by 5% per year, while that of the Chilean private sector grew at a rate more than ten times that figure. In 1974, the private sector's foreign debt was 14% of total foreign debt; by 1981, its share had

increased to 65%. More important, perhaps, is that in terms of flows, nearly 90% of capital inflows in 1981 were received by the Chilean private sector. It is interesting that in this area the public sector was discriminated against in relation to the private sector by not having equal access to less costly (foreign) funds and through the stabilization policy pursued.[21] While some groups of the private sector were stimulated to borrow from abroad and fueled inflationary pressures through the monetization of international reserves, the main burden of the stabilization policy fell with excessive force on the public sector —directly through programmes designed to reduce its deficit and indirectly on the labour sector— through high rates of unemployment.

From 1975 until 1978, as the global capital account was relatively closed and as the country's creditworthiness was low, total foreign debt increased moderately at an average annual rate of 12%. But in 1979, financial opening up accelerated. The abundant availability of private international liquidity, low exposure of foreign banks in Chile, persistence of big interest rate differentials between the Chilean and the international capital markets, the exchange rate policy, and the quite general expectations of a "Chilean economic miracle", facilitated and stimulated the supply as well as the demand of international capital to and from Chile.

From 1977 until 1981, capital inflows more than compensated for the current account deficits and allowed for steady increases in the country's international reserves. Nevertheless, foreign debt also was increasing. It rose to US$ 15.6 billion in 1981 from US$ 4.9 billion at the end of 1975 and, at the end of 1982, it was near US$ 18 billion. Foreign debt increased during 1979 by 27% and rose by 31% and 40% in 1980 and 1981 respectively; during 1980-1981, it represented around 50% of GDP. For 1982, it is estimated that amortizations plus interest payments represented 85% of Chilean exports. (During 1975-1980, this figure averaged 42%, rising to 55% in 1981.)

The increasing foreign debt —contracted primarily with private international banks at variable interest rates— and the higher international interest rates explain the growing gap between the trade and the current account deficit. The latter, above 4% of

Table 6

CHILE: EXTERNAL DEBT[a] BY SECTORS

(Millions of dollars)

	Public debt		*Private debt*		*Total debt*
	Total	*Percentages*	*Total*	*Percentages*	
1973 December	2 984	80.0	749	20.0	3 733
1974 December	3 788	86.0	615	14.0	4 403
1975 December	4 068	83.8	786	16.2	4 854
1976 December	3 762	79.7	958	20.3	4 720
1977 December	3 917	75.3	1 284	24.7	5 201
1978 December	4 709	70.7	1 955	29.3	6 664
1979 December	5 063	59.7	3 421	40.3	8 484
1980 December	5 063	45.7	6 021	54.3	11 084
1981 December	5 490	35.3	10 077	64.7	15 567
1982 December	6 660	34.4	10 487	65.6	17 153

Source: Apiolaza (1982: 42).

[a] The external debt figures refer to sums actually disbursed outstanding at the end of each year. They include traditional debt and other liabilities, compromising suppliers' credits and financial credits to the private sector, as well as short-term lines of credit. Debt with the International Monetary Fund is not included.

GDP during 1974-1979 (in the 1960s it was 2.6%), rose to 7.9% in 1980 and more than doubled that figure, peaking to 16.5% of GDP in 1981. There have been different interpretations as to whether the huge inflows of capital in 1980, and especially in 1981 —representing 13% and 17% of GDP respectively— were a cause or a consequence of the increasing current account deficit.

Even though the soundness and stability of the Chilean foreign sector and maintenance of the fixed exchange rate were major questions, the economic authorities' interpretation was extremely simple. Given the country's structural transformation generated by the new economic policy, the fact that the public sector budget was equilibrated and even generated a surplus, that interest rate were market-determined, and that it was mainly the private sector which was in debt abroad, it was assumed that the current account deficits reflected a healthy and growing economy, with plenty of profitable investment projects. In any case, as the bulk of the increasing foreign debt represented private obligations, the domestic authorities and some financial international institutions believed that the nationality of those agents was unimportant. Only public international borrowing should require governmental preoccupation, but foreign debt addressed to the Chilean private sector was not worrisome and even welcome, given that sector's assumed rationality and efficiency.[22]

Reality proved to be different from the official theoretical paradigm. In spite of the domestic capital market liberalization and the acceleration of financial opening up, Chilean experience never approached "interest rate parity". During 1976 to 1981, the annual average LIBOR rate was 11%; comparable domestic rates were 33% (for deposits) and 61% (for loans). In 1980-1981, when Chile received massive capital inflows, domestic deposit rates more than doubled and loan rates more than tripled the LIBOR rate. Although financial repression (a la McKinnon) disappeared, real interest rates became so high and erratic that it should have been obvious that investment and prospects of growth in the Chilean economy were seriously curtailed.

Real annual lending rates averaged 38% during 1976-1981 and experienced huge fluctuations ranging from 12% in 1980 to 64% in 1976. Imperfections of, and especially segmentation between, domestic and international capital markets, arbitrage costs, the oligopolistic nature of the domestic banking industry, expectations of devaluation and of inflation, the existence of non-tradeable assets and the fact that small countries do not face infinitely elastic supply curves of financial capital contribute to explain the high levels of and the big spreads between interest rates. In addition, domestic demand for credit expanded greatly and artificially mainly as a consequence of the needs of some conglomerates which used "financial-bicycle" techniques to increase their size and power or to finance their non-banking enterprises.[23]

The prospects for profit opportunity, derived from the spread between domestic and international rates, stimulated capital inflows in a manner that the traditional monetary approach does not consider. Therefore, an unexpected result of the country's increasing financial integration to the world economy was the reduction in the dynamic growth of exports and the stimulation of enormous inflows of imported goods with the obvious consequences to balance of payments, employment, and production. The argument that "the current account doesn't matter", and only the global balance of payments and international reserve movements should be the appropriate determinant and mechanism through which the economy adjusts, proved in this case to be incorrect if, as it happened, no adequate evaluation took place of the effects of the spillover of the excess supply of reserves, and consequently, of domestic money. There is an obvious difference between an export-obtained dollar and one deriving from foreign indebtedness; also significant is the use given by the country to foreign exchange. Once

again, excessive trust in theoretical assumptions of the model (naive interpretation of the monetary approach to the balance of payments and the uncritical acceptance of the "good behaviour of free markets"), as well as in assumptions of an ideological nature (whatever the private sector does is well done), led to passivity of the economic authorities in areas and situations which eventually became crucial obstacles to economic activity.

By the end of 1981, Chile became the fifth largest LDC debtor to private international banks. Foreign savings, however, instead of complementing domestic savings, financed a big proportion of consumption expenditure. Another part of foreign capital was being used by the major private economic groups to buy already existing real assets and to finance the group's non-bank enterprises at much lower costs than domesic interest rates.

These three elements —external disequilibria, low investment, and the role of economic groups in relation to access and use of foreign financing— played a major role in the general outcome of the financial liberalization process. The fact that no adequate control was implemented by the economic authorities allowed the emergence and development of questionable bank management, which resulted in unsound banking practices. In late 1981 and 1982, the international recession amplified the problems of the Chilean economy, also contributing to an explanation of the increasing proportion of bad loans which were undermining the already weak foundations of the Chilean financial system.

Finally, there was a dichotomy between official announcements regarding the rules of the game in the financial sector and actual government policies. Early in 1977, when Banco Osorno y La Union was in trouble, the government intervened with no loss to depositors or creditors. Following the failure of a big sugar company (CRAV) in May 1981, the government supported banks and financieras which were heavily involved in CRAV. Finally, in November 1981, the Central Bank intervened four banks and some financieras because of their financial problems. Those actions admitted the crucial failure of the economic model: the market had not assigned efficiently the available loanable funds. Since the government did not allow bank failures, a "non-neutral" policy was implemented favouring foreign creditors, national savers, and deposit holders.

With the first devaluation in mid-1982, exchange controls and other restrictions were implemented along with different exchange rate policies. This, added to the magnitude of the Chilean crisis affecting the country's creditworthiness, and the general uncertainty surrounding international banking has lowered foreign capital inflows significantly: during 1982, they decreased by more than 70% of their 1981 value and international reserves decreased by US$ 1.5 billion. In January 1983, given the imminent possibility of widespread bankruptcies, the government intervened massively in the banks and financieras, leaving 70% of the Chilean financial sector under State management. This was a definitive blow to the whole idea and implementation of the financial reform.

The absence of adequate government control in the Chilean capital market regarding both agents and practices, the use of foreign financing by a few economic groups accentuated by the different speed and nature of the domestic capital market reform and the financial opening up, an erroneous exchange rate policy, and government policy regarding the real (as compared to the theoretical) treatment of the financial sector rescuing the majority of depositors and *de facto* guaranteeing foreign private sector debt, were the main elements that explain the failure of the Chilean financial liberalization reforms.

In short, the way financial reforms were implemented did not increase the volume of domestic savings. Further, investment has been much lower than in the recent Chilean

past, the financial system is technically bakrupt, and foreing debt has reached extremely high levels. The confidence in privatization and unregulated markets —the basic rules of the game associated with the years of the economic boom— has been shaken, and the extreme dogmatism and naiveté of the economic model have had serious consequences for the Chilean economy.

VI
Other results of the new economic policy

Growth, investment and savings

The accumulated annual growth rate of Chile's gross domestic product during the 1974-1982 period was 1.5%. This compares poorly with the average Latin American growth of GDP amounting to 4.3% and to the country's performance during the 1960s, when Chile grew at 4.2% (see table 7). In average per capita terms, there has been no growth during these years in the Chilean economy. These results differ markedly from the advocates' claim that the new economic policy would make the country grow at much higher rates than in the previous thirty years, which experienced an annual average rate of 4.0%. As expected, different sectors show very different growth paths. During the 1974-1981 period, value added by the commercialization of imports and by the financial sector grew annually, on the average, at 16.2% and 13.6% respectively while total GDP, excluding these sectors, increased by less than 2.0% (Ffrench-Davis, 1982: table 3). Since imports have been financed more by debt than by increasing exports, and the rise in value added by the financial institutions responds basically to large spreads between loan and deposit interest rates (Ffrench-Davis, 1982: Part 3) and both of these elements cannot be sustained at their past levels, important questions arise in relation to the country's medium and long-run capacity to achieve high growth rates and to serve the foreign debt.

In a related area, where policymakers believed that the country would give a big push through a better allocation of resources, reality clashed again with the theoretical model. From 1974 to 1981, gross capital formation did not reach 16% of GDP and was 25% less than the average value for the 1960s. These investment figures are also very low compared to the well-known, recent "success cases" in East Asia where the gross capital formation averaged 30%.

The Chilean high economic growth rates between 1976 and 1980 were explained by the authorities as an improvement in investment allocation, but it can more properly be interpreted as a recovery from the huge fall in output during 1975, and by the fact that the characteristics of the leading sectors of the Chilean economy were such that high growth rates could persist for some time with little new capital formation.

The reasons for the low investment figures are numerous. First, direct foreign investment was never really important in spite of policies designed to encourage it and expectations that in a liberal environment there would be good opportunities in the export sector.[24] In fact, foreign investment was relatively small, and financial flows completely dominated capital movements. Although this last phenomenon was common to most LDCs in recent years, it seems that the Chilean overvalued exchange rate was a major drawback for the realization of direct foreign investment.

On the domestic front, the public investment that traditionally has been important in public enterprise, infrastructure, and housing also fell abruptly —partly due to the stabilization policy, but mainly due to the ideological bias against government expenditures. Government investment (excluding that of public enterprises) that at the

end of the 1960s was near 9% of GDP, decreased gradually to an average of 6.7% from 1974 to 1977, and to less than 4% of GDP in 1978-1979.[25]

Private domestic investment did not compensate for the fall in government capital outlays. There were principally three causes for this. First, an important part of the private accumulation effort went to buy existing real or financial enterprises, a process which was stimulated by the privatization programme. Second, the persistence of high and erratic real interest rates throughout the period was a major deterrent for private enterprises to engage in important investment projects. Third, the financial reform did not generate adequate long-term financing, a crucial element for the development process: the great majority of loans and deposits were only for 30 days and almost never exceeded a time-span of 180 days.

Another element that needs to be mentioned refers to an important change in import composition that took place during this period and affected the process of capital accumulation. When the commercial opening up was implemented, the economy presented an evident excess demand for consumer goods, especially durables. Furthermore, the imports of investment goods carried very low (if any) tariffs before the

Table 7

GROWTH, INVESTMENT AND SAVINGS

Year	*Gross domestic product*		*Chile*		
	Chile (annual average growth rate percentages)	*Latin America (annual average growth rate percentages)*	*Gross investment (as percentage of GDP)*	*Domestic savings (as percentage of GDP)*	*Domestic saving (as percentage of gross investment)*
1961	4.8	4.3	30.0	10.1	50.6
1962	4.7	3.5	21.4	10.6	49.3
1963	6.3	7.3	23.1	11.2	48.2
1964	2.2	5.1	21.4	15.1	70.5
1965	.8	4.7	19.9	16.4	82.5
1966	11.2	4.5	18.5	21.1	114.1
1967	3.2	6.9	18.3	18.2	99.8
1968	3.6	7.1	19.3	18.6	96.4
1969	3.7	6.8	19.6	21.1	107.7
1970	2.1	6.7	20.4	21.6	105.9
1971	9.0	6.8	18.3	17.8	97.4
1972	-1.2	7.0	14.8	10.4	69.9
1973	-5.6	8.3	14.7	9.5	64.7
1974	1.0	7.0	17.4	25.3	145.6
1975	-12.9	3.8	15.4	8.5	54.9
1976	3.5	5.4	12.7	15.4	121.6
1977	9.9	4.8	13.3	10.7	80.2
1978	8.2	5.1	14.5	11.6	80.5
1979	8.3	6.5	15.6	14.7	88.0
1980	7.5	5.9	17.6	15.5	87.1
1981	5.7	1.5	19.1	8.5	44.2
1982[a]	-14.3	-1.0	14.0	...	

Source: CEPAL (1983); Central Bank of Chile (1982a).
[a] Preliminary estimates.

reform, and long-run subsidized credit had been available for importing capital goods all along. Therefore the tariff reform, coupled with abundant credit for general use, was not neutral in relation to the incentive to import capital *vis-a-vis* consumer goods. As compared to the prereform situation, consumer goods imports became relatively cheaper than capital goods; during the period 1975 to 1981, the accumulated (nominal) growth of imports of capital goods was 150% while that of consumer goods increased by 130%.

From the point of view of the supply of loanable funds, besides the short-run nature of deposits the Chilean experience is striking. In spite of interest rates having reached positive real values, total national savings as a proportion of GDP averaged 12% from 1975 to 1981, while in the 1960s this figure was above 16%. Even though financial savings increased, expected because of the capital market liberalization, non-financial savings decreased more. Related to this was the greater availability of relatively low-priced imported consumer goods, which stimulated consumption expenditures, especially in 1980 and 1981. Furthermore, not only was there no interest in encouraging long term institutional saving (for housing, health and education) with the purpose of promoting physical or human capital investment but, on the contrary, such investment was systematically minimized due to the high level of government participation in pre-reform savings institutions. Finally, perhaps the most important reason was that foreign savings did not complement, but rather substituted domestic savings, financing consumption rather than investment; while from 1965 to 1970 domestic savings financed all investment, from 1975 to 1981 this figure fell to 80%, and then to less than 44% in 1981.

Employment, real wages, and wealth redistribution

One of the most critical areas during the Chilean experience has been the evolution of the labour market (Cortázar, 1982a; 1982b). Before 1974, the unemployment rate was around 6%. From 1974 to 1981 it more than doubled, averaging 13.3% (see table 8). If the workers in the Minimum Employment Plan (PEM) —an emergency programme designed to alleviate the effects of massive unemployment with salaries up to US$ 30 per month— are included, unemployment in the 1974-1981 period was three times the historical figures. During 1982, the open unemployment rate reached 22.1%. If PEM workers are included, then nearly a third of the labour force was without productive employment during that year.

It is clear that the economy could not generate adequate employment for the Chilean labour force, an area of widespread criticism not only for its economic implications but also for its social and ethical consequences. Furthermore, the evolution of wages shows a clear regressive income distribution picture for this period. Real wages from 1974 to 1981 were 25% less than their 1970 levels. Although they increased between 1976 and 1981, they never reached their 1970 level. In the twelve months from December 1981 to December 1982, it is estimated that real wages fell by nearly 14%.

The economic authorities considered unemployment transitory. Policies to lower wage costs for entrepreneurs because of the drastic reform of the Social Security System would change factor prices, stimulating employment that required wage policy to be consistent with the whole scheme. In other words, in spite of the very low real wages (low by historical standards), economic authorities estimated that due to institutional and political reasons unemployment was high because real wages did not appropriately adjust to market forces. Until 1982 nominal wages could not increase by less than past inflation; since the latter showed a decreasing tendency throughout almost the entire period, this was the main mechanism for a steady recovery in real wages until 1981.

Alternative explanations, however, point at the economic model as the main cause of unemployment. For example, it is argued that labour force participation rate increased because of the magnitude of unemployment and the expectations generated by the economic policy, which would constitute a circular cause-effect process reinforcing high unemployment rates. Labour demand, on the other hand, with incentive from the factor price substitution effect, could not compensate for the low investment, contraction in public and import-substitution sectors and, in general, for the depressive impact of restrictive monetary and fiscal policies. That real wages did not fall even more may be explained by not only the "wage floor" institutional constraint, but also by the dramatic change in the wage structure during those years due to labour market segmentation, non-homogeneous labour supply, and the change in the composition of labour demand. Real wages in the financial sector reached extremely high levels even for international standards, while construction workers and unqualified labour force in general received very low real wages.

Although there are still a number of unresolved issues in relation to unemployment, it appears that during the first years and especially from 1975 to 1976, open unemployment of almost 17% and depressed real wages were caused by the so-called shock monetarist stabilization policy, when the fiscal deficit was reduced from 10% to less than 3% of GDP.[26] It is also argued that the very restrictive fiscal policy, together with the privatization of public enterprises, greatly contributed to unemployment, given the labour-intensive characteristics of public sector activities. Low investment expenditures, and the fact that most enterprises with foreign credit were characterized by their large size and their use of relatively capital-intensive technology, also have been perceived as explanations for the depressed labour market. The commercial opening up

Table 8

CHILE: INCOME AND WEALTH DISTRIBUTION INDICATORS

Year	*Unemployment rate*[a] *(percentages)* (1)	*PEM*[b] *(percentages)* (2)	*Real wages index (1970=100)* (3)	*Stock prices (in real terms) Percentage change December to December* (4)
1960-1970	6.0	-	-	-
1974	9.6	-	65.0	-
1975	16.2	2.4	62.9	55.6
1976	16.8	5.0	64.9	19.3
1977	13.2	5.8	7.4	106.9
1978	14.0	4.3	76.0	65.8
1979	13.6	3.9	82.3	39.8
1980	11.8	5.4	89.3	43.9
1981	11.1	4.6	97.3	-31.2
1982[c]	22.1	9.2	96.9	-26.0

Source: Columns 1 and 2: CEPAL (1982b).
Column 3: Cortázar (1982a).
Column 4: Central Bank of Chile, *Monthly Bulletin* (various issues).

[a] In Santiago, simple average of the values for March, June, September and December.
[b] Minimum Employment Plan: percentage of persons in PEM as a proportion of total labour force.
[c] Estimates.

contributed, at least in the short run, to unemployment.[27] Faced with the change in relative prices caused by the trade reform, it appears that activities that contracted adjusted more quickly than those that expanded. This was aggravated by the exchange rate policy, which strengthened foreign competition *vis-a-vis* domestic import-competing goods production.

On wealth redistribution there is indirect, although strong, evidence regarding both the direction and the magnitude involved. The privatization of State-owned enterprises during a relatively short period of time coincided with a serious recession of the Chilean economy. Those factors, together with restricted access to foreign financing, were important causes of the undervalued price at which those assets were sold, consolidating the principal Chilean business conglomerates (Cortázar, 1982a; Dahse, 1979; Zahler, 1980).

The financial reform, which led to a huge spread between domestic and foreign interest rates, stimulated foreign borrowing. Given the characteristics of financial reform and of the government minimizing its financing abroad, only a few economic agents —mainly big groups which managed a diversified portfolio of real and financial assets — were the beneficiaries of the "import quotas" of financial capital.

The intermediation role played by these conglomerates from 1975 to 1979 in directly buying State enterprises, medium and small private firms, or indirectly lending domestically at rates that were on the average *five* times the foreign rates contributed decisively to the extreme concentration of assets during this period in the Chilean eonomy.[28] It has been estimated that between 1976 and the first half of 1979, private economic groups made *de facto* financial profits of at least one billion dollars, which was more than twice the value of all public enterprises that were sold to the private sector (Zahler, 1980: table 14).

It is interesting to note that the segmentation created by the type of financial opening up resulted in a situation almost identical to that of traditional repressed domestic financial markets. The problems associated with the latter case, which were almost exactly reproduced by the Chilean situation from 1974 to 1982 when no "repression" affected the *domestic* capital market, have been neatly described as follows:

"A policy of holding interest rates below market levels requires some extra-market system of allocating credit. This often takes the form of favoured access to credit for large firms and companies with political connections and severe restrictions for smaller companies, new and relatively unknown firms, or rural sector activities outside of the usual span of urban lending agencies. Activities which could have high social returns but do not involve good connections get blocked, while the favoured borrowers may use the resources on projects of so low a return that they would have been screened out if interest rates had been at market clearing levels... Those firms which have the connections and can get the credit have a special competitive advantage which may give them dominance over more efficient rivals, and they also have and added encouragement for capital-intensive production techniques even in conditions of high unemployment. Urban activities are favoured over rural, larger firms over small, and, in general, the wealthier borrowers over the poorer". (Sheahan, 1980: 275.)

A third major structural change affecting wealth concentration relates to Social Security Reform, which was radically transformed in recent years to privatize the system. By the end of 1982, 75% of the social security contributions were deposited in private institutions belonging to the two major business conglomerates. Given the magnitudes involved, it is estimated that by 1987 these two groups would have received deposits of around US$ 2 billion, nearly 10% of GDP (Cortázar, 1982).

Additional evidence regarding wealth redistributions relates to the large increase in the price of capital, both in absolute terms and in comparison to the evolution of the labour market (see table 8). Together with depressed employment and real wages, the *real* price of capital increased at an *annual* average rate of 31% during the years from 1976 to 1982, and higher than 65% in the years from 1976 to 1980. Furthermore the bias in favour of financial capital, as compared to real capital (and more notoriously to labour), has been evident since mid-1981, when the economy went into a deep recession from which it still has not recovered. When banks did not get their loans repaid, the government did not allow bankruptcies in that sector and transferred resources of more than US$ 3 billion. When the peso devalued in mid-1982, special treatment was given to those economic agents (including banks, conglomerates, and activities in the exportable and import-substitution sector) that were indebted in dollars: they have had access to dollars below the official exchange rate in order to service their debt, implying a further subsidy of more than US$ 1 billion. Finally the renegotiation of the foreign debt in 1983 indicates that in spite of the official statements, the government will guarantee *de facto* the Chilean private foreign debt.[29]

In sum, during the first years of the experience, the ideological bias in favour of "neutrality" and non-intervention accentuated the income and wealth regressive distributive results deriving from the economic model. Later, the government intervened explicitly, given the perspectives of widespread failure of the banking system. While capital gains were privatized during the boom, capital losses of the private sector are now being paid by the country as a whole.

The current situation

Until mid-1981, there was a feeling of enthusiasm in certain sectors regarding the Chilean economy's performance both abroad (especially in the international financial community) and domestically. For nearly four years the economy had been growing at 8% in annual terms, inflation was slowing down, the fiscal sector was in surplus, unemployment —while still very high— was decreasing slowly, and the majority of the structural reforms were very advanced, if not completed.

In certain areas, however, the economy showed signs of weakness and vulnerability. How long could the economy grow at the recent rates with such low investment coefficients? The external disequilibrium was also a matter of concern: in 1980 the current account deficit represented 7.9% of GDP and foreign debt had increased by 31%. Furthermore, with the revaluation of the dollar in late 1980 and early 1981 *vis-a-vis* the major currencies and the fixed exchange rate, improving the foreign payments imbalances seemed difficult. The effects of these two elements were reinforced by inflows of foreign financial capital and the decreasing tendency in the rate of interest, giving a big stimulus to aggregate expenditure (domestic expenditure during 1980 increased by 9.4% while GDP grew by 7.5%).

The tendency to spend in excess of income was also present during 1981, when domestic expenditure increased by 10.8% while GDP grew at 5.3%. The current account deficit was equivalent to 16.5% of GDP (88% of exports), part of which could be attributed to a deterioration of the terms of trade and to an increase in world international interest rates. It was officially estimated, however, that two-thirds of that year's current account deficit had its origin in domestic economic policies (Lüders, 1982).

Another situation was generating a different sort of disequilibrium. Overly optimistic expectations based on economic utopia, together with the falling (although still high) real interest rates and increasing real wages,[30] stimulated demand for assets.

Prices for land, industrial assets, buildings, and so on reached extremely high levels. The real price of land in 1978 was 200% higher than in 1965-1970 (Universidad Católica de Chile, 1979: 4, table 1) and the *real* stock prices had increased by more than 1 000% during the period 1976-1980 (see table 8). In other words, Chilean economy inflated like a bubble during those years, and people felt richer and increased spending accordingly.

This not only contributed to enlarging current account deficits, but it also stimulated financial permissiveness, with foreign and domestic banks offering loans against overvalued collateral, business and consumers expanding their demand for credit against unrealistic expectations of future incomes. This was accompanied by the "related loans" to the bank owners' enterprises and "financial bicycle" techniques by business conglomerates, which would generate a huge problem for the domestic capital market first and for the economy as a whole afterwards. It was becoming increasingly clear that the foundations of the Chilean financial system were extremely weak. With Central Bank intervention in four banks and some financieras in November 1981, it was learned that funds had been assigned many times with no serious project evaluation, and that important loans were given to enterprises whose basic merit was that they were owned by the banks themselves.

World recession and problems of the international banking community together with the weakness of the domestic financial system and the disequilibrium of the Chilean balance of payments, questioned the country's creditworthiness and slowed down foreign capital inflows during the last quarter of 1981. This, together with an increase in international interest rates, the fall in domestic inflation, and a prepayment of government foreign debt (with the consequent impact on liquidity), made domestic loan interest rates rise from 12% in real terms in 1980 to nearly 40% in 1981. The higher interest rates, together with the overvalued peso, and to a much smaller extent, the rise in real wages, contributed to squeeze the exportables and import substitution sector profits and further to stimulate imports. For the first time since 1975 the country started to lose international reserves and the money supply began to fall. At the end of 1981 a severe recession was under way, with GDP falling in the second semester by 1.5%.

During the first semester of 1982, authorities insisted on following an adjustment process with a fixed exchange rate system, helped by a wage law reform making salaries more flexible downwards.[31] As a consequence, the trade balance improved and home goods inflation during the first semester was below the international one. The real interest rate continued to increase, given the much smaller capital inflows (falling from US$ 400 million per month in 1981 to US$ 100 million in 1982), and the almost zero inflation rate. The automatic adjustment mechanism, similar to a gold standard textbook case, did not require any active monetary, credit, fiscal, nor exchange rate policy. It assumed that the fall of the money supply as a consequence of balance of payments deficits and the rise of interest rates would lead to lower expenditures; but that mechanism did not work with the required speed. For deflation to be successful, however, price inflexibility —together with the magnitude of the overvaluation of the peso— implied an extremely long-term policy. The major and immediate impact of this policy was felt in the increasing unemployment rates and losses of production: 1982 performance was even worse than the 1975 stagflation: GDP fell by 14%, and the open unemployment rate peaked to 22%.

Given the inability of the government to proceed with this type of adjustment process, the peso was devalued by approximately 18% in June 1982, followed by a number of exchange rate restrictions. Confidence dwindled and the Central Bank had to intervene in the foreign exchange market, reducing the country's level of international reserves by US$ 1.5 billion.

On the financial side, the domestic recession and the magnitude of "insider" loans (for some banks they have been estimated to represent around 40% of the total loans) created problems and complicated bank recovery even of pre-recession and pre-devaluation "good" loans. Furthermore, since collateral was valued at pre-crisis prices, neither the banks nor their clients wanted to incur severe capital loss associated with difficulty in selling goods or assets at much lower prices than their original value. It was estimated at the end of 1982 that the unpaid loans represented nearly three times the total value of the capital and reserves of the Chilean banking system. It was evident that the Chilean bubble economy had to disinflate and the country had to bear the burden of returning to its real dimension. The magnitude of the capital loss has created a "hot potato" problem, which the debtors have tried to pass to banks, and the banks to the government, which in turn would like to pass part of it to foreign banks. Until now the capital loss was absorbed mainly by the owners of the many firms that went bankrupt, by the shareholders of some banks and *financieras* that were intervened. More important the loss was absorbed by the country as a whole, through huge transfers of resources from the Central Bank to the financial system and also through a subsidy that was given to those economic agents that were indebted in dollars and who, after the devaluation, were given access to a "preferential" dollar rate.

In view of the widespread failures and eventual crash of the private financial system, a massive government intervention took place in early 1983, *de facto* nationalizing it. Given the degree of firms' indebtedness to the banking system, the implementation of the Chilean economic model has created a new, original, "free market" road to socialism.

Important questions regarding this issue arise: How will the government face this situation? Will it privatize the assets once more? At what price? Who —nationals or foreigners— will buy the assets? Will new conglomerates emerge? The capital loss issue is also unresolved: How will the debt be "cleaned"? Will a decision be taken to "wipe the slate clean"? If so, on what resources and selectivity will it be based? Which mechanisms will the country use to absorb asset losses? Will depositors of the financial system have to pay the cost? Or will the coming generations have to pay, through decapitalization of the social security system? Will higher inflation or even higher foreign debt, or a very slow recovery during the next years be mechanisms through which the country will realize the capital loss? Will foreign banks pay part of the bill?

Early 1983 developments show the government signing a stand-by agreement with the IMF, requesting a 90 day moratorium and renegotiating the foreign debt (where it will almost surely have to guarantee all private debt). A new "rescue package" was announced that included 10% increases in import tariffs, cuts in fiscal expenditures, financial subsidies to the private sector, and devaluation of the peso according to domestic inflation.

The economic recovery, with its beneficial impact on unemployment, and the need for productive investment —the two major requirements for overcoming the Chilean economic crisis— seem to have very little prospect without an adequate refinancing of Chile's foreign debt *and* direct government spending. Although devaluation and falling real wages and real interest rates (nominal deposit rates have been controlled since the end of 1982) should, from the firms' perspective, stimulate economic recovery, the potential restrictions associated to the Fund's Programme, the financial burden on production costs, and the general uncertainty regarding the rules of the game are of such importance that it is extremely doubtful whether reactivation could come from the private sector. An expansionary fiscal policy, however, would imply a radical departure from current economic policy. Also, it is not incorporated in the emergency programme,

which gives higher priority to restoring foreign sector imbalances than to reactivating the internal economy. In spite of the fall in GDP during 1982 and the magnitude of resource unemployment, it is estimated that output will fall again in 1983.

VII

Final comments and conclusions: lessons from the Chilean experience

The Chilean economic experience of the last nine years has failed. The economic growth of the period from 1976 to 1980 proved to be a transitory recovery from the serious stagflation of 1975. What was thought to be a new economic miracle was, in fact, a bubble economy sustained by huge inflows of capital, much of it as irresponsibly obtained and spent as it was irresponsibly given. With the exception of the reduction of inflation, the control of the public sector deficit, and the expansion and diversification of non-traditional exports, all other macroeconomic indicators point in the direction of a dramatic failure of what has been known as the most orthodox economic experience of the Southern Cone, if not of all LDCs, in recent years.

The basic assumption of the economic authorities was that resources would be efficiently allocated and that the country would grow at higher rates than in the past. In fact, what happened was that during *all* the period, unemployment was nearly *three* times its historical values and GDP per capita in 1982 was at the 1973 level.

Although the causes of this outcome may be many, in relation to the country's historical standards, the region's recent economic development and expectations of all those who defended the "economic model", Chile's stabilization cum liberalization programme has had a dramatically poor performance. All evidence points to a basic failure of the model and not to implementation problems. It is difficult to imagine another historical situation in which an economic utopia could be applied with so little institutional, political, and social control as in the Chilean case from 1974 to 1982. Even in that environment, and with an extremely homogeneous and well-prepared economic team, the experiment failed not because of the 1981-1982 international recession or because liberalization did not go far enough, or because policies were sound but too abruptly implemented and needed to be gradual, but because reality was different from what was postulated by the underlying theoretical framework. The Chilean economic policy went from one extreme (1971-1973) in which ideally the State should undertake all economic activities, to the other extreme (1974-1982) in which private sector activities alone were to increase economic and social welfare. Ironically, the result of the latter version of a free market experiment is a stagnant economy, in which the financial system and an important part of the country's real resources are on the verge of socialization.

It is difficult, given the economic situation at the end of 1973 and the interaction of short-term stabilization policies with more ambitious economic and institutional reforms, to identify rigorously the causes of this outcome. Given the importance of the subject, however, we will try to point out the main problems, policy issues and principal lessons from the Chilean experience.

A comment should be made on the international scenario. In the Chilean case it has played an ambiguous role regarding its impact on the country's economic performance. While the terms of trade during this period deteriorated, international liquidity available to Chile was extraordinarily affluent. Regarding international interest rates, the country

enjoyed very low real rates for five years, and nominal rates should have been expected to adjust to world inflation after a certain lag; this was particularly important for a country whose foreign indebtedness increasingly came from floating interest rates (in mid-1982 this debt represented 78% of total foreign debt, while in 1975 it was only 22%). In relation to the adverse effect of the dollar revaluation on Chilean international competitiveness, that problem should more properly be assigned to a domestic cause — mainly the inflexibility in the exchange rate policy which did not adjust to the situation. Finally, the 1981-1982 world recession naturally affected Chile's economic situation, but the magnitude of its effect was amplified by Chile's policy of openness to the international economy, and the country went into a much deeper recession than did the rest of Latin America.

Regarding the domestic front, during this period the transition and adjustment process characterized the dynamic time paths of certain variables —issues on which both the literature and the empirical evidence have been scanty. It is striking that in spite of this, Chilean economic policy was pegged to a very naive and dogmatic combination of orthodoxy and monetarism, both associated with long-run equilibrium conditions. Also it was always assumed, explicitly or implicitly, that unregulated free markets assign resources efficiently and there was a systematic bias against government intervention and a more active role of the State in economic affairs, given the complete confidence in the private sector as the basic dynamic economic agent.

The excessive attachment to "long-run" orthodoxy and the above-mentioned ideological bias impeded policymakers from recognizing that social prices may have differed importantly from market prices. Indeed, the anti-internvention bias worked against some of the model's objectives, since many market prices gave erratic and erroneous signals to the private sector, stimulating consumption rather than investment, speculation instead of production, imports more than exports, and the transfer of existing assets instead of the generation of new sources of productive wealth. Under these circumstances, some type of government intervention is urgently needed to promote socially efficient resource allocation.

A striking result of the Chilean experience is that even though the public sector budget was equilibrated, the private sector, given the increasing opening up to world financial markets and the abundant international credit, eluded its domestic budget constraint spending in excess of income through foreign financing. This was the main reason for the balance of payments disequilibrium and the rise in foreign debt, which contributed to affect negatively the country's creditworthiness.

Only the government could face the necessary refinancing of the foreign debt, and once again reality was different from theoretical assumption. Experience shows that contrary to the Chilean economic authorities' expectations, foreign banking did not distinguish between the private or public sector, which became indebted internationally. When the *country* regularly paid its external commitments everything was all right, but once the *country*, for whatever reason, had to renegotiate its debt, then foreign banks required that basically all the debt be publicly guaranteed. As a result, the country as a whole will have to pay now and in the future for the private sector mistakes during the Chilean "economic miracle".

The magnitude of the adjustment for the country is related to the inadequate and unrealistic legislation related to the financial system, which allowed all kinds of speculative and unsound banking practices and, together with the belief of certain circles that the country was experiencing an economic boom, contributed to generate one of the most serious problems of the Chilean economy. Assuming high growth rates of future income streams, the supply and demand for loans increased dramatically, overshooting

the value of the capital stock, overpricing the collateral to loans, and artificially inflating the economy with insufficient real investment or productive effort behind it. Evidently, expenditures exceeded income for some time. When the external disequilibrium needed to be corrected, the real situation of the Chilean economy was exposed: the short-lived economic miracle had been sustained only be overly affluent capital inflows. The authorities' belief that the external loans were being used wisely for profitable investment projects clashed, once more, with reality. Interconnection between the banks and the non-banking activities of the private conglomerates, although officially ignored until recently, had extremely serious implications on the use of the foreign funds by those groups and the weakening of the financial system. In fact, the country is now facing and will have to face a substantial capital loss, the magnitude and distribution of which will have important economic and political consequences.

The question still remains: Where did all the foreign savings go? Consumption loans, the transference of resources to the government to pay the privatization of State-owned assets (the government's use of those funds still remains to be answered) and private sector investment, with —contrary to official expectations— low social profitability, partially answer that question. The main result was that foreign savings substituted instead of complemented domestic savings. This outcome could have been different, but given the anti-interventionist bias, the amount, cost and use of the inflows of capital to the country were never appropriately evaluated nor efficiently controlled.

Excessive confidence in an efficient allocation of funds by the market proved to be, once more, overly simplistic, contrary to reality, and the main cause of the financial system's failure as intermediary between creditors and borrowers. In fact, the financial "liberalization" reform transformed a financially "repressed" market into a nearly completely bankrupt, one that has shaken the foundations of the Chilean economy.

Added to the above-mentioned considerations is the extreme importance of designing internally consistent policies, especially when markets are being liberalized. In this respect the Chilean experience is again illuminating. If the exportable sector was to be profitable, it was inconsistent to have increasing real interest rates and real wages while the real exchange rate was appreciating. This occurred because the exchange rate was used as a non-traditional instrument to repress inflation, while overabundant capital inflows created an excess supply of foreign exchange which financed the overvaluated peso. It is probable that if this experience had not coincided with the excess liquidity in international markets, the exchange rate policy would have had to be radically different, and the economy probably would not have "boomed" but would have developed along a much more realistic and stable growth path.

Three lessons can be learned from this. First, exchange rate, wage, and interest rate policies should be coherent and carefully designed. Second and more specifically, much more care has to be taken when designing exchange rate policies. In general, this experience suggests that it seems desirable to incorporate some degree of flexibility, not only because of implications for changes in the international values of the major currencies, but also because the exchange rate level affects the trade account while its expected rate of change is a basic determinant of the capital flows. Further, the stability of the relationship between the current and capital account may depend on the implementation of the exchange rate policy. Third, even though one of the unresolved issues of the Chilean experience involves the high real interest rates —in spite of increasing inflows of credit in periods when the capital movement's controls had weakened— the abrupt change from negative real rates to permanently high real rates should have indicated that these were *ex-ante* rates, and adequate financial policies should have been taken. Experience shows that it is not enough even for prices as important as

interest rates to clear partial markets, as this does not ensure their consistency with overall equilibrium or with global economic objectives.

The success in bringing inflation down had such a high cost in terms of unemployment and rising foreign debt that it is questionable whether it was correct to give such high priority to the stabilization policy throughout the entire period. This was particularly true during 1981 and 1982, when authorities tried to handle the required adjustment to the balance of payments deficits through the "automatic mechanism", which implied no active monetary, fiscal, financial, or exchange rate policy. The fear of inflation and the "hands off" policy generated a slow and extremely costly process both economically and socially, finally causing the programme to collapse. The devaluation that followed shows that when relative prices are in disequilibrium with output falling and unemployment at high leveles, it does affect relative prices and is not reflected in a general price increase only.

Regarding the alleged neutrality and non-discretionality of government economic policy during these years, the fact was that the application of neutral rules, when unequal market power or very heterogeneous initial wealth distribution prevailed, produced non-neutral results. The unemployment rate was systematically much higher than in the past, and real wages never recovered their 1970 levels. The timing, speed and characteristics of the privatization of assets, financial opening up, and Social Security Reform contributed to a more skewed distribution of wealth in favour of a few business conglomerates in the private sector. And when non-neutral rules and special treatment were given to certain groups and sectors (intervention of the banking system, preferential dollar for those indebted in foreign currency, guarantee on the private foreign debt, and so on), they generally had a clear regressive redistributive effect.

Finally, in spite of this criticism, it would be incorrect to conclude that all the economic policies and reforms during this period were doomed to failure. It is obvious that many of the liberalization reforms had important ingredients of economic rationale. If implemented under a less rigid, orthodox, and naive approach, without the extreme biases found in the Chilean experience, and the trade-offs between different objectives were appropriately evaluated, many of these policies, when applied with adequate government control (especially in the financial area), may still prove a useful ingredient in designing economic policy.

NOTES

[1] For a more comprehensive analysis of the recent Chilean experience, see Flisfisch (1983), Foxley (1982), Moulian and Vergara (1980) and Zahler (1982).

[2] For two very different approaches regarding this issue, see the illustrative references cited by Blejer (1982: point 5).

[3] Beside Chile's official sources, extremely optimistic views on the Chilean economic policy can be found in Harberger (1983), IMF (1981), World Bank (1980) and Wall Street Journal (1980).

[4] These latter two also refer to the failure of the recent Argentine economic policies.

[5] This section refers mainly to technical and, to a lesser extent, ideological and historical considerations. We do not develop here the arguments based on interests of groups or classes and their importance for the appearance, design, and implementation of the Chilean economic model. The latter interpretation and analysis may be found in Flisfisch (1983), Moulian and Vergara (1980), O'Brien (1981) and Remmer and Merkx (1982).

[6] It is interesting to note, however, that many of these new industrialized countries (NICs) engaged in quite a selective opening up process of their economies, with an active role of government intervention, especially in export promotion. Neither of these characteristics has been present in the Chilean experience.

[7] In fact, since 1973 there has been a profound change in the financing of LDCs' balance of payments. The relative importance of credit, particularly from private banking sources, has increased greatly as compared to direct foreign investment (Massad, 1976; Massad and Zahler; 1977 and Swenson, 1982).

[8] Defenders of the economic model in Chile have been identified with the term "neoliberals". For an analysis of these views see Flisfisch (1983), Foxley (1982) and Zahler (1982). According to Sergio de Castro (1975), "The economic policy of the Allende Government consisted in radicalizing the theories, the model that was implemented in Chile around the 1930s and that with very few and unimportant interruptions, had prevailed until 1970. The new economic policy implemented by the military government was the correction of half a century of economic mistakes in Chile". Similar official statements on this interpretation can be found in de Castro (1976a, 1976b, 1978, 1981) and Lüders (1982).

[9] This paragraph refers to the situation that started with the Programa de Recuperación Economica in April 1975 and currently continues.

[10] One of the main criticisms of the Chilean Neoliberals on the role of the State in recent decades has been, besides its interference with market forces, its redistribution of wealth in favour of powerful pressure groups. This resulted in higher unemployment, inflation, and foreign debt. Ironically, its is precisely in this area where one of the main criticisms to the actual economic model has been made.

[11] According to Cauas (1975a), the "Programa de Recuperación Económica" had "the fundamental purpose of eradicating the inflation that has affected our country for more than seventy years". He added: "The main objective of this programme is ...to put a brake on inflation by the end of this year ...These (government outlays) reductions will be implemented at any cost, including the dismissal of any functionaries who are unable to understand that the reduction of inflation receives top priority in the economic policy ...Experience in our country, as in so many others, indicates that as long as there is inflation, there will never be guaranteed employment and an adequate standard of living. We are going to stop inflation and as a result, the country will grow, employment will increase and the standard of living will improve ...The economic phase which we are initiating today will lead necessarily to the end of the struggle against inflation and then to a period of development heretofore unknown in this country".

The economic authorities' argument can be found in Cauas (1975a, 1975b), ODEPLAN (1977), many of the articles contained in Méndez (1979: especially 293-296), and de Castro (1981).

[12] This section refers to the economic policies starting with the "Programa de Recuperación Económica" in the second quarter of 1975 (Cauas, 1975a). During the first 18 months of the military government, there was no clear-cut homogeneous official "economic team". That, together with public sector administrative and managerial disorder, explains the delay in facing clearly and strongly the basic macroeconomic disequilibria.

[13] In his "Report of the State of Public Finance" on October 1975, the minister of finance stressed that "the imminent crisis in the balance of payments required a more drastic economic policy. The need to continue with the stabilization policy and the depth of the world crisis obliged the government to adopt the policy to the new conditions ...Thus, we had to reduce the deficit, and at the same time decrease inflation, and maintain the basis for a policy which would permit rapid growth in the future" (Cauas, 1975a: 169). As stated in the text, however, the shift in policy directed to restore external equilibrium was coincidental with that aiming for price stabilization ("reducing government spending and increase in public revenues, so as to create a restrictive situation which would diminish the pressure of demand for national as well as imported goods" (Cauas, 1975a, 170).

[14] Given the highly repressed inflation at the end of former government, price rises overshot in the months following liberalizations. For a very interesting analysis, see Ramos (1975, 1980).

[15] This was accompanied by changes in the composition of government expenditure —principally through the introduction of a value-added tax and strict measures against tax evasion.

[16] For a detailed analysis of this situation, see Zahler (1980: section 2).

[17] Financial assistance to some banks and "financieras" at the end of 1981 and the prepayment of official foreign debt during that year showed that monetary policy was not totally passive.

[18] A more detailed analysis on the commercial opening up can be found in Cauas and De la Cuadra (1981) and Ffrench-Davis (1979, 1980); the financial opening up is discussed at length in Ffrench-Davis and Arellano (1981) and Zahler (1980). Work on domestic financial reform can be found in Ffrench-Davis (1982), Mathieson (1982), and Zahler (1980).

[19] This increase is still more notorious for non-traditional exports. A more detailed analysis should include the behaviour of both the price of copper and the evolution of aggregate demand and supply in Chile during this period.

[20] Note, however, that other alternatives could have included measures such as a more gradual liberalization of the domestic capital market and/or taxes on interest rate differentials to socialize those rents, increasing the cost of foreign financing for domestic borrowing.

[21] During the 1975-1978 period, the net inflow of foreign financial capital to the private sector represented nearly 60% of the flow of high powered money, and therefore it became one of the main mechanisms through which liquidity was provided to the economy.

[22] In April 1981, the president of the Central Bank of Chile wrote: "What role should the economic authority play in foreign debt decisions? None. That is a problem exclusively between private partners: that which offers the loan and that which receives it ...It is clear, therefore, that the rise in foreign debt reflects a healthy economy that is growing normally and in which there are plenty of profitable investment projects to be implmented" (De la Cuadra, 1981: 1 025). A similar position in terms that only publicly guaranteed foreign debt "matters", has been expressed by the former director of the Western Hemisphere Division of the IMF (Robichek, 1981).

[23] Another interesting characteristic of the financial market during this period, in addition to the high levels and variability of interest rates, is the extremely big spread between domestic loans and domestic deposit rates. For alternative explanations, see Cortés (1982), Ffrench-Davis (1982), Mathieson (1982) and Sjastaad (1982).

[24] In fact, legislation regarding foreign investment was so liberal that it seems many potential investors saw it as too risky. Also, the delay in the implementation of a new mining law has been given as an argument for the low figures of direct foreign investment.

[25] A complete analysis of public expenditure during the 1970s and data related to the text can be found in Marshall (1981).

[26] A very interesting interpretation of this situation is given by Ramos (1975).

[27] For a theoretical analysis of this case, see CEPAL (1982a).

[28] This subject is discussed in more detail in Peñaranda (1980), Zahler (1980: section 3), and Dhase (1979).

[29] A recent study related to the redistributive issue asserts that government transfers in favour of the financial and entrepreneurial sector, estimated near US$ 7 billion, exceed by more than 20 times the government's economic effort to reduce unemployment (Pérez de Arce, 1983).

[30] Although they were still at a lower level in 1970.

[31] Alternative and complementary policies could have included a change in monetary policy, which would have had to go together with exchange controls; in financial policy, since financial costs were much more important than labour costs in the production cost structure due to the rise in debt and in the interest rate, or in the exchange rate policy, but the authorities believed that devaluation would not modify relative prices.

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The real cost of the external debt for the creditor and for the debtor

Carlos Massad

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I
Introduction

The external debt of the non-petroleum-exporting developing countries, and, more recently, even that of the petroleum exporters, has been growing very fast.[1] A start has only just been made however, on systematic research into the real cost of the debt measured in terms of the transfer of real resources required to service it. One of the problems posed by evaluation of the real cost of debt servicing stems from the fact that the points of view of the creditor and of the debtor do not necessarily coincide. What matters to the debtor is to ascertain the amount of real resources that will have to be allocated to the generation of means with which to pay the debt. For example, if the international price of its export products falls, *ceteris paribus*, the burden of debt servicing will be heavier for the debtor country; it will have to earmark a larger proportion of its products for payments of the debt and a smaller share for imports.

The creditor, on the other hand, is concerned with the purchasing power of the sum loaned and of the interest on it in his own market. The aim of the present article is to explore these two points of view and propose methods of measuring the real cost or benefit of the external debt both for creditors and for debtors.

II
The creditor's point of view

The creditor will normally take into account the alternative use of his financial resources in his own countrys' market. Albeit this does not appear valid for creditors located in financial centres where the non-financial market is small (such as Panama or Hong Kong), it often happens that the leading creditors are really institutions with their head offices in the United States and other industrial countries.

The range of options for the use of financial resources outside the creditor country's market is enlarged as the proportion of total loans represented by international loans increases. Nevertheless, despite this enlargement, loans abroad still constitute only a modest fraction of the total loans issued by financial institutions in industrial countries.

For example, of the total amount of credit granted by banking institutions located in the United States, less than 10% represented external assets at the end of 1981.[2] This figure includes assets placed all over the world outside the United States.

Thus, the option of lending abroad, although open, is probably not regarded as an alternative possibility for permanent use of their financial resources by individual loan institutions operating in the international market. It seems more reasonable to suppose that such institutions, individually considered, will invariably take into account the option of using their resources in their own market; and this notwithstanding that in the aggregate they may always keep a certain volume of funds placed abroad.

Now, if the annual rate of interest charged on a loan is equal to the corresponding rate of inflation, the purchasing power of the capital lent will remain constant. And in so far as the rate of interest diverges from the rate of inflation, a loss or gain will occur in the purchasing power of the capital lent by the creditor country.

The debtor countries, for their part, do not only obtain loans from the creditor countries but also leave in them large sums on deposit, on which they earn interest. The purchasing power of the capital deposited is of course also affected by inflation.

From the standpoint of the creditor, inflation in his own market reduces the purchasing power of the deposits in question.

Thus, while the creditor loses on loan capital through inflation (with a given rate of interest), he gains on the foreign capital deposited. Although the rates of interest charged on a loan are generally different from those payable on deposits, a first approximation whereby the two foregoing considerations can be taken into account consists in subtracting from the total amount of loans extant at a given date the deposits existing at the same time. This difference will be called here the Global Net Debt (ND, or, for the purposes of the following formulae, DN).

1. *The method*

If the growth of the Global Net Debt in the course of the year is linear, it may be assumed that the annual interest paid corresponds to a level of debt midway between those recorded at the end of one year and at the end of the next. The difference between the two end-of-year figures constitutes the annual increase in the debt of net flow of annual indebtedness (F).

The average between the two end-of-year figures will represent the Mean Net Debt on which interest is payable (DNF).

$$DNF_t = \frac{DN_{t-1} + DN_t}{2}$$

or again

$$DNF_t = DN_{t-1} + \frac{F_t}{2}$$

where the subindex "t" represents the year concerned.

If the interest paid in each year by the debtor country, minus the interest received on its deposits abroad, or effective net interest (IEF), is divided by the Mean Net Debt, the result obtained is the average net interest rate effectively paid (iEF).

$$iEF_t = \frac{IEF_t}{DNF_t}$$

This effective rate is compared with the pertinent rate of inflation to determine whether the capital loaned by the creditor maintains its real value or whether this value increases or decreases.

Obviously, the real value of the Mean Net Debt, like other factors, will rise, remain the same or decline according to whether the effective interest rate exceeds, exactly matches or falls below the rate of inflation.

A change in the real value of the Mean Net Debt signifies a variation in the debtor's commitment to transfer real resources to the creditor in payment of the debt. The method

employed here measures this commitment in terms of the purchasing power which is of interest to the creditor, but which does not necessarily correspond to the cost in terms of real resources that is implied for the debtor by the generation of external resources for payment purposes.

In accordance with Fisher's equation $(1 = p)\ (1 = e) = 1 + i$, were "p" is the expected rate of price variation, "e" the real interest rate and "i" the nominal rate,

$$e = \frac{1 + i}{1 + p} - 1$$

where "e" would represent the real transfer of resources from or to the creditor country. Positive values for "e" would indicate a transfer of resources to the creditor, while negative values would correspond to a transfer from the creditor to the debtor, as the creditor looks at it.

Application of the rate "e" to the Mean Net Debt will give the amount of resources transferred annually (R_t).

The total amount of resources transferred in the past will represent the cumulative sum of the annual values of "R", duly adjusted year by year in accordance with price variations. This procedure assumes that over the long term the real interest rate is zero; otherwise, real interest would have to be added to price adjustments in order to determine the value of the cumulative transfer of resources.

Should the said real rate be positive, the procedure used underestimates the cumulative amount of resources transferred.

2. *The data*

An attempt has been made to cover the twenty-year period ending at the close of 1980, with reference to the Latin American countries, excluding the four Caribbean countries (Guyana, Trinidad and Tobago, Barbados and Jamaica), Venezuela and Panama. The last-named country was left out because it is a financial centre where the economic significance of the "external debt" is completely different from what it means for the other countries. A sub-group of countries has been set apart as comprising the region's major debtors, i.e., Argentina, Brazil, Chile, Colombia, Mexico and Peru.

To calculate the Global Net Debt, the short- medium- and long-term debt was taken, irrespective of whether it was or was not officially guaranteed; and from this were subtracted the deposits, both public and private, maintained abroad by the debtor countries. The latter data were obtained from the 1974 to 1980 publications of the Bank for International Settlements, Basle (BIS), and for earlier years the foreign exchange reserves maintained by debtor countries, according to information supplied by IMF in *International Financial Statistics,* were taken as deposits abroad.

This procedure underestimates the amount of deposits abroad prior to 1974, although this underestimation approaches zero as one goes farther back in time; the reason is that private holdings of foreign exchange abroad acquire significance only from the end of the 1960s onwards.

The figures for the global debt from 1974 to 1980 are those estimated by ECLAC, on the basis of information furnished by the World Bank and by BIS. For previous years World Bank figures were used for the medium- and long-term debt, and the short-term debt was calculated as the cumulative sum of the net flows of such loans annually recorded in each country's balance of payments. For the purposes of this accumulation it was assumed that there were no short-term loans before 1950.

For the rate of inflation use was made of the data on the consumer price index and wholesale price index of the United States, since this country is the leading creditor in the case of the debtor countries analysed. The rates of inflation represent average annual rates (percentage variation between annual price indexes).

3. *Results*

Tables 1 and 2 reflect the results obtained with two alternative measurements of inflation: the United States consumer price index and the wholesale price index for the same country. The total period has been subdivided into quinquennia and decades so as to show trends rather than sporadic short-term variations.

The columns in the two tables show the difference between the two measurements of the rate of inflation and the interest rates effectively paid. If inflation is measured by the variations in the consumer price index, it will be noted that both Latin America as a whole and the six major debtor countries transferred real resources abroad in the course of the borrowing process, through payments of interest; the remaining countries, on the other hand, paid out net real resources during the first decade and received them in the second.

During the twenty-year period ending in 1980, the transfer of accumulated real resources to Latin America's creditors represented an amount equivalent to 7.6% of the debt at the close of 1980; this figure is even higher for the six major debtor countries, rising to 9.3% of their external debt at the same date.

It makes little difference to these results if variations in the United States wholesale price index are applied as the measure of inflation. In the case of Latin America as a whole, and also in that of the six major debtor countries, transfers of real resources abroad for payment of interest on the debt continue to occur, and the cumulative figure at the end of December 1980 reaches 4.1% of Latin America's debt and 6.4% of that of th six major debtor countries. In this case, however, the situation in the quinquennium 1971-1975 appears unfavourable to the creditors, since the tempo of the upward movements in the United States wholesale price index is speeded up, whereas interest rates do not yet exhibit the marked increases subsequently observable.

Table 1

LATIN AMERICA[a] AND SIX MAJOR DEBTOR COUNTRIES: RATES OF INFLATION AND RATES OF INTEREST PAID ABROAD, 1961-1980

(Averages for quinquennia and decades, as percentages)

Period	*Rates of inflation*		*Rates of interest paid*		
	CPI	*WPI*	*Latin America*	*Six major debtors*[b]	*Others*
1961-1965	1.3	0.3	4.1	4.4	2.7
1966-1970	4.2	2.7	5.4	5.7	3.5
1971-1975	6.8	9.6	7.4	7.7	5.0
1976-1980	8.9	8.9	10.0	10.4	7.1
1961-1970	2.7	1.5	4.8	5.1	3.1
1971-1980	7.8	9.3	8.7	9.1	6.0

[a] Excluding the four Caribbean countries (Guyana, Trinidad and Tobago, Barbados, Jamaica), Venezuela and Panama.
[b] Argentina, Brazil, Chile, Colombia, Mexico and Peru.

Table 2

LATIN AMERICA[a] AND SIX MAJOR DEBTOR COUNTRIES: REAL INTEREST RATES PAID ABROAD, 1961-1980

(Averages for quinquennia and decades, as percentages)

Period	*Latin America*		*Six majors debtors*[b]		*Others*	
	CPI	*WPI*	*CPI*	*WPI*	*CPI*	*WPI*
1961-1965	2.8	3.8	3.1	4.1	1.4	2.4
1966-1970	1.2	2.7	1.5	3.0	-0.7	0.8
1971-1975	0.6	-2.2	0.9	-1.9	-1.8	-4.6
1976-1980	1.1	1.1	1.5	1.5	-1.8	-1.8
1961-1970	2.1	3.3	2.4	3.6	0.4	1.6
1971-1980	0.9	-0.6	1.3	-0.2	-1.8	-3.3

[a] Excluding the four Caribbean countries (Guyana, Trinidad and Tobago, Barbados, Jamaica), Venezuela and Panama.
[b] Argentina, Brazil, Chile, Colombia, Mexico and Peru.

All this is only another way of saying that in the period 1961-1980, both the rate of interest received by the external creditors of the Latin American countries as a whole (excluding the four Caribbean countries, Panama and Venezuela), and the rate obtained by the creditors of the six major debtor countries, were positive in real terms. These real rates averaged about 1.5% per annum, a figure very similar to the average recorded for the United States during the same period. In constrast, for the creditors of the Latin American countries other than the major debtors interest rates were negative, averaging about 0.8% per annum; and this notwithstanding the fact that in the decade 1961-1970 the rate was positive in real terms.

Estimates prepared for 1981 suggest that the trends indicated sharpened during that year. The real interest rates paid by Latin America as a whole were close to 5% per annum. This figure also holds good for the six major debtors, while that applicable to the rest of the region remains negative.

These trends may reflect the industrial countries' and the international organizations' policy of increasingly concentrating the available soft resources in the countries with the lowest per capita income.

II

The debtor's point of view

In order to cover debt servicing, including both amortization and interest payments, the debtor country needs to use present or future real resources in order to generate the necessary means of payment in foreign exhange. It uses present real resources when it provides for the servicing of its debt out of a trade-balance surplus. In contrast, it uses future real resources when it serves its debt by means of a surplus on capital account, i.e., by increasing its external debt, which it will repay in future periods. In conditions of equilibrium, the present value of the future real resources required to pay the debt, discounted at the social discount rate, will have to be equivalent to the value of the

resources needed for payment of the debt at the present time. The same thing is true of present or future debt servicing.

The problem to be resolved is that of determining how much it costs the economy, in terms of real resources, to generate one unit of foreign exchange. This cost will represent the real social price of foreign exchange, or social exhange rate,[3] the magnitude of which will depend upon such factors as external export and import prices, the level of international reserves, the degree of resource mobility as between tradeable and non-tradeable goods, etc.

When external import and export prices show appreciable variations which are maintained throughout long periods, they tend to take a predominant place among the various factors that help to determine the social exchange rate, and, consequently, the cost of external debt servicing measured in terms of real resources.

Accordingly, a first approximation to the real cost of debt servicing, from the debtor's point of view, consists in looking for some way of taking export and import prices into account in the valuation of debt payments.

1. *The method*

Obviously, a rise in the external prices of a country's exports will reduce the cost of debt servicing. Such an increase would mean that for every unit of real resources allocated to production for export more foreign exchange will be obtained than before, so that to generate one unit of foreign exchange fewer real resources will be required.

On the other hand, a rise in the external prices of imports implies that to maintain the same level of imports in real terms, more foreign exchange must be expended than before, and therefore more real resources must be earmarked for generating it, at progressively higher costs in terms of sacrificing production of other goods and services.

Thus, *ceteris paribus*, an improvement in the terms of trade will bring down the cost of debt servicing measured in internal real resources, in relation to the base period. A deterioration in the terms of trade will of course produce the opposite effect.

Debt servicing comprises amortization and interest, so that

$$(1) \qquad S = A + I$$

where debt servicing, S, is measured as the sum —in terms of United States dollars— of the nominal values of amortization A, and interest I, paid abroad. To measure the terms of trade, an index of the unit value of the country's exports is divided by an index of the unit value of its imports, both expressed in United States dollars

$$(2) \qquad T = \frac{Vx}{Vm}$$

where T represents the terms of trade index and Vx and Vm the indexes of unit values of exports and imports, respectively. If $T >$, this implies that the unit values of exports increased more than those of imports, so that the cost of debt servicing, measured in terms of real resources, will be less per unit than in the base year.

The difference between the cost of debt servicing assessed in terms of real resources in the debtor country and the nominal amount of the service will be a measure of the increase or decrease in this cost generated by the terms of trade, VC.

$$(3) \qquad \frac{S}{T} - S = VC$$

or again

$$(4) \qquad \frac{S(1-T)}{T} = VC$$

Lastly, to express this variation per unit of debt, it follows that

$$(5) \qquad \frac{S}{D} \cdot \frac{(1-T)}{T} = \frac{VC}{D}$$

where D is the average nominal global debt for the corresponding year.

The term $\frac{VC}{D}$ has a dimension comparable to an interest rate, and may be interpreted as a surcharge or relief in respect of the nominal interest rate, caused by variations in the terms of trade in relation to a given base period.

This interpretation calls for certain reservations. In the first place, the variation in the terms of trade measures changes in average export and import prices; it is therefore very strongly influenced by the staple and often traditional products which each country trades on the international market. In all probability, the marginal variation of the terms of trade, which will generally correspond to that of the non-traditional products traded, will be different from the mean, and it is this variation that should more properly be considered in the present analysis. In other words, an index of the marginal terms of trade would need to be defined and calculated as a means of more accurately reflecting the changes in the cost of external debt servicing measured in terms of real resources.

In the second place, the calculation would show the cost of debt servicing if the debt were effectively serviced. As the stock of debt generally tends to be enlarged, the new sum borrowed obviously more than covers the amortization payments and on occasion even the interest on previous debts. This means that a future servicing cost is being incurred whose equivalent in terms of real resources can only be calculated at the time of its effective payment. At all events, the method proposed permits of an approximation to the calculation in question at any time; and also makes it possible to establish that it is not in a country's best interest to pay its debt when the terms of trade are unfavourable to it. In such circumstances, *ceteris paribus*, it is better to refinance or renegotiate than to pay, although the normal attitude of creditors is precisely to collect at times when the terms of trade are most disadvantageous.

2. *The data*

As in the preceding case, the twenty-year period up to 1980 is considered, and is divided into quinquennia so that trends rather than occasional changes may be assessed. The calculation was made with reference to Latin America, excluding the countries mentioned above, and to the six major debtor countries. To determine the variation in each country's terms of trade, use was made of indexes of unit values of exports and imports, with 1970 as the base year. The terms-of-trade index figures for each year are those estimated by ECLAC; debt servicing data are taken from each country's balance of payments, and the

sum indicated for external interest payments is net of interest received on deposits abroad. Debt amortization figures are also net of amortization received, but the latter is quantitatively insignificant in the countries considered.

The rates of surcharge or relief in respect of the nominal interest rate were calculated year by year and the geometric average per quinquennium was then worked out for each country. To calculate the average for the six countries as a whole, unit values were obtained for the group by means of adding up their exports and imports in terms of current and constant values, the latter at 1970 prices. And the same method was applied to Latin America as a whole.

3. *The results*

Tables 3 and 4 present the results obtained by application of the method described above for estimating the surcharge or relief on the nominal interest rate for the global external debt implied by changes in the terms of trade. The overall results do not show a very heavy surcharge, although on certain occasions it has amounted to more than 35% of the nominal interest rate paid on the debt. For some countries, at all events, both the relief and, where relevant, the surcharge are on a substantial scale.

Chile is undoubtedly the country that was hardest hit, with a surcharge averaging 26.6% for the quinquennium 1976-1980. This means that in paying amortization and

Table 3

LATIN AMERICA - SIX MAJOR DEBTOR COUNTRIES: REAL RATE FOR DEBTOR

(Averages for quinquennia and decades, as percentages)

Geometric averages	*Argentina*	*Brazil*	*Chile*[a]	*Colombia*	*Mexico*	*Peru*	*Six countries*
1961-1965	-1.6	0.8	6.3	0.8	1.3	4.6	1.6
1966-1970	-0.9	1.8	1.1	1.2	1.0	2.4	1.0
1971-1975	-3.2	1.2	5.8	0.8	-0.5	0.3	0.3
1976-1980	3.2	4.1	26.6	-3.9	-4.0	-1.2	1.4

[a] If copper is excluded from the calculations relating to Chile, the figures are: 4.8; 3.6; 4.0 and 15.5.

Table 4

LATIN AMERICA - SIX MAJOR DEBTOR COUNTRIES: REAL RATE FOR DEBTOR

(Averages for quinquennia and decades, as percentages)

Geometric averages	*Argentina*	*Brazil*	*Chile*[a]	*Colombia*	*Mexico*	*Peru*	*Six countries*
1960-1965	1.0	5.4	11.4	5.3	7.2	7.7	6.0
1966-1970	5.2	8.0	5.1	6.4	7.0	9.2	6.7
1971-1975	6.5	10.3	11.2	6.7	6.4	8.3	8.0
1976-1980	13.1	15.0	38.1	3.6	6.9	7.0	11.8

[a] If copper is excluded from the calculations relating to Chile, the figures are: 9.9; 7.6; 9.4 and 27.0.

interest on its debt, Chile had to disburse 26.6% more in real resources than it would have had to expend if the terms of trade had been the same as in 1970. If the incidence of copper prices on the terms of trade is eliminated, the surcharge is 15.5%; at all events nearly four times as much as the corresponding figure for Brazil, the country which comes next after Chile in respect of the negative effect under discussion.

At the other extreme is Mexico, with a 4% relief during the quinquennium 1976-1980.

On the basis of these results, an estimate can be made of the real rate of interest looked at from the debtor country's viewpoint, i.e., measured in terms of real resources required to pay debt amortization and interest in relation to the nominal global external debt outstanding. As regards the six countries considered apart, the maximum rate —38.1%— is shown by Chile in the quinquennium 1976-1980, while the minimum —1%— falls to Argentina in the first quinquennium of the period under study. In the six countries as a whole, the rate follows an upward trend throughout the four quinquennia, reaching almost 12% in the last five-year period analysed. This reflects several factors, including the variation in the debt and in its amortization, the increase in nominal interest rates and the deterioration of the terms of trade.

IV
Factors intervening in the real cost of debt servicing, from the debtor's viewpoint. A provisional analysis

To measure the relative importance of each of the factors intervening in the determination of the real cost of debt servicing, from the debtor's viewpoint, the following procedure was adopted.

If it is recalled that

$$(6) \qquad \frac{S}{T} - S = VC$$

is the additional cost of debt servicing attributable to the terms of trade, the following expression may be formulated:

$$(7) \qquad \frac{\frac{S}{T} - S + I}{D} = \frac{VC + I}{D} = \rho$$

where ρ represents the real cost of debt servicing, per unit of debt. This can also be expressed as follows, in accordance with (1):

$$(8) \qquad \rho = \frac{I}{D} + \frac{A + I}{TD} - \frac{A + I}{D}$$

The present stock of debt D can be expressed as the past period stock, Do, plus the gross flow of new debt, U, minus the amortization A. Then:

$$(9) \qquad \rho = \frac{1}{Do + U - A}\left[\frac{A + I}{T} - A\right]$$

If we differentiate (9) completly:

$$(10) \quad d\rho = \frac{\partial \rho}{\partial A}\cdot dA + \frac{\partial \rho}{\partial U}\cdot dU + \frac{\partial \rho}{\partial I}\cdot dI + \frac{\partial \rho}{\partial T}\cdot dT$$

By virtue of equation (10), the increase in the real cost of debt servicing per unit of debt can be broken down by the various factors intervening in its determination: dA, dU, dI and dT.

Totally differentiating equation (9) as indicated in (10) we have:

$$(11) \quad d\rho = \left[\frac{1}{TD}\right] dI + \left[-\frac{A+I}{T^2D}\right] dT + \left[\frac{A}{D^2} - \frac{A+I}{TD^2}\right] dU +$$

$$+ \left[\frac{1}{TD} + \frac{A+I}{TD^2} - \frac{1}{D} - \frac{A}{D^2}\right] dA$$

If its is recalled that A + I = S, we have:

$$(12) \quad d\rho = \frac{dI}{TD} - \frac{S}{T^2D}\cdot dT + \frac{AT-S}{TD^2}\cdot dU + \frac{S+D\,(1-T)\,-AT}{TD^2}\cdot dA$$

This equation can be written as follows:

$$(13) \quad d\rho = \frac{I}{TD}\cdot\frac{dI}{I} - \frac{S}{TD}\cdot\frac{dT}{T} + \frac{AT-S}{TD}\cdot\frac{U}{D}\cdot\frac{dU}{U} + \frac{S+D(1-T)-AT}{TD}\cdot\frac{A}{D}\cdot\frac{dA}{A}$$

where the changes in gross flow of debt, amortization, in the terms of trade and in the intrust paid are expressed as percentages.

Thus equations (11), (12) and (13) make it possible to distinguish the incidence of these factors on the variations in the real cost of debt servicing, by combining the terms-of-trade effect with the impact of changes in the flows of gross debt, amortization and interest payments.

If the results obtained in (13) are applied to the figures for the group formed by the six major debtor countries of the region, for the whole of the period under consideration, the following equation is obtained by regression:

$$d\rho = -0.021\,\frac{dU}{U} + 0.004\,\frac{dA}{A} + 0.043\,\frac{dI}{I} - 0.237\,\frac{dT}{T}$$

The coefficients are significant, with the exception of the one corresponding to $\frac{dA}{A}$ and the signs conform to the expectations.

Table 5

REGRESSION RESULTS

General formula $d\rho = \alpha_1 \frac{dU}{U} + \alpha_2 \frac{dA}{A} + \alpha_3 \frac{dI}{I} + \alpha_4 \frac{dT}{T}$

	α_1	α_2	α_3	α_4	R^2	*D.W.*
Argentina	0.004	0.007	0.042	-0.247	0.58	1.20
OLSQ	(0.932)[a]	(0.623)[a]	(1.400)[a]	(-4.189)		
CORC	0.005	0.010	0.074	-0.217	0.67	1.53
Brazil	-0.006	-0.003	0.055	-0.258	0.85	1.37
OLSQ	(-0.675)[a]	(-0.132)[a]	(2.977)	(-6.544)		
CORC	0.000	0.005	0.080	-0.230	0.89	2.05
Chile	-0.003	0.029	0.078	-0.196	0.68	0.50
OLSQ	(-0.121)[a]	(0.854)[a]	(3.673)	(-5.437)		
CORC	-0.004	-0.015	0.056	-0.167	0.88	2.16
Colombia	-0.000	0.006	0.039	-0.133	0.91	1.91
OLSQ	(-0.055)[a]	(1.977)[a]	(4.547)	(-9.892)		
Mexico	-0.003	-0.011	0.032	-0.341	0.88	2.34
OLSQ	(-0.368)[a]	(-1.434)[a]	(3.133)	(-10.486)		
Peru	-0.014	0.007	0.037	-0.366	0.87	2.20
OLSQ	(-2.611)	(0.404)[a]	(2.128)	(-9.525)		
Total	-0.021	0.004	0.043	-0.237	0.91	1.63
OLSQ	(-2.880)	(0.319)[a]	(4.480)	(-9.968)		

Note: The numbers in ( ) correspond to the value of the *t* statistic.
The Cochrane Orcutt estimation procedure has been used when the ordinary first squares method gave a base result in the "Durbin-Watson" serial correlation test.
[a]Not significant at the 90% level of reliability.

The increase in the flow of gross debt bears a negative sign, i.e., it reduces the value $d\rho$ and, therefore, represents a relief in respect of the cost of debt servicing. But for the increment in amortization the sign is positive (although not significant), so that when the growth of the debt generates increases in amortization, the cost of servicing it will rise. The same thing will happen in the case of interest payments. with the result that the relief afforded by the augmentation of the debt is a very short-term business.

These results once again confirm the conclusion that the variation in the terms of trade plays an important part in the cost of debt servicing, from the debtor's point of view. In some individual countries, however, its influence varies substantially within each of the periods considered.

Table 5 shows the results obtained for each of the countries in the Latin American "major debtors" group.

The cost relief effect produced by the increase in gross indebtedness was important only for Peru. The rest of the countries have coefficients which are not significant.

The increase in debt amortization in all countries has a regression coefficient equivalent or very close to 0.

The impact of the rise in the interest paid was severest in the cases of Chile and Brazil, whereas in Mexico its effect was much less. The coefficient for the remaining countries was close to the average for the six major debtors.

The terms of trade carried most weight in the determination of the cost of debt servicing. Mexico, Peru and Brazil were the countries in which its cost was most affected by this concept, while the coefficient was lowest in Colombia.

It is important to bear in mind that inherent in the cost per unit of debt there is a relief, or negative cost, by virtue of the increase in the size of the debt. This is a genuine fact, but, as previously remarked, it must be handled with caution. A debt whose growth has been very marked will be bound to generate a considerable subsequent rise in amortization and interest; when the level of the debt is stabilized, this upswing will cause an increase, which may be substantial, in the cost of servicing it.

V
Conclusions

Table 6 summarizes the results obtained. Obviously, real interest rates, from the standpoint of the debtor, have greatly exceeded those envisaged by the creditor, in consequence of the steep deterioration of the terms of trade during the period under consideration.

This discrepancy in the real cost of the debt from the two points of view may account for some of the facts observed. In the first place, the debtor countries have been more concerned about the level of their debt than the creditors.[4] The latter have not supported the proposals put forward by some debtor countries for the improvement of the institutional mechanisms that deal with the debt problem: proposals which include the possible establishment of a special refinancing service in the International Monetary Fund. Nevertheless, some creditors are beginning to show signs of concern as to the "debt servicing capacity" of the debtor countries. This capacity must not be measured by the traditional indicators —such as the relation between debt servicing and exports or between the level of the external debt and the national or domestic product—, since these have serious short-comings.[5] In contrast, there is a direct relation between "debt servicing capacity" and the cost of servicing the debt in terms of real resources, as seen by the debtor. The greater this cost, the less will be the debt servicing "capacity", and the stronger the incentive to put off net payments abroad to better days, through renegotiation or refinancing operations.

Table 6

LATIN AMERICA AND SIX MAJOR DEBTOR COUNTRIES: REAL INTEREST FOR CREDITORS AND DEBTORS

(Averages for quinquennia and decades, as percentages)

Period	*Rates for creditors*		*Rates for debtors*
	CPI	*WPI*	
1961-1965	3.1	4.1	6.0
1966-1970	1.5	3.0	6.7
1971-1975	0.9	-1.9	8.0
1976-1980	1.5	1.5	11.8
1961-1970	2.4	3.6	6.4
1971-1980	1.3	-0.2	9.9

The approach adopted to the determination of the real cost of debt servicing from the debtor's point of view represents a social rather than a private valuation. This is because the currencies of the debtor countries are not reserve currencies; accordingly, for the payment of the external debt a process of currency conversion is required which in the end involves the monetary authority. It is the latter that in the last analysis has to face the problem of supplying or withholding the foreign exchange required to cover balance-of-payments disequilibria, even if these disequilibria stem from transactions conducted by the country's private sector.

The fact that an increasing proportion of the external debt is a private-sector debt with no State guarantee does not alter this circumstance.

Again, only two of the four variables taken into consideration in the determination of the real cost of debt servicing can be directly affected by the economic policy of the debtor countries: the growth rate of the gross flow of debt and the growth rate of debt amortization. The former is affected by the internal interest rate compared with the external, as well as by expectations of devaluation and by the element of risk, both private and national; it is also often influenced by direct regulations. The second is particularly affected by regulations such as those relating to compulsory cash reserves, differentiated according to the length of time for which the credit is granted, guarantees of access to the foreign exchange market, etc. The object of all these regulations is to change the debt maturity profile, and thereby they affect amortization payments.

On the other hand, apart from the effect on interest generated by the level of the debt, the debtor country has no direct means of influencing interest, since interest rates and surcharges are determined abroad. It does, however, have certain indirect ones, such as the granting or withholding of a State guarantee, and the overall situation of the debtor country's economy.

While for their part the terms of trade and variations therein may be affected over the short term by exchange policy, they are to all intents and purposes determined externally in the case of small economies with no monopolistic power in the world market.

The behaviour of these two variables —interest rates and the terms of trade— although uninfluenced by the economic policies of the debtor country, may on the other hand influence them, leading them to create incentives in the appropriate direction. An increase in rates of interest that is expected to take place shortly may act as an inducement to use reserves to make external debt payments in advance, whereas a deterioration in the terms of trade should be conducive to longer-term rescheduling or refinancing of payments.

NOTES

[1] For a first study in this field, see C. Massad and R. Zahler, "Inflación mundial y deuda externa: el caso del deflactor impropio", in *Dos estudios sobre endeudamiento externo, Cuadernos de la CEPAL* series, No. 9, Santiago, Chile, 1977.

[2] See International Monetary Fund, *International Financial Statistics*, Washington, D.C., September 1982.

[3] See C. Massad and R. Zahler, *op.cit.*

[4] Mexico's recent problem has made a notable difference to this situation.

[5] See Alvaro Saieh, *Un análisis sobre la posibilidad de evaluar la solvencia crediticia de los países en desarrollo. Cuadernos de la CEPAL* series, No. 36, 1980.

External financing in Latin America: developments, problems and options

Carlos Massad

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I
Introduction

The difficulties that Latin American countries experienced in obtaining many products from abroad during World War II contributed to the stimulus already provided by the Great Depression to develop domestic economic production in many areas. By the end of the war, Latin American countries had accumulated foreign exchange reserves that under normal conditions would have facilitated a policy of opening up their economies to world trade. However, external markets were in practice limited to the United States. Western Europe and Asia were in no position to import Latin American products actively or to offer a varied supply of goods to the region. Latin American countries thus found it necessary to improve the organization of their productive efforts through economic planning and selective policies that emphasized industrial expansion as the main engine of growth. Foreign trade and exchange rates were strictly controlled.

For a time, previously accumulated foreign exchange reserves provided the financing necessary to cover the trade imbalances. That resulted from rapid industrial growth. But their depletion in some cases and the post-war recession of the late 1940s demonstrated that domestic savings were insufficient to finance the desired rate of economic growth. Thus an important role appeared for foreign savings. Different countries' policies varied within this general context, particularly with respect to official attitudes towards government deficits and domestic price stability. Changes in a country's terms of trade and in national fiscal equilibrium probably explain most of the problems in the foreign trade imbalances and domestic inflationary pressures that surfaced during this period.

At the time, private banking had no role in international finance except in the form of trade-related, short-term operations. Medium- and long-term financing was undertaken principally through official institutions (mainly government-to-government credit) and direct foreign investment. Government-to-government loan operations typically involved fixed, subsidized interest rates and long maturities, so neither interest rates nor amortization periods raised particular problems. Direct investment was strictly linked to the exploitation of mineral resources (copper, oil, tin, iron and so on) and the production of agricultural commodities (coffee, fruits, sugar, cocoa and so forth).

Several years after World War II, direct foreign investment began to flow, at a rapid rate, into Central America, Venezuela and Ecuador. These countries then opened up their economies and followed a development model that emphasized the exportation of primary products and the importation of a wide variety of manufactured goods. Because of domestic political problems, exchange controls, and/or less favourable treatment of foreign investment, other Latin American countries did not become important recipients of foreign capital. They continued to pursue a development strategy based on relatively high protection for domestic industries and specific stimuli to some sectors of the ecomomy, placing greater emphasis on foreign borrowing than on foreign investment.

By the mid-1960s most Latin American countries evidenced rapid rates of economic growth, so their attractiveness as borrowers was substantially enhanced. At the same time, foreign investment in Latin America began to ebb as new investment opportunities appeared in other areas and nationalization became a real risk. Moreover, as Latin

America's per capita income levels came to exceed substantially those of other developing areas, both international organizations and industrialized countries shifted their concessional resources toward other regions. Within the World Bank this process became known as "graduation", and through it some developing countries found their access to the Bank's resources increasingly limited. The United States government's growing skepticism regarding both foreign assistance and United States contributions to international and regional organizations stimulated and sustained this general tendency.

At the same time, world private financial markets developed rapidly in the late 1960s and early 1970s. Foreign investment lost its importance in the financing of current account imbalances and reserve increases in Latin America and foreign borrowing in the form of loans from private sources grew rapidly. By the mid-1970s, direct foreign investment as a share of total net capital inflows had dropped to 17% compared to 44% ten years earlier. Table 1 shows the size and composition of Latin America's foreign debt from 1970 to 1983.

In early 1984 the total foreign debt of Latin American countries probably exceeded US$ 340 billion. This figure includes both private and public debit from all sources, covering all maturities. The US$ 337 billion reported in table 1 is an estimate that excludes several kinds of debt: non-publicly guaranteed suppliers credits, loans from

Table 1

LATIN AMERICA AND THE CARIBBEAN: FOREIGN DEBT, 1970-1983[a]

(Outstanding and disbursed at end of each year)

	Total debt (billions of dollars)	*Official sources*		*Private sources*[b]	
		Billions of dollars	*Percentage of total debt*	*Billions of dollars*	*Percentage of total debt*
1970	23	8	36	15	64
1971	26	9	36	17	64
1972	30	10	34	20	66
1973	40	12	28	28	72
1974	56	14	25	42	75
1975	75	16	22	59	78
1976	98	18	18	80	82
1977	116	21	18	95	82
1978	152	25	16	127	84
1979	184	27	15	157	85
1980	229	31	14	198	86
1981	280	34	12	246	88
1982	314	39	12	275	88
1983[c]	337	47	14	290	86

Source: IBRD, *World Debt Tables*, 1982-1983 and 1983-1984 edition; BIS, *Annual Reports*, various years; IDB, *External Debt and Economic Development in Latin America*, Washington, January 1984.

[a] Estimates include long-, medium- and short-term debt as well as unguaranteed debt with financial institutions that report to the Bank of International Settlements. Unguaranteed debt with other financial institutions and unguaranteed suppliers' credits are not included. Latin America and the Caribbean include the following countries: Argentina, Barbados, Bolivia, Brazil, Colombia, Costa Rica, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

[b] All short-term debts are assumed of Private Source.

[c] Preliminary estimate.

Table 2

LATIN AMERICA AND THE CARIBBEAN: INDICATORS OF INDEBTEDNESS IN 1983

(Percentages)

	DebB/GDP	*Interest/export of gBBds and services*
Latin America (24 countries)	47	35
Bigger countries (Argentina, Brazil, Mexico)	46	41
Medium countries (Chile, Colombia, Peru)	50	31
Smaller countries[a]	47	24
Six oil-exporting countries[b]	48	31
Non-oil-exporting countries[c]	46	39
Opening-up countries (Argentina, Chile, Uruguay)	65	50

Source: CEPAL, *Balance Preliminar de la Economía Latinoamericana en 1983;* IMF, *Balance of Payments Yearbook, 1983;* World Bank, *Informe sobre el Desarrollo Mundial, 1984.*

[a] Includes the rest of the 24 Latin American countries not considered bigger or medium, or Venezuela.

[b] Bolivia, Ecuador, Mexico, Peru, Trinidad and Tobago and Venezuela.

[c] The rest of the 24 Latin American countries not considered oil-exporting countries.

banks other than those reporting to the Bank of International Settlements, and some direct firm-to-firm loans. This figure also excludes foreign-owned non-bank deposits in Latin American banks.[1]

The estimated US$ 340 billion of foreign debt represented approximately 47% of total Latin American gross national product, and interest payments represented some 35% of Latin American exports in 1983. Table 2 provides data on these two indicators for several groups of Latin American countries based on published (but underestimated) figures. There are practically no exceptions to the finding that both foreign debt and interest payments have grown substantially in the last five years in relation to these indicators.

The remainder of this essay explores the main reasons for the recent increase in debt levels in the region, considering both the demand and supply sides of the issue. The essay also examines the impact of increased indebtedness on Latin American countries' domestic policies and economic stability, and the prospects for future resource transfers to the region. It also evaluates the terms-of-trade, interest rate, and foreign-financing conditions that would make high and growing debt levels bearable. Finally, the essay examines the domestic and international policy options that are available to debtor and creditor countries if these conditions are not fulfilled.

II

Why did Latin America's foreign debt grow so fast?

With practically no exceptions, foreign indebtedness to private sources increased very rapidly in Latin America in the 1970s. Debt levels increased both in countries that opened up their economies by reducing barriers to trade and capital movements and in countries that did not follow policies such as these. Debt increases were registered in oil-exporting

countries as well as in non-oil-exporting countries. With very few exceptions, both large and small Latin American countries showed rapid growth in overall indebtedness.[2] A systematic examination of this generalized phenomenon must begin by considering those "demand" and "supply" elements that gave impetus to increases in indebtedness.

1. *Demand elements influencing foreign indebtedness*

Demand for foreign borrowing is not necessarily connected to a country's foreign trade operations. Of course, an increase in imports and/or exports necessitates increased use of short-term, trade-related commercial credit. But increases in regional imports and exports accounted for a relatively small proportion of the total increase in Latin America's demand for foreign debt in the 1970s. More important factors included interest rate differentials between domestic and foreign capital markets and deficit spending in some sectors of the Latin American economies.

a) *Interest rate differentials*

There are two aspects to the problem posed by interest rate differentials. first, differences between domestic and foreign rates persisted over a prolonged period. Second, domestic rates tended to be higher than foreign ones, in some cases reaching unprecedented levels.

Most theoretical analyses assume that interest rate differentials among countries are rapidly eliminated by capital movements. However, empirical evidence does not support this assumption. Interest rate differentials tend to persist even among industrialized countries that permit subtantially free capital movements. (This is the case after allowing for expected changes in exchange rates as measured through foreign-exchange futures markets or covered rate differentials.) Latin America is no exception to

Table 3

SELECTED LATIN AMERICAN DOMESTIC AND INTERNATIONAL INTEREST RATES, 1977-1982

(Annual rates, percentages)

	Domestic interest rate[a]			*International interest rate*[b]
	Argentina	*Chile*	*Uruguay*	*LIBOR*[c]
1977	10.0	58.4	22.4	6.4
1978	37.2	51.1	33.4	9.2
1979	34.5	40.5	37.8	12.1
1980	45.6	46.9	40.7	14.0
1981	-30.3	51.9	38.2	16.8
1982	-65.8	-12.1	-	13.6

Source: Roberto Zahler, "Recent Southern Cone Liberalization Reforms and Stabilization Policies: The Chilean Case 1974-1982"; in *Journal of Inter-American Studies and World Affairs*, November 1983, pp. 509-562. International Monetary Fund, *International Financial Statistics*, April 1983; Central Bank of Argentina, lists of financial data, series 484; United Nations Economic Commission for Latin America, *Estudio Económico, Uruguay 1981*, November 1982.

[a] Domestic interest rate in US dollar equivalent.

[b] LIBOR for operations in US dollars; rate for 180 days, London.

[c] London Inter-Bank Offer Rate.

this situation, and in several countries domestic interest rates (expressed in terms of foreign exchange equivalents) have deviated substantially from foreign rates. Table 3 provides indicative data regarding domestic and foreign interest rates (both expressed in terms of dollars) in Argentina, Chile, and Uruguay during the period from 1977 through 1982.

Two hypotheses have been advanced to explain the origins of this phenomenon in Latin America (apart from the usual one of capital movement regulation): financial market segmentation and tradeable versus non-tradeable securities. Segmented domestic financial markets emerge because not all those seeking credit have access to foreign borrowing. In practice, it is the larger enterprises and those involved in foreign trade that have such access. Most other credit demanders have access to foreign loans only through domestic intermediaries. These intermediaries effectively prevent foreign and domestic interest rates from coming together by capturing all or most of the differences in rate. Because most borrowers have no direct access to foreign borrowing, they are unable to act through this market mechanism to force a reduction in the spread between domestic and foreign rates. Thus market segmentation in part explains the failure of domestic and foreign interest rates to converge rapidly under conditions of free (or nearly free) capital movements.[3]

Interest rate differentials also exist because of controls on capital outflows and inflows. The maintenance of such controls encourages the issuing and trading of securities that are not tradeable internationally (because of the nature and form of the securities, the risk involved, or simply inadequate or costly information about them). Domestic securities do not become tradeable instantaneously as capital controls are dismantled. Because there are costs involved in this shift, the process is likely to take some time, perhaps years.[4]

Of course, market segmentation and the non-tradeability of securities are related. Market segmentation exists only insofar as some domestic securities cannot be sold to foreign leaders (that is, insofar as some domestic borrowers are precluded from borrowing abroad). Both market segmentation and the existence of non-tradeable securities explain why domestic interest rates may *diverge* from foreign rates even under conditions of free capital movements. But other factors explain why domestic rates in Latin America have been *higher* than foreign rates during recent years, thus providing an incentive to borrow abroad. This differential resulted from both short-term and structural economic policies and from the behaviour of important groups of large, interrelated enterprises.

The first factor was the generalized counterinflation effort pursued in Latin America in the 1970s. As external inflation accelerated during this period so did domestic inflation rates. Governments necessarily gave high priority to resisting this trend. In an environment such as this, policies favoured monetary restrictiton, which produced higher interest rates and/or excess demand for credit. As domestic rates increased relative to foreign rates, the incentive to borrow abroad grew. At the same time governments reduced restrictions on such borrowing, with obvious consequences.

Interest rate differentials also persisted because of structural economic policies in the region. During the last decade, several Latin American countries undertook policies intended to effect major changes in economic structure and incentives Argentina, Costa Rica, Chile, Mexico, Peru, Uruguay, and Venezuela all deregulated trade, capital movements, and financial systems and they introduced important changes in tax and/or social security systems. Apart from their long-term implications, these reform policies changed short-term relative prices and encouraged the movement of resources from activities whose relative prices decreased to those that registered an increase. Although

imports provided some cushion, in those sectors in which relative prices rose, there was still a stimulus to expand domestic production that implied additional demands for credit. Those activities that were expected to contract did so only slowly, in the expectations that policy changes would be transitory. Business in these sectors were willing to borrow in the meantime, even at high real rates of interest, to maintain some minimum level of operations until circumstances changed. Therefore structural economic reforms increased the total demand for credit (domestic or foreign), thus pressing domestic interest rates upward without an overheating of the economy.

In many cases this tendency was accentuated by links between domestic banks and non-financial firms. Where these ties exist, there is no independent evaluation of non-financial firms' policies, and their mistakes do not necessarily result in their being rationed out of the financial market. Moreover, these firms may not be required to provide as much collateral for loans as other firms, thus allowing them to work with a higher debt-capital ratio. The higher this ratio, the lower the risk for the firm's owners, and hence the higher the interest rate they are willing to accept (insofar as they can finance it) to stay in business in difficult times.

Foreign-exchange policy also contributed to interest rate differentials. If the exchange rate is fixed in nominal terms when inflation is rapid, nominal domestic interest rates (which tend to reflect expected inflation rates) may become extremely high in dollar terms.[5] For example, a nominal domestic interest rate of 25% per year with an annual domestic inflation rate of 25% is equivalent to a real domestic interest rate of zero but to a dollar rate of 25% because the price of the dollar is fixed. Under these conditions, a foreign interest rate of 15% per year would imply a gain of 10% per year for a borrower who obtains financing abroad rather than from domestic sources. A situation of this kind has prevailed in several Latin American countries (Argentina, Chile, Uruguay, Mexico, and Peru). Of course, a similar but less extreme incentive to borrow abroad exists when the exchange rate moves at slower speed than the domestic inflation rate. This was the case for some time in Brazil and Colombia.

b) *Excessive spending*

A second major cause of Latin America's growing external debt in the 1970s was excessive spending by the public and private sectors.

The problem of excessive public sector spending is well known, and it has been carefully examined by economists and international financial institutions. The problem is an orthodox case of excessive spending. The public sector, under pressure to improve living conditions, expands its expenditures until they exceed current receipts, and the difference is financed through foreign and/or domestic borrowing. Foreign borrowing produces a direct increase in official foreign debt, while domestic borrowing results in less direct growth in foreign indebtedness.

When the public sector borrows domestically, money (and/or "quasi-money") is created over and above the quantity in demand. The excess supply of money has a counterpart of an excess demand for goods and services and for securities, taken together. Such excess demand is satisfied through a deficit in external payments with the consequence that international reserves are depleted. The policy reaction of government financial officials is to borrow abroad and the official external debt increases.

Excessive spending by the private sector explains cases of rapid increase in indebtedness in those Latin American countries in which the public sector maintained equilibrium (or near-equilibrium) in its own accounts. Most analysts have assumed that private sector spending can be effectively regulated by government control over the

expansion of domestic credit. However, if alternative sources of financing are available abroad, the private sector can also overspend.

Insofar as excessive private sector spending is concentrated in tradeable goods (that is, goods that can be imported or exported), it will be reflected in a current-account deficit in the balance of payments and financed by a corresponding inflow of capital as the private sector borrows abroad. If there is also excess demand for non-tradeable goods, part of the external borrowing will produce an increase in reserves, and the prices of non-tradeable goods will rise relative to the prices of tradeable items —which is equivalent to a revaluation of the currency.[6] Private sector expectations might then accelerate the pace of foreign borrowing. With fixed exchange rates the nominal prices of tradeable goods will remain stable while the prices of non-tradeable items continue to rise. Domestic price indexes will reflect a higher inflation rate. Nominal domestic interest rates remain inflated and become extremely high in dollar terms, thus encouraging further borrowing abroad. As a result, foreign debt increases as a component of the economy's liability structure.

This chain of events will produce the need for adjustment in the balance-of-payments current account at some point, in much the same manner that excessive public expenditures eventually require adjustment. However, this unorthodox case of excessive spending is more difficult to detect. Its symptoms are all considered to be positive indicators: increased capital inflow, larger reserves, and perhaps rapid rates of economic growth. But because there is insufficient investment, this process is as unsustainable as that generated by excessive public spending.

In cases in which excessive private spending dominates the picture, most of the increase in foreign indebtedness can be traced to the private sector. In cases in which excessive public sector spending predominates, official debt is usually the principal component in total foreign indebtedness.

2. *Foreign lending: the supply side*

The demand for additional external borrowing in Latin America during the 1970s coincided with an increased supply of foreign credit. The oil shocks of 1973-1974 and 1978-1979 generated large current-account surpluses for oil-exporting countries. A significant share of these surpluses was deposited in private banks that operate actively in the international financial market, thus expanding substantially the available resources of the international banking system.[7] At the same time, oil-importing countries registered large balance-of-trade deficits that required increased foreign borrowing.

Because Eurocurrency deposits are not subject to reserve requirements, the capacity of this market to expand is quite substantial.[8] In fact, the total supply of credit in this market is essentially determined by the demand for it. The total foreign assets of banks reporting to the Bank of International Settlements (net of inter-bank deposits) grew at an average annual rate of 20% between 1974 and 1982.

The financial commitments of U.S. banks to Latin American countries also grew rapidly during this period. These loans represented substantial proportions of the banks' total equity (net worth), which became a source of some concern to U.S. comptroller authorities. Table 4 shows the "exposure" of some U.S. banks in Brazil, Mexico, and Venezuela.

III

Consequences of increasing indebtedness and changing debt composition

Both demand and supply factors contributed to Latin American countries' growing indebtedness during the 1970s. The main sources of loans were private banks, particularly U.S. banks. Thus as indebtedness increased, the relative importance of debts owed to private banks rose. This change in debt composition had several important implications. First, debt became more expensive, and repayment periods were shortened as the relative significance of concessional loans declined and commercial terms became the norm. Second, the number of creditors increased substantially, making negotiations more complicated in the event of a debt crisis. Third, interest payments were increasingly based on floating rates whose changes affected the total debt stock rather than just the flow of new borrowing. Fourth, lenders' "exposure" became a major concern, and "country-risk" analysis attracted increasing attention. Finally, because there is no established market in which lenders can liquidate their portfolio assets, a market valuation of these assets cannot be made. Portfolio classification thus becomes an exercise that requires the active participation of the national comptrolling authority.

The changing composition of foreign debt also has other dimensions. Private bankers are not expected to be politically motivated in their decisions to lend —at least insofar as total indebtedness does not exceed lenders' perceptions of reasonable limits, measured in proportion to borrowers' gross domestic product and export earnings. As debt levels rise relative to borrowers' economic size and foreign-exchange resources, the risk of default increases, and lenders become more and more interested in the borrowing country's macroeconomic policies. This is particularly true for very large lenders, which in the case of Latin American countries are mainly U.S. banks.

Table 4

DEBT EXPOSURE IN SELECTED LATIN AMERICAN COUNTRIES FOR TEN UNITED STATES BANKS

(Outstanding loans in US$ billions)

	Brazil	*Mexico*	*Venezuela*	*Total of 3 countries*	*Total as percentage of bank's equity*
Citicorp	4.4	3.3	1.1	8.7	180
Bank of America	2.3	2.5	2.0	6.8	148
Chase Manhattan	2.4	1.7	1.0	5.1	183
Manufacturers' Hanover	2.0	1.7	1.1	4.8	174
Morgan Guaranty Trust	1.7	1.1	0.5	3.3	122
Chemical Bank	1.3	1.5	-	2.8	143
Bankers Trust	0.9	0.9	0.5	2.2	143
Continental Illinois	0.5	0.7	0.5	1.6	96
First Interstate	0.5	0.7	-	1.2	64
Security Pacific	0.5	0.5	-	1.0	68

Source: "The American Banker" quoted by *The Economist*, p. 13, 30 April 1983.

This situation affects Latin American countries in three major ways, although the consequences are less severe for those countries that have used foreign borrowing to increase significantly their productive and export capacity. First, the level of indebtedness and its maturity structure impose restrictions on domestic policies. The shorter the average maturity of the debt stock, the larger the share that matures each year. Unless a country is willing to accept a transfer of real resources abroad by reducing its foreign debt, these maturities must be financed. If the transfer of resources is to favour the debtor country, total indebtedness must rise —further taxing the country's capacity to borrow. Because banks evaluate a country's creditworthiness on the basis of indicators such as foreign-exchange reserve levels, the balance of trade, and the ratio of debt-service obligations to export earnings, a country is bound to adopt policies that produce positive effects on those indicators. This implies that monetary policy, exchange rate policy, interest rate policy, fiscal policy, and so forth are in fact constrained even if banks do not place formal restrictions on a country's domestic policies. Obviously, the higher the level of indebtedness for any given maturity structure, the greater the amount of gross new borrowing that is required each year. Interest payments also require financing, and they are determined not only by overall indebtedness but also by foreign interest rates levels.

A second consequence of higher indebtedness is the increased probability of an eventual (reverse) transfer of real resources from borrowers to creditors. As an external loan is drawn upon, the borrowing country receives a transfer of real resources. These resources are repaid in the form of interest and amortization payments. However, if new borrowing exceeds amortization and interest payments, the borrower continues to receive a net transfer of resources. As indebtedness grows in relation to standard indicators such as a country's gross domestic product and export earnings, the probability of obtaining new net loans decreases, and the likelihood of being forced to transfer real resources abroad increases. The magnitude of this transfer is linked to variables such as interest rates, terms of trade, and external inflation.[9]

Third, the increasingly commercial character of debt stocks establishes a new mechanism for the transmission of external shocks to Latin American economies and thus increases their vulnerability. As debt from private sources grows, the proportion of the total debt stock that is subject to floating interest rates increases. Changes in interest rates then become an important source of current-account imbalances. For Latin America as a whole in early 1983, a 1% rise in interest rates over the course of a year implied additional interest payments of about US$ 2.4 billion. Of course, interest rates may rise or fall. But the main point is that interest rate fluctuations introduce a new source of instability in the balance-of-payments situation when the level of indebtedness is high. They join terms of trade, export volumes the effect of interest rates on domestic expenditures and investment, and exchange rate fluctuations as vehicles for the transmission of international disequilibria to Latin American economies.

A further complication arises because interest rates fluctuations are often associated with shifting terms of trade and changes in the exchange rate value of an intervention currency *vis-a-vis* other currencies that are important in international trade. Changes in these different areas require adjustment policies that work in the same direction so that their effects reinforce each other. Moreover, fluctuations in interest rates tend to affect the quality of lending bank portfolios. Higher interest rates erode porfolio quality because investments made on the basis of lower interest rates become unprofitable, and borrowers' debt burden becomes less bearable. Conversely, lower interest rates improve the quality of bank portfolios. Thus changes in interest rates affect banks' willingness to lend in a way that reinforces the destabilizing effects described above.

IV

Can current levels of indebtedness be sustained?

Over the long run, foreign savings will have an important role to play in the economic development of Latin American countries. United States Department of Commerce figures show that the average yields of U.S. investment in Latin America are more favourable to investors than those in other areas of the world.[10] This finding suggests that a portfolio-composition model applied to countries that are net suppliers of savings would result in a sustained capital inflow to Latin America. Such a model also indicates that even if yield and variability were equal all over the world, capital movements would still produce a net inflow to those areas with a smaller capital stock.[11]

1. *Foreign investment and foreign debt as forms of capital mobility*

However, foreign investment and foreign debt differ in their political and economic implications for Latin America. Although the political dimensions of this issue will not be developed here, investment and debt differ in the kind of foreign presence they imply in a country. Foreign investment, particularly when it is important in relation to the size of the economy or the particular sector involved, stimulates foreign attention to micropolicies and the exercise of power. Foreign debt is generally free of these characteristics.

From an economic perspective, foreign investment usually involves foreign ownership of real assets, while external debt by definition involves foreign ownership of financial assets. Direct foreign investment provides the investor with a flow of income that can only be estimated with some probability and that is subject to economic fluctuations in the sector concerned. In contrast, debt provides the lender with a flow of interest payments at a rate that is either fixed at the beginning of the operation or that floats in relation to some reference rate in international markets or in the lender's domestic market. Investment profits can usually be remitted abroad as they are generated. These remittances tend to vary, *ceteris paribus*, with the relative success of the business involved. Interest payments, however, are not subject to such variations except in the extreme case of the borrowing enterprise's failure if the loan is not guaranteed. An inflow of resources in the form of direct foreign investment is directly connected to capital expenditures, while an inflow of resources in the form of debt may not be directly related to an increase in a country's productive capacity. On the other hand, loan principal remittances are made on a previously agreed-upon schedule, while capital investment remittances are usually not subject to such limitations. In practice, though, capital remittances from direct investment take time because they require that the investment itself be liquidated.

As previously noted, over the last decade the bulk of foreign capital flowing to Latin America has been in the form of debt. Given the region's continuing development needs, net additional flows of foreign capital will be required if Latin America's economic growth rate is to recover to the level of the 1970s. The debt-servicing problems that a large number of Latin American countries encountered in 1982 and 1983 underscore the need to examine the circumstances that would make possible a sustained transfer of real resources from abroad through foreign borrowing.

2. *The conditions for an increasing foreign debt*

A level of indebtedness that increases over a long period of time can be sustained so long as creditors perceive that they will eventually be repaid. If this perception is widely held, creditors have no inclination to demand the payment of outstanding principal. Indeed, their main concern is with maintaining a secure flow of interest payments. For this reason, increasing indebtedness is acceptable so long as: the borrowing country's productive capacity continues to expand; this expansion produces an increased volume and value of exports relative to imports; interest payments do not place an excessive burden on the balance-of-payments current account; and foreign financial markets develop relatively smoothly. In short, increasing indebtedness is sustainable insofar as the current-account imbalance is not greatly disproportionate to exports and gross domestic product.

To what extent does foreign borrowing expand the debtor country's productive capacity? Medium- and long-term borrowing from official multilateral sources usually goes to investment projects that include both foreign and domestic financing, so that increased borrowing abroad also implies the commitment of additional domestic resources to investment. Under these conditions, foreign borrowing consitutes an addition to domestic savings, and the borrowing country's debt-servicing capacity increases along with its total investment. However, when private foreign banks become the principal source of foreign credit, the link between external borrowing and domestic investment weakens.

Of course, the debtor country's domestic economic policies are crucial to the determination of the investment rate and the growth of productive capacity. But world economic conditions also play an important role, especially in decisions such as the allocation of resources to the production of tradeable versus non-tradeable goods. A vigorous world economy and expanding international trade provide the basis for increased export volumes and more stable export prices. Raw material exports are more susceptible to sharp price fluctuations than manufactured products because their supply is generally quite inelastic in the short run, while their demand is determined by demand for final products. A global economic downturn negatively affects developing countries' terms of trade, in part because raw materials constitute a major proportion of their total exports. Thus if the world economic growth rate declines, there is first a sharp drop in developing countries' terms of trade, which recover somewhat later on as the world economy stabilizes at a new, lower level. Similarly, if the international economy's growth rate increases, developing countries' terms of trade improve sharply and then deteriorate to a new, stable level. Fluctuations in the terms of trade introduce substantial instability in developing countries' balance of payments, which are more severe the more important raw materials are in a country's total exports.

Part of this effect in recent years has resulted from protectionist tendencies in industrialized countries that are associated with declining world economic growth and slowing international trade. Furthermore, the deterioration in non-oil-exporting Latin American countries' terms of trade has coincided with increases in nominal (and real) external interest rates. Both declining terms of trade and rising external interest rates have increased borrowing countries' debt burden.[12]

Given the size of the U.S. economy, the influence of U.S. domestic policies on the world economy is far stronger than that of any other individual country. Indeed, U.S. economic policy is perhaps the single most important factor in determining economic conditions the world over. For this reason, the United States' economic policies are a matter of great interest for debtor countries regardless of the source of their external financing.

To what extent do developments in international financial markets affect debtor countries' capacity to borrow? For any given maturity structure, gross financing requirements increase with the total debt stock. Debtors need additional amounts of foreign financing just to prevent their debt stock from falling. As indebtedness grows, more and more resources must be devoted to repayment if the level of debt is ever to be reduced. Interest payments also increase with additional borrowing, unless interest rates fall at a faster rate than the growth in overall indebtedness. For all these reasons, as the level of indebtedness rises it becomes increasingly important for debtor countries that international financial markets expand smoothly. Any serious market dislocation might cause major problems for debtor countries. In turn, these problems are likely to reverberate through international financial markets in a vicious circle.

3. *The fulfillment of the conditions*

The above discussion shows that foreign borrowing is sustainable insofar as it contributes to the expansion of debtor countries' productive capacity and export potential; as long as growth rates and other conditions in the world economy facilitate export expansion and reasonably stable terms of trade; and if international financial markets continue to supply funds on a regular basis. To what extent are these conditions likely to be fulfilled for Latin America during the 1980s? Recent information indicates that trends in all three areas are unfavourable to future external borrowing. First, a preliminary United Nations Economic Commission for Latin America and the Caribbean (ECLAC) study of nine Latin American countries over a twelve-year period shows that in five cases, foreign savings were substituted for domestic savings so that available investment resources grew less than the debt stock.[13] Further analysis is required to determine whether foreign and domestic savings are substitutable or complementary. However, the ECLAC study clearly indicates that growing indebtedness has in several cases been associated with major increases in consumption. In these cases higher debt levels have improved at least some groups' present welfare, but without contributing to the expanded productive capacity that is necessary to sustain future consumption and debt repayment.

Second, terms of trade have recently moved strongly against Latin American countries. Here it is necessary to distinguish between the region's oil-exporting and non-oil-exporting countries. Until 1980 terms of trade moved against non-oil-exporting countries and in favour of oil exporters. But during 1981-1983, terms of trade deteriorated for both groups of countries, showing only a slight recovery in 1984. Real interest rates increased at the same time, and the combined negative effects have been substantial for all Latin American countries.

Table 5 shows the effects of deteriorating terms of trade and rising interest rates on the current-account balances of eighteen non-oil-exporting Latin American countries. If the terms of trade had been those prevailing in 1965-1969, and if interest rates had been at 1978-1979 levels, the total current-account balance for this group of countries would have been a surplus of over US$ 3 billion rather than the actual deficit of US$ 15.5 billion. Of course, if terms of trade and interest rates had been different, other conditions might also have changed. Nonetheless, these data provide some indication of the relative importance of terms of trade and interest rates in current-account imbalances and the affected countries' need for additional financing.[14]

How much of the existing imbalance should be eliminated through adjustment policies and how much should be financed are open questions. If at least some of the factors producing terms-of-trade and interest rate problems are transitory rather than permanent, financing might be more reasonable than adjustment. Furthermore,

Table 5

ESTIMATES OF THE EFFECTS OF TERMS OF TRADE AND INTEREST RATES ON THE CURRENT ACCOUNT BALANCE OF 18 NON-OIL-EXPORTING COUNTRIES OF LATIN AMERICA

(Billions of dollars)

	Current account balance	*Terms of trade effect*[a]	*Interest rate effect*[b]	*Adjusted current account balance*
1975	-10.6	-3.6	0.1	-7.1
1976	-7.1	-1.7	0.3	-5.7
1977	-5.4	0.9	0.5	-7.0
1978	-8.2	-1.9	0.5	-6.8
1979	-14.3	-4.7	-0.5	-9.1
1980	-24.0	-9.5	-1.4	-13.1
1981	-28.1	-15.8	-4.6	-7.7
1982	-27.5	-17.7	-5.5	-4.3
1983	-15.5	-15.6	-3.1	3.2

Source: ECLAC, on the basis of IMF data, *Balance of Payments*, April 1984; IMF, *International Financial Statistics*, April 1984.

[a] Estimated by comparing effective trade balance with 1965-1969 priced trade balance multiplied by the industrial countries consumer price index.

[b] Estimated on the basis of the coefficient net interest paid to net global debt (includes long-, medium-, short-term debt minus debtor countries' deposits in international banks). The coefficient was considered "normal" in the period 1978 and 1979, any values over that average have negative effects.

protectionist tendencies are proliferating in industrialized countries. Even though they have not yet had a major impact on Latin American exports, these pressures discourage the allocation of additional resources to export activities and thus affect future export growth rates.

Finally, several factors have introduced instability in international financial markets in recent years: the behaviour of smaller banks, which tend to be relative newcomers to international business; the sharp fluctuations in the price of oil; and the deterioration of private banks' asset portfolios. Large private banks increased their capacity to lend abroad as the international financial system expanded in the 1970s. They improved their methods of evaluating country risk, and they expanded their network of branch offices and correspondent banks so as to establish closer ties with prospective borrowers. As interest rate spreads grew, smaller banks also found foreign lending attractive. However, because they were not able to establish their own country-risk evaluation capacity, and because they were not in close contact with prospective clients, these smaller banks generally entered the market in the footsteps of larger banks. They increasingly participated in syndicated loans. As a result, as table 6 shows, both large and small banks substantially increased their international commitments between 1972 and 1982.

However, smaller banks' exposure in foreign lending is sufficiently reduced to permit sharp reactions to changing economic and political conditions. Whereas a bank that is highly exposed would have to consider its own interest very carefully before curtailing sharply its foreign lending, a bank with limited exposure can withdraw unilaterally without serious consequences for its own portfolio. Smaller banks generally do not have the necessary staff or the required information to evaluate the overall consequences of such an action. When danger signs appear, smaller banks curtail their

lending at the same time without considering the impact that this pursuit of narrow self-interest may have on international financial markets.

Apart from the attitudes of lending banks, the global economic recession of the early 1980s reduced the supply of savings and credit available in international financial markets. World demand for petroleum contracted sharply, producing serious difficulties for oil-exporting countries because of the size and allocation of production quotas. The oil supply cartel could not be sustained effectively, and petroleum prices dropped rapidly. This price decline altered the distribution of current-account surpluses and deficits in the world. Oil-exporting countries' surpluses disappeared, and an important source of additional liquidity in international financial markets dried up.

Global recession and high real interest rates in the early 1980s also eroded banks' domestic and foreign asset portfolios. Although national authorities can take steps to

Table 6

THE GROWTH OF INTERNATIONAL PRIVATE BANK LENDING[a]

	Banks in Europe	*Banks in Japan and Canada*	*Banks in United States*	*Offshore branches of USA banks*	*Total reporting banks*
	a) *Billions of dollars at the end of each period*				
1972	182.2	24.0	9.2	9.4	224.8
1973	224.4	29.4	15.2	23.5	312.5
1974	279.4	34.5	34.7	36.1	384.7
1975	239.9	34.2	48.3	51.1	463.5
1976	385.6	39.0	69.6	74.9	569.1
1977	466.2	39.9	92.6	91.1	689.7
1978	611.4	56.1	119.2	106.5	893.1
1979	776.0	71.0	136.4	127.6	1 111.0
1980	903.0	101.2	176.8	141.0	1 321.9
1981	998.4	122.8	256.6	172.9	1 549.7
1982	1 022.8	129.7	363.4	172.8	1 688.8
1983	1 027.2	150.9	396.0	179.8	1 753.9
	b) *Rates of annual growth (percentage)*				
1973	34.1	22.5	65.2	150.0	39.0
1974	14.4	17.4	128.3	53.6	23.1
1975	18.1	-0.9	39.2	41.6	20.5
1976	16.9	14.1	44.1	46.6	22.8
1977	20.9	2.3	33.0	21.6	21.2
1978	31.1	40.6	28.7	16.9	29.5
1979	26.9	26.6	14.4	19.8	24.4
1980	16.4	42.5	29.6	10.5	19.0
1981	10.6	21.3	45.1	22.0	17.2
1982	2.4	5.6	41.6	0.5	9.0
1983	0.4	16.3	9.0	4.0	3.8

Source: BIS, *Annual Report*, June 1977 to 1983 and *Review*, April 1984.

[a]Refers to banks operating in Belgium, Luxembourg, France, Germany, Italy, Netherlands, Sweden, United Kingdom, Canada, Japan and the United States, and Switzerland and offshore branches of United States banks in the Caribbean and the Middle East. These figures contain a large amount of double-counting arising out of interbank transactions within the respective areas. This amount has been estimated to approximately 40% of the total. However, for the purpose of this table the amount has not been deducted, nor has an estimate been done, of the amounts not included in the total.

support domestic firms in financial trouble (thus indirectly strengthening domestic banks' assets), firms located in foreign countries are usually beyond their jurisdiction. The only real means of responding to a probable weakening in banks' external assets is to regulate the foreign exposure of domestic banks. Bank comptrolling authorities in the United States thus became stricter in their evaluations in an effort to limit the consequences of economic problems in other countries.

4. *What can Latin American governments do?*

These events —the withdrawal of smaller banks from the international lending market, the reduction and elimination of oil-exporting countries' current-account surpluses, and the deterioration of banks' asset portfolios— created an environment conducive to a drastic reduction in the flow of additional resources to financial markets. This situation is dramatically clear in table 6. These events significantly affected developing countries, particularly Latin America.

Can Latin American governments do anything to alter this situation? Of the three conditions described here as necessary for Latin American countries' continued foreign borrowing, only the first is partially within the purview of Latin American governments. Incentives to increase productive capacity and to allocate additional resources to the production of tradeable goods are basically linked to domestic policies and to the stability of such policies. However, developments in the international economy also exert an influence on these questions. Foreign interest rates influence domestic ones, and export expansion is linked to the growth rate of the world economy and to trade policies in the main markets. The availability of foreign financing also influences domestic investment levels. However, all these factors are of secondary importance in comparison with the domestic allocation of resources between investment and consumption. In this area, domestic policies predominate. This is not merely a question of investment as a proportion of gross domestic product; the efficient evaluation of alternative investment projects and their efficacious completion are also required.

V

Current approaches to the debt crisis

The conditions necessary to sustain current-account deficits through substantial capital flows to Latin America are unlikely to be fulfilled, and there are now significant pressures to eliminate or reduce subtantially these deficits rather than to finance them. Latin American countries' adjustment efforts and costs have already been substantial: the region as a whole ended 1983 with an even lower per capita income than in 1982, and in several cases income per capita fell by more than 7%. (In the case of Chile, per capita income fell in 1982 by nearly 23%.) Unemployment level in many countries reached record highs.[15]

Too much emphasis on adjustment presents several dangers. First, the costs of very strong adjustment policies are likely to be sufficiently high to discredit policy approaches pursued since the mid-1970s (including an opening up of trade and financial relations), with important long-term consequences. Second, the current economic recession in Latin America, if accentuated by excessive emphasis on adjustment policies, is likely to produce a feedback effect on the world economy that will slow global economic recovery. This

effect may be particularly pronounced in the United States. Rapid adjustment generally involves a decline in imports that is faster than the increase in exports, at least in the short run. Latin American imports from the United States amount to US$ 40 billion per year and are concentrated in machinery and transportation equipment, which together are nearly 50% of Latin America's total imports. Third, excessive emphasis on adjustment will further erode the value of lending banks' asset portfolios, giving further impulse to a retrenchment in foreign-bank lending to the region.

Finally, it is not clear that adjustment policies alone are an adequate response to present difficulties. At least some of the factors that have contributed to the current crisis are transitory in nature. For example, there are good reasons to believe that the world economy has already begun to recover. Interest rates are likely to return to more customary levels, although some time may elapse before they do so, and terms of trade cannot be expected to remain at present levels indefinitely. Thus one might argue that excessive emphasis on adjustment policies is not only deleterious but also unnecessary.

However, one factor shaping the present crisis is lasting: the level of indebtedness. For this reason, strategies to address the debt crisis should involve both adjustment and financing as part of a multifaceted approach intended to cope with both transitory and long-term elements.

1. *Adjustment policies and the IMF*

The International Monetary Fund (IMF) plays a leading role in promoting adjustment policies as a condition for additional financing. Countries request IMF assistance when their own reserves cannot sustain a balance-of-payments deficit. Under normal circumstances, adjustment policies in deficit countries attempt to expand exports, reduce imports, and stimulate net capital inflows without significantly affecting either other countries or the world economy. The burden of adjustment falls on the deficit country, whose own "misbehaviour" and errors are assumed to be the sources of the problem. The IMF has no means, other than moral suasion, to induce surplus countries to adjust. If financing were amply available, the asymmetry in IMF actions —strong stimuli for debtor countries to implement adjustment policies, and only moral suasion on creditors— would not be very important because countries could finance rather than adjust a large share of their deficits. But when additional financing is not readily available from the market, the situation is quite different. IMF powers are decisive in influencing debtor countries' policies because the resources available to the Fund can be essential in smoothing out the adjustment process. Unless these financial resources are easily accessible in sufficient amounts, adjustment costs become unbearable. This is what has happened as world economic recession, the interruption of financial markets' expansion, and the shortage of IMF funds have all coincided.

The IMF has been quite conscious of this dangerous coincidence of events. Faced with widespread liquidity problems, IMF authorities have given strong backing to debt renegotiation efforts in countries such as Mexico, Argentina, Brazil, and Chile. This support has included prodding major banks not only to reschedule debt maturities but also to increase their net lending to the countries involved. However, these initiatives have emerged as part of a debtor country's commitment to pursue adjustment policies above and beyond those adjustment efforts already underway.

The Fund has found its own resources severely stretched. As a result, IMF authorities requested an increase in the size of member quotas. Member States approved an increase of 47.5% after protracted bargaining between the United States and most of the other countries. This increase means that by 1984 the IMF had about US$ 15 billion in

additional loanable resources —which is equivalent to only 15% of the 1981 current-account deficits for all non-oil-exporting developing countries. Continued severe resource constraints will probably constitute an incentive for the Fund to promote very strict adjustment policies that place a heavy economic burden on debtor countries. The recessionary bias in such policies and the concentration of the adjustment burden on debtor countries are clearly reflected in the conditionalities attached to IMF loans. This situation is likely to continue to result in mounting resistance by debtor countries to accept, or to abide by, IMF prescriptions.

2. *The private banks and the liquidity crisis*

Apart from the resources that are available to debtor countries, Fund financing is especially important because private banks believe that IMF evaluation and policy prescriptions substantially improve the creditworthiness of borrower countries. Indeed, a pattern seems to have emerged in recent debt renegotiations. The IMF provides its seal of approval for the debtor country's adjustment policies, and it agrees to provide additional financial resources on the condition that private bank creditors do likewise. The creditor banks agree to be represented by a committee composed of the largest institutions, whose task is to reach agreement with the debtor country on the general conditions for debt rescheduling and additional financing. Further negotiations are then necessary between the country and indiviual creditors to formalize the agreement. Amortization payments are not made while negotiations are going on, in a kind of "moratorium by mutual agreement" between debtor and creditors. The whole process takes several months to complete, but a liquidity crisis is thus averted.

Renegotiation has become a costly process for debtor countries in both political and economic terms. In political terms, debt negotiations are a burden because it usually takes a relatively long time for an agreement to materialize, while public opinion closely follows the negotiating process. In economic terms, until early 1984 renegotiations usually increased the debt burden because banks used the opportunity to increase interest rate spreads and to add other commissions —on top of real interest rates that in the early 1980s were the highest in more than fifty years. Increased spreads and other debt costs after renegotiation might be justified by arguing that a country that must renegotiate its debt constitutes a greater risk for creditors. However, if renegotiation involves the extension of government guarantees to portions of the debt that were not previously so covered (as has often been the case for Latin American countries), this justification is weakened or invalidated. Moreover, a risk premium was included in the cost of all previous borrowing, and it is not clear why that premium should be increased when the event covered by such payments actually occurs. Fortunately the tendency to increase debt burdens during renegotiations abated in 1984.

Borrowers countries' perceptions of debt costs also increase the likelihood of future problems as high interest rates persist. Although individual banks may not be aware of this phenomenon, private banks as a group should realize the dangers that this situation presents, especially if they exercise their bargaining power jointly. Actions that increase the economic burden for debtor countries are self-defeating in character. In fact, the quality of lenders' asset portfolios is closely and directly linked to borrowers' debt costs, because an increase in the debt burden implies a reduced probability of eventually repaying creditors. In practice, then, debt burden and the quality of asset portfolios are two sides of the same problem on which the interests of borrowers and lenders coincide.

VI

Bases for a possible solution to the debt problem

A long-term strategy to resolve the debt crisis must include both financing and adjustment measures because both transitory and permanent factors are involved. Care should be taken that short-term policies support longer-term reponses. To begin with, the problem of short-term liquidity should involve three different steps: the renegotiation of debt maturities coming due during the current crisis period and in the near future; IMF borrowing under terms that take into account recessionary pressures in the world economy; and additional borrowing from private creditors already involved in debtor countries. These three measures are closely interrelated and should be undertaken similtaneously. It does not seem practical to search for new, longer-term sources of financing under emergency conditions.

1. *Reactivation of the world economy*

As previously noted, world economic recovery would in itself do much to resolve present problems of foreign debt. Sustained growth in the United States, Western Europe, Japan, and socialist countries would improve terms of trade and reduce real interest rates. To facilitate such growth, action should be undertaken in three areas. First, a substantial new allocation of IMF special drawing rights (SDRs) would increase world liquidity and redistribute somewhat the adjustment burden among countries. Since private financial markets are not expected to expand substantially in the near future, SDRs take on renewed importance as a source of additional liquidity.

Second, a more symmetrical adjustment process would contribute significantly to the reactivation of the world economy. Forcing the adjustment burden on debtor countries alone will prolong recessionary tendencies. However, if creditor countries pursue more expansionary domestic economic policies, adjustment will occur in a more balanced fashion. International institutions can play an important role in achieving this goal, even though they can use little more than moral suasion as an instrument.

Third, domestic economic policies in creditor countries could also make other contributions to global economic recovery. By altering the domestic policy mix so as to reduce interest rates, these countries could reduce the debt burden on borrower countries without sacrificing their own goal of price stability, while at the same time strengthening the quality of lending banks' asset portfolios. By giving additional support to their own banking systems, creditor countries would contribute to a steady, even (though somewhat reduced) flow of private resources to financial markets. This support could take the form of liquidity insurance systems that would recognize that present portfolio problems are not due to mismanagement or misbehaviour but rather to factors that affect the world economic system as a whole. Also, bank comptrollers could carefully review their portfolio classification criteria so as to take into account IMF agreements and World Bank or regional development bank support for debtor countries.

2. *Debtor countries' economic policies*

Debtor countries' long-term policies must recognize that debt levels have reached a point at which interest rate fluctuations are highly significant in provoking changes in their current-account balance. Although short-term adjustment policies negotiated with the IMF can help avert a liquidity crisis, long-term policies must be devised to reduce the debt

burden in the future. For example, domestic savings must play a larger role in capital formation than they have in the recent past. Incentives for domestic saving should be reviewed with this goal in mind. Perhaps the single most important factor in this regard is fiscal policy, in its double role of stimulating savings and discouraging consumption.

Similarly, external constraints to excessive spending (whether private or public) have become more severe as debt levels have risen. Recourse to foreign borrowing to finance public or private sector imbalances will no longer be as easy as it was before 1981. The effects of excessive spending will henceforth need to be managed within national borders, and thus they will appear mainly as domestic inflationary pressures. If rapid inflation is to be avoided in the future, domestic spending must be held in check. It is important to emphasize that this restraint must apply to both the private and public sectors.

More financial resources must also be allocated to the tradeable goods sector so as to improve the balance-of-payments current account and reduce the burden placed on the capital account. Realistic exchange rates that reflect these goals are probably the single most important means of achieving this end.

Latin American countries' efforts to manage external debt should strive to prevent the concentration of loan maturities in particular periods and to take advantage of possible reductions in interest rates or interest rate spreads. As part of these efforts, it would be useful to promote periodic exchanges of information and points of view among bank comptroller authorities in both creditor and debtor countries so as to improve their mutual understanding of portfolio-classification systems and loan-review techniques. Debtor countries could also expand the exchange of information among themselves, and they might even consider establishing some means of co-ordinating their activities in financial markets.

In particular, debtor countries should seek to alter the composition of their external liabilities by increasing the relative share of borrowing from official sources. In this way the cost and variability of borrowing could be limited and the repayment periods lengthened. In addition, the relative share of direct foreign investment in debtors' external liabilities should be increased. Profit remittances abroad might be induced to move in such a way so as to have a countercyclical effect in the host country. Imaginative efforts will be needed in this area to limit the political and economic frictions between investors and host countries that in the past have led to nationalizations.

Finally, debtor countries should also take better advantage of regional markets for trade expansion. Regional economic integration and financial co-operation can save foreign exchange without misallocating resources. Regional co-operation could also be extended to improve debtor countries' bargaining power on trade issues. This is particularly important because protectionist tendencies in industrialized country markets may limit the success of export promotion in the tradeable-goods sector.

3. *Institutional changes*

The debt problem will remain a challenge, though perhaps not in such a dramatic form as in the early 1980s. Some adaptations in international financial institutions will therefore be necessary. These adaptations will unavoidably, involve greater official participation in the management of external debt. First of all, a substantial increase in total IMF resources is advisable. Even after the quota increase approved in 1983, the IMF's resources as a proportion of total world trade were about one-fourth of what they were in its first years of operation. Moreover, only about half of IMF quotas provide currencies that can be used to support its various programmes and facilities. An expanded IMF will be able to provide

better support to countries in debt-repayment difficulties. As a result, other creditors will be more inclined to continue lending. The World Bank and regional development banks should also play a larger role in transferring savings to the developing world, thus contributing to debtor countries' efforts to alter the composition of their external financial liabilities.

Even though measures may be taken to reactivate the world economy and to reduce borrower countries' debt burden, fluctuations in world economic activity will not disappear. Thus it is likely that another debt crisis will appear at some time in the future. For this reason it seems advisable to consider the institutionalization of debt-renegotiation arrangements.

At present two types of organizations are involved in debt renegotiations: "clubs" and "committees". In club-type organizations (the best known of which is the "Paris Club"), creditor governments meet with the debtor-country government to reschedule official loans. The "club" appoints a chairman to act as host and co-ordinator of the negotiations, and all creditor governments participate. The general bases for rescheduling are agreed upon, usually with the participation of the IMF and (at times) the World Bank. The debtor country then approaches each official creditor individually to renegotiate its corresponding debt obligation within the framework of the general agreement. Private creditors are excluded from the agreement. The club-type organization is most useful in managing problems associated with debts from official sources because the number of creditor governments involved is small.

Only private creditors participate in committee-type organizations. These are *ad hoc* committees composed of the larger individual creditor banks and chaired by the largest creditor, which acts as co-ordinator. International organizations do not participate in the committee. However, the IMF has played a very active role in stimulating negotiations and in providing a "certificate of good behaviour" after an evaluation of the debtor country's readjustment programme, which serves as the basis for private banks to refinance or reschedule outstanding debt. The Institute for International Finance has been established in Washington, D.C. (financed by contributions from a large number of banks) to provide information concerning debtor countries and facilitate the exchange of data and creditors' viewpoints. The "committee" is most appropriate for debt negotiations involving private credit sources. However, these organizations may contribute to the formation of a creditors' cartel, which would have negative political and economic consequences for developing countries.

The major international financial organizations also have an important role to play in debt renegotiations by bringing together both private and official creditors in an organized fashion in a context that takes into account national and international dimensions of the problem. A debt-refinancing facility undertaken jointly by the IMF and the World Bank might be one way of addressing this problem. Access to the facility could be established on the basis of certain objective indicators, while the amount and terms of assistance could be determined on a case-by-case basis. The resources necessary to finance such a facility could be drawn from several sources, including additional borrowing from the original private lenders to the country involved. Financial resources could also come from a new allocation of SDRs. The proceeds accruing to creditor countries could be placed at the disposal of the facility without cost, as a means of reducing the debt burden on borrowers.

In this regard it is important to recall that market mechanisms for distributing debt burdens between creditors and debtors no longer operate as they did in the 1930s. At that time, foreign borrowing usually took the form of bonds placed in international markets. As debtor countries began to experience the effects of worldwide depression, the price of

these bonds fell to a fraction of their original market value. Debtor countries could then buy back their own debt, thus forcing part of the adjustment burden on creditors. The only way to produce a similar effect under present circumstances would be to establish a secondary market for bank portfolios, an idea that does not seem practical unless such a market were to be supported by government authorities in creditor countries. If a debt-refinancing facility were established, it could create an early-warning system so that countries and institutions involved in difficult cases could act before the situation worsened.

Another necessary institutional change involve the creation of a means of cushioning the economic impact of international interest rate changes on debtor countries. International interest rates reflect the economic policies of industrialized countries, over which the IMF has no effective influence. Debtor countries should be at least partially insulated from interest rate changes that are of great importance to them but completely beyond their control. There are two possible ways of mediating the effects of interest rate fluctuations: as part of a jointly operated IMF and World Bank debt-refinancing facility, through which low-cost financing could be provided to debtor countries to cover interest payments over and above certain limits; or as a separate arrangement through which debtor countries make interest payments to creditors up to some maximum annual limit. Amounts exceeding this limit would be postponed until market interest rates decline.

Several other proposals have also been put forward to redistribute the debt burden between borrowers and creditors.[16] All these proposals demonstrate that there are currently no market mechanisms in place to effect the desired result. Initiatives such as these will be unnecessary if the world economy revives soon, if terms of trade become more favourable for debtor countries, if real interest rates return to their customary levels, and if private banks and official financial institutions resume lending at regular rates. However, even the proposals made so far may be insufficient if these conditions do not appear. The assumption that time works in favour of borrower countries' ability to repay their debts, although reasonable, may be proved wrong. The safest approach is one that emphasizes policy and institutional adaptation rather than good luck.

VII
Conclusion

It is unlikely that an action programme as all-inclusive as the one suggested here can be implemented. Some of these proposals are conflictual in the sense that they do not necessarily serve the perceived interests of all debtors and all creditors. The policy-making coherence required at both domestic and international levels to implement a comprehensive approach to the debt problem is not present in existing institutions. Public discussion of the debt crisis is dominated by fears and misgivings rather than by objective analysis.

It is worth considering in more detail the kind of conflicts that these suggestions may produce. For example, although it is generally agreed that the reactivation of the world economy will benefit all parties involved, there is considerable debate regarding the best way of promoting global economic recovery. A new allocation of SDRs has been opposed by the United States on the grounds that it is likely to have inflationary effects. This effect would probably be negligible in an environment characterized by unemployed resources and very slowly expanding private bank liquidity. However, a more

symmetrical adjustment process would force part of the adjustment burden onto creditors, who will naturally resist it. Similarly, debtor countries' efforts to allocate additional resources to the tradeable-goods sector is likely to clash with protectionist tendencies in industrialized nations, which are the principal markets for the resulting additional output. Even efforts by debtor countries to increase commercial and financial co-operation among themselves may be perceived as dangerous, as has happened in the past.

It is also unlikely that increasing international institutions' financial resources (which must come largely from creditor countries) will find ready support, as demonstrated by recent United States attitudes regarding increased resources for the IMF and the Inter-American Development Bank. Moreover, the institutionalization of debt-rescheduling mechanisms involving official international institutions or officially supported private institutions, or other means of supporting debtor countries or private creditors, is likely to be attacked in creditor countries as a "bailout" paid for with taxpayers' money.

Most of these conflicts are more apparent than real, and in some cases short-term conflicts may be resolved in the long run. Given the level of indebtedness reached in the early 1980s, it is clearly in the interest of both debtors and creditors to achieve a more symmetrical adjustment process in which the burden is shared by all parties involve. It is also in the different parties' common interest to avoid sharp fluctuations in world liquidity and to provide for more orderly liquidity growth. Similarly, all parties would benefit from debtor countries' restructuring of external liabilities so as to increase the relative importance of borrowing from official creditors.

More substantive conflicts of interest are involved (at least in the short run) in the distribution of the debt burden, the kind of adjustment process involved, and the consequences of debtor countries' eventual insolvency. In all these cases, however, creditors must recognize that an excessive economic burden on debtor countries is not politically tolerable and that political tolerance will set limits on the adjustment policies acceptable to debtor-country governments. Official support for debtors and creditors is not simply a "bailout" when the failure to provide that support could have global negative consequences. Debtor countries are in no position to absorb the combined effect of deteriorated terms of trade, high real interest rates, contracting or slowly growing world trade, and retrenchement in the banking system. Latin American debtor countries have already undertaken major adjustment programmes, and pressures for further adjustment may produce domestic political consequences that will certainly be reflected in these countries' attitudes toward creditors.

Policy-making coherence at both the domestic and the international level has certainly not been enhanced by developments since the mid-1970s. Exchange rates have been more volatile than expected, and (perhaps as a result) so have interest rates. Sharp shifts in the worldwide distribution of current-account imbalances and a decline in the relative financial weight of international institutions also indicate decreasing capacity to manage international economic problems. Recent negotiations in the General Agreement on Tariffs and Trade (GATT) have been a disappointment for developing countries, and the 1983 meeting of the United Nations Conference on Trade and Development (UNCTAD) also produced few results.

More specifically, borrower countries' efforts to establish an agreed-upon general framework for debt negotiations should not be perceived as a menace to creditors. Rather, these efforts are a clear indication that debtor countries' limits of political tolerance have already been reached. Because United States banks are Latin American countries' and firms' principal creditors, there is ample room for action by United States governmental

authorities to both stimulate and support United States public and private financial institutions to reach workable (that is, politically feasible) agreements concerning interest and amortization payments on outstanding debt. These agreements should include means of redistributing the adjustment burden between debtors and creditors.

As with any new and acute problem, the first reactions to the debt crisis have been characterized by fears and misgivings. More effort has been devoted to attributing blame than to finding solutions. Typically, too, the importance of the problem will eventually quell these initial reactions, and analysis will take the place of quarreling. All the actors involved in the debt problem will continue to exist in the same world, so it is important for all those concerned to realize that confrontation will in the long run be more costly than co-operation. Given the nature and magnitude of the debt issue, Latin American debtor countries must certainly be part of any solution, not just part of the problem. Despite the difficulties involved in implementing a multidimensional strategy for addressing the debt problem, this is the most realistic approach. The danger of the debt crisis becoming intractable is too great, and the ensuing consequences too far-reaching, for such a strategy to be ignored. It is perhaps in this negative sense that the debt problem can be viewed as having produced a new kind of interdependence.

NOTES

[1] These figures are not net of Latin American deposits in banks outside the region. Unguaranteed and short-term debt figures for off-shore financial centers in the region (such as Panama) are excluded on the grounds that an important proportion of these totals might already be accounted for in the debts of other countries in the region.

[2] Perhaps the most notable exceptions are Colombia and Paraguay. Because foreign investment flows were substantial in Paraguay, the country's external debt did not reach significant levels.

[3] Roberto Zahler, "Monetary and Real Repercussions of Financial Openning-Up to the Exterior", *CEPAL Review* No. 10, United Nations Economic Commission for Latin America, Santiago, Chile (April 1980): 127-153.

[4] Carlos Massad, "Movimientos de capitales en América Latina", Segunda Conferencia sobre América Latina y la Economía Mundial, Instituto Torcuato di Tella, Buenos Aires, Argentina, August 1980.

[5] Domestic interest rates will reflect both inflation and devaluation expectations.

[6] Because demand for non-tradeable goods is expressed in domestic currency, part of the foreign exchange proceeds generated by external borrowing is converted into domestic currency, thus increasing foreign exchange reserves.

[7] Because oil-producing countries had a higher preference for liquid assets than industrialized countries, the change in the distribution of surpluses is not simply a redistribution of liquidity.

[8] Eurocurrency deposits are deposits in banks in financial centers. They are denominated in currencies other than the currency of the host country, and they are usually not subject to regulations as restrictive as those applicable to deposits in domestic currency.

[9] Carlos Massad and Roberto Zahler, "Dos estudios sobre endeudamiento externo", *Cuadernos de la CEPAL* No. 19, Santiago, Chile (October 1977); Carlos Massad, "The Real Cost of the External Debt for the Creditor and for the Debtor", *CEPAL Review* No. 19, United Nations Economic Commission for Latin America, Santiago, Chile (April 1983): 153-167.

[10] Carlos Massad, "Cartera de inversiones de los países exportadores de petróleo: diversificación orientada hacia América Latina", *Estudios de Economía* 11, Universidad de Chile, Departamento de Economía, Santiago, Chile (1978): 147-172. An updated version of this paper is "Oil Exporting Countries' Investment Portfolio: Diversification Towards Latin America" in Femhi Saddy, ed., *Arab-Latin American Relations* (New Brunswick, N.J.: Transaction Books, 1983), pp. 99-125.

[11] Herbert G. Grubel, "Internationally diversified Portfolios: Welfare Gains and Capital Flows", *American Economic Review* 58 (December 1968): 1299-1314.

[12] Massad, "The Real Cost of the External Debt".

[13] Unpublished ECLAC study.

[14]Carlos Massad, "Aspectos principales del financiamiento externo", *Gaceta Internacional* 1, No. 1, Caracas, Venezuela (July-September 1983): 33-38.

[15]United Nations Economic Commission for Latin America, *Preliminary Balance of the Latin American Economy in 1983*, Santiago, Chile, January 1984.

[16]See, for example, Norman Bailey, David Luft, and Roger Robinson, "Exchange Participation Notes: An Approach to the International Financial Crisis", Georgetown University, Center for Strategic International Studies, CSIS Significant Issues Series, 5, No. 1, Washington, D.C., 1983; Peter B. Kehen, "A Bailout for the Banks", *New York Times*, 6 March 1983, F3; Richard S. Weinert, "Banks and Bankruptcy", *Foreign Policy* 50 (Spring 1983): 138-149; Minos Zombanakis, "The International Debt Threat: A Way to Avoid a Crash", *The Economist*, 30 April 1983, pp 11-14.

The adjustment process in the 1980s: the need for a global approach

Carlos Massad and Roberto Zahler

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I

Introduction

The "adjustment" issue is related to certain basic or fundamental macroeconomic equilibria which need to be under control if undesirable and disruptive effects on the economy are to be avoided. The literature as well as policy makers have traditionally considered two types of situations which tend to be interrelated: external and internal equilibrium.

The achievement of external equilibrium refers to the balance between a country's expenditure abroad and its foreign exchange receipts, and has been perceived as a basic ingredient of a stable world economic system. It is not surprising therefore that high priority has been assigned to the attainment of external equilibrium in the design of economic policy by international institutions and others interested in a global, multilateral perspective. The gold standard, prior to the Great Depression, had a built-in (automatic) mechanism designed to push individual economies quickly toward continuous equilibrium in their balance-of-payments accounts. If a country tried to spend more than what it sold abroad, its gold holdings would decrease, diminishing the banking system's capacity to lend, thus increasing interest rates, depressing domestic residents' spending, stimulating exports, curtailing imports, and, therefore, restoring foreign payments equilibrium.

The system developed at Bretton Woods was also designed with the international economy in mind, attempting to obtain external equilibrium at the country level through the implicit fiscal and monetary discipline associated with the maintenance of fixed exchange rates. That process was to be complemented and smoothed by the IMF's financing facilities, access to which was linked to and conditioned by the country's implementation of adjustment policies aimed at restoring balance-of-payments equilibrium.

But in the 1940s, together with the need to reactivate the world economy along a stable path, nationalist tendencies, the impact of the Great Depression and the "Keynesian revolution" gave high priority to the goal of internal equilibrium. The objective was to run national economies at their maximum output potential, which meant aiming at full employment of resources, and particularly labour. Fiscal policy would pay a major role in the attempt to equalize *ex ante* savings with investment flows, complementing private sector economic decisions so as to generate sufficient "effective demand" to "buy" the output associated with full employment of domestic resources.

In the 1950s and 1960s, although in advanced countries unemployment remained at low levels, slow but steady inflationary pressures and foreign payment imbalances stimulated the development of a "policy-mix" —a combination of monetary, fiscal, and to a lesser extent, exchange rate and commercial policy tools— aimed at the simultaneous restoration of internal and external equilibrium.

Macroeconomic policy in the less developed countries (LDCs), since the end of World War II, has tended to follow a similar pattern to the one described above, with one major difference: development objectives and strategies to accelerate economic growth have had such high priority that, in general, external and internal disequilibria have been

present all along. Latin America's experience between the 1950s and mid-1970s has been quite revealing: recurrent balance-of-payments crises and foreign exchange bottlenecks as well as chronic inflationary processes have been the norm rather than the exception in a number of countries in the region. Explanatory hypotheses for these situations have ranged from those that stress that they are the consequence of structural disequilibria inherent to LDCs' economies, to those pointing at basic flows in economic policy design, with "excessive" government intervention, "repressed" inflation, erroneous pricing policies and inefficient protectionism. In any case, the fact is that countries have had to shift back and forth from policies attempting to solve accumulative foreign, fiscal and monetary disequilibria to those addressed at trying to run the economy at its full potential so as to better the standard of living of the region's increasing population. As a consequence of these "stop and go" policies the stability of the growth and development process and its flexibility and efficiency in adapting the region's economy to new and changing world and domestic shocks have been seriously undermined.

In the early 1970s industrial countries, and particularly the United States, experienced a slowdown in productivity, stagflation and mounting balance-of-payments problems, which together with the increasing importance of crowding out, floating exchange rates, huge increases in energy prices, speculative capital movements, inflationary expectations and indexation, undermined and questioned very seriously the adequacy and relevance of traditional economic policy and analytical tools to face these new situations.[1]

The 1970s also witnessed successive events that contributed to blur the above-mentioned situation. Privatization of financial international relations (a process which was already underway some years before), accelerated with the first oil price shock in 1973. The booming role of private banks, at the expense of official international financial institutions (mainly the IMF and the World Bank) allowed and stimulated Latin America, perhaps the most "natural" client of the banks, to finance huge current account deficits. It can be said, to a certain extent, that the region privileged financing over adjustment of its foreign imbalances during the 1970s.

After the second oil shock, this process came to a halt in the early 1980s, when the effects of the world recession —the most severe since the 1930s— the deterioration of the LDCs' terms of trade and soaring international interest rates created serious debt service problems which were amplified by reduced capital flows to debtor countries as a consequence of the banks' procyclical behaviour. This has helped to generate a bleak scenario, reducing and making very costly, especially for LDCs the options out of the crisis. In this context, given the magnitudes involved, external financing constraints, and the new international and domestic prevailing circumstances, a reassessment of the traditional views regarding the roles of adjustment and financing is required, and this is the main purpose of this paper.

The next section deals with the main analytical issues regarding the adjustment process, stressing options and alternatives available in the abstract. In section III recent Latin American adjustment experience is discussed. Next, section IV deals with the actual alternatives and options available, both at the international and the national levels, pinpointing their advantages, limitations and deficiencies and examining some recent "non-traditional" problems which tend to complicate ways out of the crisis, challenging traditional economic policy design. Finally, section V briefly summarizes the main arguments and presents the conclusions that may be of interest to policy makers concerned with debt and adjustment issues in today's crisis.

II

Analytical considerations

Internal and external disequilibria, although interrelated, have usually been studied separately. Furthermore, the analysis (and policy recommendations) have tended to be carried out in the abstract, ignoring the countries' interdependence. While this may be a convenient approach when considering "small" countries and/or when no *generalized* payments or trade problems take place, it may lead to partial and sometimes erroneous conclusions when the opposite occurs.

The internal disequilibrium has generally been analysed for a closed economy or under the assumption that no problems arise in the foreign sector of the economy. It usually refers to a situation where the output gap —difference between the optimum and actual level of economic activity— is larger than some normal, natural or structural rate. In other words, when resource, and more specifically labour unemployment reaches some critical value, the economy is faced with an internal disequilibrium which is assumed to be caused by an excess supply of goods (or savings exceeding investment) and/or by distortions and imperfections in labour markets. According to which interpretation prevails, action tends to be centered on fiscal instruments and/or on wage and indexation policies. Another sort of internal disequilibrium corresponds to inflation. Even though structural considerations may be very important, it is recognized that this situation is characterized by an excess supply of money. Therefore, policy recommendations gyrate around the control of "excessive" internal credit flows (both to the public and private sector) and/or of the determinants of the liquidity ratio, mainly inflationary expectations and the "management" of certain key prices, such as the exchange rate, wages and interest rates.

The external disequilibrium is related to an imbalance in the foreign sector of the economy. Specifically, when the current account is in deficit (surplus), it means that a country is spending on foreign goods and financial and non-financial services more (less) than what it receives from abroad. Until recently the literature has focused the analysis on the trade account, assuming a way as exogenous the developments taking place on the financial area. For LDCs this may have been justified during the 1950s and early 1960s when direct foreign investment and official capital movements represented the bulk of the capital account of the balance of payments. In that context both the elasticity and absorption analysis of the balance of payments stressed the role of devaluation and movements in national income, respectively, on the balance of payments (narrowly defined). The integration of these two analytical approaches attempted to trace out the outcome of the "impact" and "multiplier" effects of changes in the determinants of exports and imports of goods and non-financial services on the "balance of payments" and on the level of economic activity and employment. The analysis allowed, under certain restrictive assumptions, for the simultaneous presence of internal and external disequilibrium, and it was recognized that non-dilemma cases were the combination of unemployment and surplus in the trade balance (expansive monetary and fiscal policies being called for) and inflation and deficit (which required restrictive monetary and/or fiscal policies). The combination of unemployment and deficit on the one hand, or inflation and surplus on the other, were perceived as dilemma cases which required additional policy tools such as changes in the exchange rate.

The recent revival of the monetary approach to the balance of payments shifted the focus from the trade account to the overall balance of payments, concluding, under the theoretical assumption that the main developments in the foreign exchange markets

respond to disequilibrium in the domestic money market, that "the current account does not matter". In other words, balance-of-payments flows are interpreted as one of the main mechanisms to restore equilibrium in the monetary sector. Policy instruments emphasize the control of domestic credit (rather than the more "direct" determinants of exports and imports), so as to accommodate it to money demand in such a way as to generate a desired balance-of-payments surplus or deficit; the latter would basically reflect excess supply or demand for local money. The precise way in which domestic residents try to satisfy their money demand, by offering abroad goods or real or financial assets, would be of minor importance. Consequently, adherents to this approach, which prevailed in many countries during the 1970s, argued that little importance should be given to the huge inflows of financing addressed to some LDCs since they represented the "natural" response of domestic agents to an excess demand for local currency.

The magnitude, nature, and persistence of recent external imbalances and their relationship to domestic imbalances suggest that the current theoretical models for analysing the balance of payments are based on various sets of unrealistic and decidedly restrictive assumptions, and have produced piecemeal and at times erroneous interpretations and policy recommendations with respect to the developments which have occurred in this sphere. In particular, there has been little analysis of the determinants of private international financial flows or of the external debt's impact on the national economy. In addition, given a *ceteris paribus* assumption in relation to world economic activity, international interest rates, etc., policy prescriptions put the burden of restoring a balance in the "problem country", with little or no recognition of the interdependence of the external imbalances among the countries, with respect both to their causes and to the responsibility involved. Since the attempt to construct another theoretical synthesis clearly exceeds the scope and purpose of this paper, we will concentrate on certain analytical issues which seem especially well suited to helping us to understand present foreign imbalances and to clarify alternative options and elaborate more realistic and efficient policies.

A country's deficit on the current account of its balance of payments responds to the fact that domestic residents' expenditure exceeds their income. This may correspond to a case where *ex ante* (desired) investment exceeds public and private domestic savings, requiring foreign savings to close the gap; under certain conditions and within bounds, this process can be sustained for long periods of time.

This has been the traditional situation observed in most LDCs, which turn out to be net international debtors. Since "young" developing countries have a lower capital-labour ratio and higher returns on investment than advanced countries, it tends to be in the interest of both to transfer resources from relative capital-intensive countries to LDCs.

The basic factors which determine the stability and regularity of net inflows of capital to LDCs are the availability of international financing and the creditworthiness of the country. The former element is independent of the country's economic policy and the latter is usually related to the way in which the country incorporates foreign savings into its economy. In the case where borrowing is used to maintain or increase consumption or to finance low-return investments, not only will the country's creditworthiness be negatively affected, but forthcoming debt service payments, instead of taxing future growth of income, will force a reduction of consumption levels in the years to come. On the other hand, the higher the complementarity between foreign and domestic savings and the more foreign savings are used to increase productive capacity, especially in the tradeables sector, the "better" will be the evolution of the traditional creditworthiness indicators. However, in spite of "sound economic management", creditors may tend to

reduce their loans if outside factors (such as an increase in international interest rates, or deterioration in the terms of trade of debtor countries), negatively affect their evaluation of the country's debt servicing capacity; naturally, this process by itself tends to worsen even more the debtor's balance-of-payments position. It should be clear, therefore, that a regular flow of foreign savings may unexpectedly and quickly turn into a foreign exchange bottleneck and an urgent problem in economic policy management, and what in other circumstances might have been a "normal" deficit turns out to be an external disequilibrium "problem".

The determinants of the current account developments may be classified as "external", in the sense that individual countries are not responsible for and may be unable to offset them, and "internal" or domestic factors, which can be attributed to consequences of the country's policy actions, or omissions, affecting its international competitiveness and overall foreign payments situation. Naturally, this distinction is neither exhaustive nor precise or rigorous. However, it sheds light, once empirical evidence is available, on the role these factors have played, or may play in the future, and suggests more efficient and equitable strategies, at the country and international levels, to face the problem.

The main foreign or external factors negatively affecting the current account are a deterioration in the terms of trade, reduced demand for LDCs' exports by advanced countries and increases in international interest rates. Fluctuations and procyclical behaviour of capital flows to LDCs can also help very decisively to worsen an external imbalance by reducing the availability of foreign financing to face a given deficit on current account.

Besides supply shocks, which although domestic in nature are in a sense "exogenous" to policy makers, two main internal factors can be broadly distinguished that may exacerbate foreign payments disequilibrium. On the one hand, aggregate demand management may stimulate excessive spending by the public and/or private sectors. On the other, relative price movements may stimulate, through exchange rate, commercial interest rate and income policies, non-tradeable goods supply and tradeable goods demand, contributing to a loss in international competitiveness. An intermediate situation, which has recently been quite important in some countries, relates to the combined implementation of financial reforms and stabilization programmes resting on exchange rate overvaluation. This may lead to domestic policy inconsistencies which end up in a direct stimulus to aggregate demand and current account deficits through the monetization of financial flows stimulated by expectations of speculative capital gains.

The former classification, while allowing a better appreciation of the relevant factors explaining an external disequilibrium to be obtained, should be complemented by the consideration of two additional elements. The expected time dimension of the shock, whether foreign or domestic, plays a crucial role when evaluating alternative solutions: temporary effects should be distinguished from permanent ones. Although it is sometimes difficult to assess correctly the duration of a shock, efforts should be made to incorporate that element into the analysis. Another useful distinction relates to whether the shock is of a "real" or "monetary" nature. Examples of the first may be found in losses in productivity, obsolescence in technology or deterioration in "real" terms of trade (such as the one caused in oil-importing countries by the successive increases in fuel prices). Monetary shocks are typically derived from money market disequilibria. For example, if money supply continuously exceeds money demand, attempts to improve the balance-of-payments position through a once-and-for-all devaluation will be inefficient and should be complemented by policy tools addressed at the control of domestic credit expansion.

The relevance of the above-mentioned categorization may be visualized when analysing alternative ways to deal with foreign payments imbalances.

From a purely accounting point of view, external imbalances (in a country whose currency is not accepted as international money) have to be financed by running down gross foreign exchange reserves or increasing the stock of foreign debt outstanding and the level of payments arrears, or some combination of them. However, an *ex ante* disequilibrium in the external accounts may be substantially larger than the imbalance which is finally financed, the difference being wiped out through adjustment of the imbalance. This latter mechanism consists in domestic policy measures designed to produce an expansion of exports of goods and services, a reduction of imports, or some combination of both so as to reduce the projected current account deficit and the consequent need for additional foreign finance.

Adjustment measures have typically focused on *expenditure reducing* and expenditure *switching* policies. The former consist in restraining aggregate demand via restrictive monetary, fiscal and/or incomes (including lower wages and higher interest rates) policies, with the objective of directly reducing domestic spending on tradeables. Increases in the exchange rate also work in the direction of reducing domestic spending through their effect on the real money supply, at least in the short run.

Expenditure switching from tradeables to non-tradeable goods works through relative price changes, typically exchange rate movements and changes in tariffs and other import regulations, as well as different forms of export subsidies. These policies tend to depress domestic spending on tradeables and to stimulate resource allocation towards tradeables production.

If adjustment could be promoted rapidly through changes in relative prices, its cost in terms of output foregone and higher unemployment might be quite small. However, real resource transfers between sectors and regions take time. Lags and inertia in factor mobility, price and wage rigidities, and the uncertainty regarding the temporary or permanent nature of the policy changes contribute to a situation where sectors incentivated by price stimulate to contract, do so rapidly, while those stimulated to expand generally take an extended period to do so. In the process, global output suffers, unemployment and inflation go up and real wages are negatively affected. Furthermore, traditional policies have placed greater emphasis on reducing aggregate demand than on increasing output and changing its composition; therefore, if spending is reduced as part of the programme, there will be an added tendency towards output losses and unemployment. Experience has shown that when both relative price changes and expenditure reductions are promoted by the authorities of the debtor countries, the process of adjustment in case of a deficit involves unemployment and output losses which take a relatively long period of time to disappear. Adjustment, in the sense of a reduction in the external imbalance, may occur relatively rapidly, but at a substantial, and prolonged, economic and social costs.

From an international perspective, when an adjustment process takes place in a stagnant world economy and when current account deficits are not located at a country, but at a regional level, the costs of adjustment policies increase. This is true for individual countries, through the lack of foreign demand for their exports, so that huge relative price changes, (with the already mentioned associated costs) are needed in order to better their trade balance. But it is also true internationally, since due to the importance of LDCs in world trade and payments, when a region as a whole curtails its imports, it will slow down the recovery of advanced surplus countries. When many countries attempt to increase their exports, some expansionary effects follow for the world economy. However, a

deterioration in the terms of trade may occur and protectionist policies in developed countries may be strengthened thus worsening the prospects of recovery through adjustment policies in LDCs.

The above discussion suggests that in many cases countries opt, and should opt, for financing a current account deficit, which ultimately consists in delaying adjustment for the future.[2] These two components of the settlement of an external imbalance, adjustment and financing, are frequently interrelated. In most cases of a large *ex ante* external deficit, financing for this can be obtained if, and in some cases only if, adjustment measures are taken that reduce the need for financing to what creditors consider "manageable" or "credible" proportions. In fact, the International Monetary Fund makes its regular resources available, over and above certain limits, only if the country in difficulties puts into effect adjustment policies designed to eventually eliminate the deficits.

It is not obvious whether an imbalance should be financed or adjustment measures should be taken, the answer depending on the nature, magnitude and persistence of the deficit, as well as on the availability of financial resources to the country in question. An imbalance originating in factors which are of a transitory and monetary nature, expected to last for a short period of time, should generally be financed; this conclusion is derived from efficiency criteria. In turn, a deficit emanating from real and/or permanent changes in the economic environment or from facts which, while transitory in character, are expected to last for a prolonged period of time, requires adjustment.

From another perspective, when external factors predominate, it seems reasonable on grounds of equity and in some cases of efficiency (i.e., interdependence both in trade and payments between deficit and surplus countries) to argue in favour of financing. Again, this is especially true when the external disturbance is perceived as temporary and is of a "monetary" nature (e.g., the increase in world interest rates), and less so when it appears as more permanent and is based on "real" factors (e.g., the increase in oil prices).

However, it is not always easy to determine, at an early stage, whether permanent and transitory or monetary and real changes are at work. So, more than a "fundamentalist" approach to external imbalance, a cost-benefit approach is usually taken to determine the policy instruments to be used in facing a disequilibrium in foreign payments. Financing a deficit has costs measured in terms of future debt burden, while adjustment implies some current real income foregone and a transitory increase in unemployment and inflation.

The usual "small country assumption" regarding foreign financing implies an infinitely elastic supply of foreign credit; the borrowing country determines the amount borrowed per year, at the going interest rate and other costs. In this approach, the amount of indebtedness per year is essentially demand-determined, while supply conditions determine the cost of borrowing. This assumption is a useful one when international financial markets are growing rapidly, as they did up to 1981, and when "country risk" perceptions of the creditors do not limit the supply of external credit to borrowing countries. As financing reaches its maximum limits, however, a country is not in a position to evaluate the cost and benefits of alternative ways of settling the imbalance: it is forced to adjust, whatever the costs. Under these conditions, it is not surprising to find in many cases of external imbalances that countries act unilaterally in the financing area, through arrears in commercial and in other foreign payments, which may be properly dubbed "involuntary lending".

III

Financing and adjustment: recent tendencies and the current situation

As it is well known, world financial markets expanded at a rapid rate during the 1970s. total assets of banks reporting to the BIS expanded at an average rate of 25% during the period, and in no year was the rate less than 19%. Between 1973 and 1981, the net flow of banking credit to non-oil LDCs grew more than fivefold, increasing from US$ 10 billion to more than US$ 50 billion in 1981, when it reached its historical peak.

This rapid growth is explained both by institutional and structural factors. Among the institutional factors, perhaps the lack of regulation in the Eurocurrency markets, including the absence of minimum reserve requirements and of mandatory maximum debt-to-capital ratios, are the two most important single ones. As regards structural factors, the accumulation of liquid balances under the control of countries with a high liquidity preference, such as the oil-exporting ones, is clearly one of the most outstanding characteristics of that period from an international financial viewpoint. If oil-exporting countries had decided, and had been in the position, to accumulate real assets rather than liquid funds, the latter would have gone back to the suppliers of real assets, and the expansion of the financial market would have depended on their preferences as regards portfolio composition.

Of course, the working of the international monetary system lies at the root of the expansion of the financial markets. Asset rather than reserve currency settlement would have allowed a more moderate, regulated expansion of reserve currency holdings outside the country of issue.

At all events, rapid growth of financial markets during the 1970s created an international capital market largely outside the regulatory controls of any monetary authority or international institution. Capital movements have become more and more important in international payments and exchange rate determination, and consequently private and especially banking sources of finance have increased their importance while the role of official institutions and governments has weakened in an increasingly market-based monetary and financial system. This has resulted in turn in a sharp reduction of average maturity as well as in substantial increases in the cost of borrowing for LDCs, specially those of Latin America.

By the end of 1981, and particularly in 1982, the growth of the financial markets slowed down dramatically in the wake, on the one hand, of the breakdown of the oil cartel and, on the other, of the increased perception by international lenders of the risk of deterioration of their portfolio. In those years, together with smaller capital inflows to LDCs, banks also increased their spreads, fees and commissions and shortened the maturity of new loans.

The fast growth of credit implied the rapid growth of debt, a process which is sustainable, as analysed in the preceding section, as long as the debt burden does not grow out of proportion with GNP and exports. This seemed to be the case in a number of Latin American countries during the 1970s: Mexico, for example, averaged 6.4% growth in real GNP from 1970 to 1979 while its exports grew in real terms by 10.9% annually. In the same period, comparable figures for Brazil were 6.7% and 9.1%. Argentina had a less enviable annual growth, 2.6%, but still expanded its exports by 10.7% per year.

However, a deterioration in the terms of trade of debtor countries, or an increase in international interest rates could make debt burden unbearable and that was what

Table 1

EVOLUTION OF INTERNATIONAL ECONOMIC INDICATORS AFFECTING THE BALANCE OF PAYMENTS OF LATIN AMERICAN COUNTRIES, 1965-1983

Period	*Terms of trade Latin America*[a] *(percentage change)*		*Real interest rate*[b] *(percentages)*	*Industrial countries growth rate*[c] *(percentage change)*	*Net inflow of capital*	
	Total	*Non-oil-exporting countries*			*Billions of nominal dollars*	*Billions of 1983 dollars*[d]
Average 1965-1972	.3	.2	2.82	4.6	3.4	8.8
1973	13.4	10.6	2.94	6.2	8.1	18.3
1974	15.8	-7.0	.11	0.1	11.6	23.5
1975	-13.5	-12.0	-2.21	-0.7	14.5	27.3
1976	4.6	7.4	-0.22	5.3	18.3	32.0
1977	6.0	10.7	-0.50	4.3	17.3	28.5
1978	-10.5	-10.2	1.23	4.5	26.4	40.3
1979	3.5	-6.7	0.66	3.5	29.0	39.7
1980	4.2	-7.2	0.86	1.1	29.9	36.1
1981	-7.3	-13.0	6.11	1.5	38.0	41.5
1982	-7.0	-7.6	6.91	-0.4	16.5	17.1
1983[e]	-7.2	-1.6	6.71	1.8	4.5	4.5

Source: ECLAC, *Estudio económico de América Latina* 1982; *Síntesis preliminar de la economía latinoamericana*, 1983; IMF, *World Economic Outlook*, 1983; OECD, *Economic Outlook* 1972; IMF, *Balance of Payments Yearbook* (various issues).

[a] From 1970 on excludes Venezuela, Bolivia and Ecuador; from 1976 on, Mexico and Peru.

[b] It refers to three months Eurodollar London interest rate minus United States inflation, as measured by the Consumer Price Index (CPI).

[c] GNP growth rate of Canada, United States, Japan, France, Federal Republic of Germany, Italy and the United Kingdom.

[d] Deflated by United States Consumer Price Index.

[e] Preliminary estimates. Data for interest rate and United States inflation cover up to October 1983.

happened in the early 1980s. Although it may be said that many countries in Latin America did not adjust to the two oil shocks of the 1970s and incorrectly perceived the growing external financing available during the decade, as stable and permanent, it can be stated that for many countries the debt service crisis was due less to mismanagement and/or unwise borrowing and lending than to high interest rates and a world recession that reduced Latin American export earnings.

As a consequence of domestic economic policies in industrial countries, the rate of growth of the world economy came to a halt in 1982, real interest rates in international markets soared and protectionist tendencies in advanced countries increased; at the same time, the terms of trade moved rapidly against debtor countries, including oil-exporting ones. As the recession took hold, both the domestic and international portfolio of banks in industrial countries suffered. In the LDCs this process of bank portfolio deterioration led to financial crisis in several cases, which compounded the portfolio problems and risk perception of internationally lending banks (see table 1).

It is worth noting that domestic policies in some LDCs also provided stimulus to the capital inflow in the form of debt, through inconsistent financial reforms and exchange

rate movements (devaluing at rates substantially below domestic inflation). Some governments believed that high inflationary pressures and high interest rates in the domestic credit markets, as well as tight monetary and (sometimes) fiscal policies, could be avoided by borrowing abroad. Furthermore, in many cases speculative capital movements were also stimulated by huge interest rate differentials between domestic and foreign rates. This situation allowed, during some time, for the simultaneous presence of current account deficits and overall balance-of-payments surpluses: a process which could only be sustained by an increasing foreign debt.

So both from the supply and demand side the increase in foreign debt was stimulated at rates which made the debt level incompatible with a sharp or prolonged world recession. In fact, the overwhelming importance of private banking as the main source of the flow of new financing, given its commercial and risk-avoiding nature, has helped to amplify rather than moderate the recessionary tendencies of the early 1980s.

Present levels of foreign debt are such that changes in interest rates in international markets produce a substantial impact on foreign payments. As an increasing proportion of the stock of the LDCs debt is subject to floating rates, the bulk of the stock, and not only new lending, will be affected by changes in rates. Table 2 shows the effect of a 1% increase in interest rates on foreign payments in non-oil-exporting LDCs. For Latin American and Caribbean countries this figure is some US$ 2.3 billion, which represents 2% of the region's exports of goods and services. It should be noted that this effect, which has predominated in the 1980s as a consequence of the rapid increase and changing structure of foreign debt, as well as extraordinarily high interest rates in world financial markets, is substantially bigger than that of a US$ 1 increase per barrel of oil. Although nominal interest rates in the United States have declined from their extreme levels of 1981 and 1982, they have fallen neither as fast nor as far as the (United States) rate of inflation and they remain far above their real historical levels for comparable stages of previous business cycles.

Table 2

EFFECT OF 1% CHANGE IN INTEREST RATES ON FOREIGN PAYMENTS OF NON-OIL-EXPORTING LDCs: 1981-1983

Area[a]	*Amount of debt subject to floating rates (billions of dollars)* (1)	*1% interest rate change (billions of dollars)* (2)	*Total exports of goods and services* (3)	*Percentages* (2:3) (4)
Western Hemisphere[b]	227.9	2.3	115.2	2.0
Africa	37.7	.4	54.8	.7
Asia	76.4	.8	178.4	.4
Other	73.9	.7	99.5	.7
Total	415.9	4.2	447.9	.9

Source: IMF, *World Economic Outlook*, 1983.
[a] The classification of countries corresponds to IMF, *International Financial Statistics* from March 1980 on.
[b] Western Hemisphere excludes only Venezuela as oil exporter.

Table 3

NON-OIL-EXPORTING LDCs' INTEREST PAYMENTS IN 1981-1983, BY AREAS

Area[a]	*Interest payments (billions of dollars)* (1)	*Exports of goods and services (billions of dollars)* (2)	*Percentages* (1:2) (3)
Western Hemisphere[b]	31.4	115.2	27.3
Africa	4.4	54.8	8.1
Asia	9.8	178.4	5.5
Other	10.0	99.5	10.0
Total	55.6	447.9	12.4

Source: IMF, *World Economic Outlook*, 1983.
[a]The classification of countries corresponds to IMF, *International Financial Statistics* from March 1980 on.
[b]Western Hemisphere excludes only Venezuela as oil exporter.

Table 4

INTEREST PAYMENTS AND NEW DEBT OF NON-OIL-EXPORTING LDCs IN 1982-1983

(Billions of dollars)

Area[a]	*Interest payments*	*Net external borrowing*	*Net transfer*
Western Hemisphere[b]	31.4	18.2	-13.2
Africa	4.4	9.0	4.6
Asia	9.8	15.6	5.8
Other	10.0	9.9	-.1
Total	55.6	52.7	-2.9

Source: IMF, *World Economic Outlook*, 1983.
[a]The classification of countries corresponds to IMF, *International Financial Statistics* from March 1980 on.
[b]Western Hemiphere excludes only Venezuela as oil exporter.

With annual interest rates at nominal levels of 12% to 18% (including spreads) between 1981 and 1983, interest payments consume a substantial proportion of the gross export income of debtor countries. The figures are shown in table 3.

Furthermore, interest payments by Latin American and Caribbean countries in 1982 and 1983 exceeded increases in their net foreign borrowing, so that a reverse transfer of resources from debtors to creditors was taking place. This would be a natural result as the LDCs' economies mature, but it is a heavy burden when it is a consequence of world recession rather than a by-product of the growth process (see table 4).

In addition to the effect of high international interest rates on debt service, they have an impact on primary commodities, since they tend to be negatively correlated with the terms of trade of primary producing countries. Hence, the burden of high interest

rates is amplified by a deterioration in the terms of trade, in what has been called the "scissors effect", which has produced the squeeze that nearly caused some major debtor countries to default (see figure 1).

The mechanisms that explain this negative relation are related to the direct impact of interest rate changes on the trading in, inventories of, and speculative demands for primary commodities (see Padma Gotur, "Interest rates and the developing world", *Finance and Development*, Vol. 20, No. 4, December 1983). Also, high interest rates discourage domestic expenditure, the level of economic activity suffers and demand for primary products falls. As most of these products are sold in highly competitive markets and their supply is inelastic, prices tend to change rather sharply with changes in demand.

The recent international monetary and financial developments, the macroeconomic policies in the industrial countries, and the world recession have been the main external factors that have negatively affected the LDCs' economies. To this should be added some domestic or internal factors which were quite common in Latin America during the second half of the 1970s. Overvalued exchange rates, expansive aggregates demand policies and stimulus to and inadequate use of foreign indebtedness have also contributed, although to a lesser extent, to generate the balance-of-payments crisis that started in 1981 and continued during 1982 and 1983.

The magnitude involved and the adjustments made are quite clear and impressive. The deficit on current account reached a maximum in 1981. Since then the trade balance changed from deficit into surplus, peaking in 1983 to an extraordinary amount of more than US$ 31 billion, a figure more than tripled the improvement attained in 1982. The balance on current account before interest payments and profit remittances improved by

Table 5

EXTERNAL IMBALANCES IN LATIN AMERICA

	1979	*1980*	*1981*	*1982*	*1983*
	Billions of dollars				
1. Exports of goods	69.6	90.5	96.8	88.6	87.5
2. Imports of goods	69.1	91.5	98.4	78.9	56.3
3. Trade balance	0.5	-1.0	-1.6	9.7	31.2
4. Non-financial services (net)	6.5	8.5	11.4	9.6	6.4
5. Current account balance before financial services	-6.0	-9.5	-13.0	0.1	24.8
6. Financial services (net)	14.2	19.0	29.1	36.8	34.0
7. Balance on current account	-19.6	-27.7	-40.4	-36.4	-8.5
8. Net capital movements	29.0	29.9	38.0	16.6	4.5
9. Foreign global debt	166.4	205.2	257.9	289.4	309.8
10. Foreign debt services	37.1	43.2	54.6	69.2	-
	Percentages				
11. Interest payments as a percentage of exports of goods and services	17.4	19.9	26.4	38.3	35.0
12. Current account balance as percentage of gross national product	-2.8	-3.3	-4.3	-3.9	-0.9

Source: ECLAC, *Síntesis preliminar de la economía latinoamericana*, 1983.

Table 6

LATIN AMERICA: COST OF ADJUSTMENT INDICATORS

	1976/1979	*1980*	*1981*	*1982*	*1983*
	1970 dollars				
Real GNP per capita	930	1 007	997	965	911
Real GNI per capita	929	1 009	985	938	883
	Percentages				
Change in consumer prices	50	53	61	86	130
Unemployment median[a]	7	7	7	9	10

Source: ECLAC, *Síntesis preliminar de la economía latinoamericana*, 1983.
[a] The median of annual average rates of urban unemployment in 10 selected Latin American countries.

US$ 37 billion between 1981 and 1983, a figure equivalent to around 4% of Latin America's average GNP in the period. The current account deficit, as a consequence of the changes affecting mainly trade, and to a much smaller extent, financial services, contracted abruptly from US$ 36.4 billion in 1982 to US$ 8.5 billion in 1983: the smallest deficit since 1974 (see table 5).

Parallel to this, and responsible to a certain extent for the extraordinary reduction in current account deficits, the Latin American countries suffered in 1983 a drastic contraction in the net inflow of capital to the region. Such inflow, which had already been reduced in 1982 to less than half the historical maximum of 1981, when it reached US$ 38 billion, fell again in 1983 to less than US$ 4.5 billion. This is why, in spite of the huge surplus on trade account and the sharp fall in deficit in current account, foreign exchange reserves fell for the third consecutive year. In terms of the region's imports, the reserve coefficient was reduced from an average of nearly 50% in the period 1973-1979 to about one-third in the 1980s, in spite of the fact that imports fell by over 40% from 1981 to 1983.

The fall in the net inflow of foreign capital to Latin America, combined with the very high remittances in respect of financial services, contributed, for the second consecutive year to a net transfer of resources from the region to the rest of the world, amounting to nearly US$ 50 billion during 1982-1983. Obviously, as a consequence of the smaller net capital inflow, foreign debt increase slowed down: 7% in 1983 as compared to 12% in 1982 and the high average figure of 23% during 1977-1981. Interest payments, however, which in 1977 represented 12.4% of exports of goods and services, have steadily increased, rising to triple that figure in 1982-1983. Furthermore, interest payments have also increased their proportion of total debt service payments from 35% in 1977-1978 to 58% in 1982 and a much higher figure in 1983, due to the postponement of most amortizations in that year.

But despite generalized devaluations and the implementation of other measures designed to stimulate exports, most of the adjustment has occurred in the form of a drop in imports, which fell 29% in 1983 after having fallen by 20% the year before.

This extraordinary fall in imports caused, and was caused, by a sharp contraction in economic activity and other related indicators (see table 6). Latin America's GNP fell 3.3% in 1983, after having fallen 1% in 1982, while the per capita GNP fell by 5.6% in 1983 and was nearly 10% lower than the 1980 figure, reaching only the level attained as

far back as 1977. Gross national income fell even more than GNP, since for the third consecutive year the region's terms of trade deteriorated: phenomenon which occurred for six consecutive years in the case of non-oil-exporting Latin American countries. Urban unemployment increased in almost all countries, while inflation soared to unprecedented high rates.

Perhaps the most illustrative way of perceiving the magnitude of what this adjustment process has meant for the region is to recognize that if GNP had continued to grow at one-half its average rate of growth between 1970-1980, Latin America would have obtained US$ 150 billion in real terms at 1983 prices in additional GNP in 1981-1983. That amount is equivalent to nearly half the region's stock of foreign debt or to the GNP of Sweden or Switzerland.

Despite the important external sector adjustment policies adopted by Latin American countries in 1982 and 1983, the foreign exchange generated by this process and by voluntary lending was insufficient to cover external debt payments; and a number of countries found it impossible to pay not only the principal but in some cases even the interest. Most countries had to reschedule their external debt service and tried to reach agreements with the IMF and other foreign editors to meet such debt service charges —not to mention repayment of loans coming due— while they have also had to reduce internal spending and apply austerity programmes that comply with IMF requirements.

Under present conditions it cannot be expected that the debt will continue to grow as in the past. The flow of liquid savings has been substantially reduced, and lenders are taking an extremely careful and selective attitude regarding international operations. In fact, as mentioned, the expansion of international lending in 1983 has been very much lower than the increase in interest payments to the exterior, so that the transfer of real resources from *debtors to creditors* has reached unprecedented levels even after allowing for debt renegotiation and for the fact that there are now considerable arrears in the interest and amortization payments of some debtor countries. While total international assets of banks reporting to the BIS grew by US$ 22.3 billion in the first six months of 1983, as compared to US$ 74 billion in the same period in 1982, bank lending to Latin America increased US$ 3.7 billion (US$ 12 billion in the first half of 1982) and lending to all LDCs went up by US$ 5.8 billion (US$ 15 billion in the first half of 1982).

So, regardless of the transitory and externally caused nature of the present foreign payments deficits of Latin America, due mainly to unusually high foreign interest rates and unusually unfavourable terms of trade, financing is playing a very limited role in closing the external gap. Traditionally, through its conditional lending, the IMF generally included provisions to eliminate involuntary lending, offering financial resources in exchange. However, when the imbalances are very large, as they have been in 1982-1983, IMF resources are not sufficient and the Fund has been actively promoting the provision of additional funding from private lenders to complement its own very limited financing possibilities, in order to try to avoid payments crises.

As already mentioned, banks have reacted, at least until now, very conservatively, trying to reduce their exposure with LDCs. Available financing to those countries is now an extremely binding constraint. But in spite of the new circumstances, the IMF has reassumed an attitude similar to its traditional one of regarding causes of and cures for individual country balance-of-payments crises as if they were isolated phenomena. This time, however, the financial shortages have required an extremely restrictive and costly adjustment process, which has not ben determined by the nature or causes of the imbalance but basically by available financing. The latter has overridden cost and benefit considerations, or —what amounts to the same thing— above some limited amount, the cost of financing has become infinite.

IV

Adjustment and debt in the 1980s: options and limitations of existing tendencies, institutions and practices

1. *The international scenario*

Until the second half of 1980, developments in the foreign sector of the Latin American economy seemed perfectly under control. It is clear from the preceding sections that since the beginning of this decade shocks originating in policy actions or decisions in industrial countries and in the world economy have played a major role in the generation of external imbalances in the LDCs. In fact appropriate policy measures in the North are a crucial element for the viability of the actual adjustment processes taking place in the South. If the terms of trade in Latin America had been similar to those prevailing in 1980 (25% better) and if international interest rates had been similar to those obtained when the bulk of the foreign debt was contracted (on average four percentage points below present rates), the region would have had available US$ 35 billion more in 1983. With these resources the region would have easily fulfilled its foreign payment obligations without having to reduce dramatically its imports nor needing additional foreign debt. In other words, if world trade and finance would only return to "normal" conditions, Latin America's foreign payments commitments could be satisfied without sacrificing its consumption levels or its growth possibilities.

Of course, policies in the LDCs have had a degree of responsibility in originating imbalances, but the correction of such policies, a responsibility of the LDCs' authorities, has already been carried out —in excess in many places— and has had a painful effect on both the domestic economy and its social fabric, raising skepticism about the ability of these countries to sustain the effort.

Current approaches to adjustment present two major problems: they maximize the global cost of the process and they are biased against debtor countries, which are bearing a disproportionate share of the cost. There are four major aspects of the international economy where action is needed in order to reverse this situation.

First, high and volatile interest rates have a definite negative impact on the current crisis, for various reasons. As already mentioned, the debt service payments and terms of trade of the LDCs have been adversely affected. Interest payments exceed the cost of oil imports in non-oil LDCs. But interest rates have also helped to delay recovery in the North and have contributed, through capital inflows to the United States, to the strengthening of the value of the dollar *vis a vis* other currencies. This has affected the LDCs' competitiveness and increased the real cost of servicing the foreign debt, which is predominantly denominated in US dollars. In relation to this latter point, it has been estimated that if th non-oil LDCs' borrowing from commercial banks, which amounted to about US$ 150 billion between 1979 and 1982, virtually all in terms of dollars, had been diversified to correspond broadly with the currency composition of their trade, the combined savings to these countries in terms of lower interest costs and exchange rate gains, would have amounted to over US$ 30 billion (see A. Mohl and D. Sobol, "Currency diversification and LDC debt", Federal Reserve Bank of New York, *Quarterly Review*, Autumn 1983, Volume 8, No, 3). Furthermore, high interest rates (together with overvalued Latin Aemrican currencies) have stimulated flights of capital to the United States which, according to private bank sources, reached US$ 100 billion during 1980-1983, aggravating the region's debt problems.

Macroeconomic policies in industrial countries, and especially fiscal policy in the United States, bear major responsibility for the high and uncertain interest rate levels. Monetization and crowding-out effects of the fiscal deficit, expectations that the United States deficit is unlikely to disappear even with a strong, long-lasting recovery (due to the fact that spending growth for both social and defense programmes will outpace the increase in tax revenues), and the fact that the industrial countries' public sector deficits are competing globally for a relatively weak flow of global savings are the major factors behind recent current interest rate levels and movements. Furthermore, the impact of international interest rates on LDCs is bigger than their effect on the average United States or United Kingdom citizen, since American or British borrowers can write off interest rate payments against taxes.

It should also be noted that banks' earnings depend not so much on the level of interest rates as on spreads, so that in principle, the soudness of the banking system would not be at stake and could even be enhanced if real interest rates could be reduced.

In summary, the advanced countries' responsibility for the levels and fluctuations of interest rates —one of the main determinants of current balance-of-payments crises and highly costly and inefficient adjustment process in LDCs— should be clearly recognized and action should be taken regarding fiscal and monetary policy mix, as well as on co-ordination of these and exchange rate policies among industrial countries.

The second international element to consider is that the actual adjustment process, based on generating trade surpluses in debtor countries, is being made extremely difficult and more costly due to the lack of sufficient foreign demand and protectionist tendencies in the North, which have affected both LDCs' exports and their terms of trade.

On average LDCs' products account for only 3% of the industrial countries' market; this relative small share should leave ample scope for further expansion. However, relatively large shares for some specific products and protectionist measures against imports of many of these products suggest only moderate growth ahead. Although it should be noted that protectionist measures in OECD countries did not stem the dynamism of the most successful exporting countries in the late seventies, the export environment in the next years will be much more competitive than in the last fifteen years. In addition to debtor countries' export promotion policies, strong export growth will require not only a healthier world economy but also a restructuring process in the industrialized countries' economies, which is an essential aspect of international economic development to which national policies in both industrial and developing countries must make a positive contribution (see B.A. de Vries, "International Ramifications of the External Debt Situation", AMEX Bank Review Special Papers No. 8, November 1983).

Although developments in 1983 and forecasts for 1984 indicate a recovery from the 1982 world recession, and despite the increase in imports into the United States, the international transmission of the recovery is working less well than in the past. The growth of world trade exceeded the growth of world output by a sizeable margin in the two-year period following the 1975 recession, as it has on average throughout the postwar period. For 1983-1984, in contrast, the excess of trade over output growth is likely to be negligible or non-existent, the main reasons for this being the slower available financing, due to the debt problem, and the proliferation of protectionist measures. To this should be added the restrictions imposed on imports by heavily indebted LDCs.

In a dynamic, expanding economy, traditional prescriptions for a single country to adjust by increasing exports and restricting imports have some rational basis. However, since every export is someone else's import, a "composition fallacy" may occur when a generalized crisis takes place. As the IMF has leverage with respect to deficit countries

which are in need of financial resources but not with respect to surplus countries (or reserve currency countries whether in surplus or deficit), the burden of adjustment is thrown upon deficit non-reserve currency countries. This fact increases the cost of adjustment for those countries, and reduces the efficiency of certain policy measures, especially when the world economy is not growing at a rapid pace.

Availability and stability of foreign financing is the third international factor which requires urgent policy measures.

As mentioned in section III, bank lending to LDCs, and especially to Latin America, grew at extraordinarily high rates during the 1970s. In hindsight, although in some countries investment rates, and GNP and export growth rates, were high, development strategies based on foreign saving had very weak foundations. Excessive reliance on short-term loans created a serious imbalance between the maturity structure of investment and the debt, increasing the countries' vulnerability to debt servicing problems. Foreign finance in some cases took the place of domestic savings, stimulating consumption. The overabundance of foreign exchange contributed to overvalued exchange rates, putting a brake on export dynamism. Also, attempts to maintain activity levels in the face of the oil shocks, and the fact that high United States interest rates and domestic exchange rate expectations of depreciation stimulated speculative private capital outflows, were all factors that helped to partially offset the value of bank lending and to militate against its efficient use.

The private banks' initial reaction to debt servicing problems in the 1980s was not only to try to reduce their exposure with the LDCs, which by mid-1983 was over US$ 330 billion, but also to charge additional commissions and fees in the rescheduling schemes (which only very recently have tended to diminish slightly), that have added an extra cost on already high interest rates. It is evident that because of their aggressive loan policies, together with less than adequate project evaluation and their lack of awareness of the country and commercial risks involved, banks bear a share of responsibility in the gestation of the current balance-of-payments crisis. They tend to argue that due to the very competitive supply side of the market in the 1970s, spreads were low and provisions insufficient to cope with generalized payments crises. However, their current behaviour, by trying to suddenly block access of "problem" countries to financial markets and to impose rescheduling procedures that have increased financial costs substantially is helping to augment external imbalances, throwing practically all the adjustment cost burden on the debtor countries.

Together with higher financial costs, bank lending has declined and there is little reason to expect it will increase in the near future, except under forceful IMF pressure. However, as real interest rates will probably diminish only slightly and very slowly, if at all, huge and costly trade surpluses of the debtor countries are still not sufficient to close the foreign exchange gap, and countries will require additional loans. The only sources available would be the advanced countries' governments, which are themselves under severe budget constraints, and multilateral institutions which even if they increased their capital and lending capacity to what seems reasonable limits, will still fall short of required needs. Therefore, although efforts should be strengthened to ensure that the IBRD and IMF play a major role, directly and indirectly, in international financing it appears that no solution to the LDCs' debt problem will be viable unless it includes a reduction of the real burden of debt.

A final element in the international scenario, that has not been sufficiently incorporated in current approaches to adjustment policies, is related to the extent to which both through trade and finance, countries and regions tend to be interrelated.

As the world has become more interdependent, actions by a group of countries are bound to affect the rest, positively or negatively. Actions in the same direction by most or by all countries will reinforce each other producing on any individual country an effect substantially larger than the one that would have been forthcoming from that country's policies by themselves. The growing interdependence is likewise reflected in the fact that if a country takes adjustment measures to reduce a deficit at a time when surplus countries are applying expansionary policies, the result will be a faster and smoother adjustment process at substantially reduced economic and social cost. However, that is not what is happening at present. Thus, a reduction in expenditures in a deficit country, with the aim of freeing additional resources for use in the tradeable goods sector will be defeated in its purpose if the rest of the world is also compressing domestic demand because of, say anti-inflationary policies. The case of import protection is even more clear: policies to promote the exports of deficit countries will be defeated if the rest of the world prevents those exports from finding markets. Similarly, if one country devalues its currency to produce a reduction in the external sector gap, it may achieve its purpose. But if many countries producing similar commodities devalue at the same time, the result may not be adjustment, but merely a reduction in the prices of the exports of those countries, and a worsening in their terms of trade which might even increase the imbalance.

Excessive reliance on adjustment delays the North's recovery since the LDCs' markets for the industrial countries' exports are no longer of marginal importance. Added to the above-mentioned composition fallacy, implicit in regional export promotion within a stagnant world economy, is the fact that import cutbacks in the LDCs help to feed the recessionary tendencies in the rest of the world, delaying economic recovery in those same countries. According to Professor Koren, President of the Austrian National Bank, around 20% of world trade is affected by difficulties in deficit countries. Given this situation, it is no longer reasonable to impose economic policy conditions on many countries simultaneously while at the same time expecting them to raise their exports and lower their imports. If many countries were to meet those conditions at one and the same time, the system could not function (BIS press review, 27 October 1983). Up to August 1983 United Kingdom exports to Latin America fell by 35% relative to the same period in 1982, and some calculations indicate that the fall in United States merchandise exports to Latin America accounted for over 40% of the total decline in that country's exports in 1982 and was responsible for the loss of 250 000 jobs in the United States in areas where unemployment was generally higher than the United States average (see S. Dhar, "United States trade with Latin America: consequences of financing constraints", Federal Reserve Bank of New York, *Quarterly Review*, Autumn 1983, Vol. 8, No. 3).

On the financial side, it has been estimated that the LDCs' debt exposure of the major private banks amounts to more than twice their capital and that the annual interest owed to such banks by the LDCs is more than the banks' total profits (see R. Wienert, "Banks and Bankruptcy", *Foreign Policy*, No. 50, Spring 1983).

Consequently, the present approaches to adjustment which throw the burden basically on deficit countries and are strongly biased in the direction of recessionary policies should be complemented by trade liberalization policies in the advanced countries and a major new role for financing through debt rescheduling on better conditions with higher net capital inflows to LDCs. This is in the interests of both North and South not only through its effects on higher global output and trade growth but also because it minimizes the possible impact of partial or generalized default on the international banking system and its consequent effects on an even deeper and more prolonged world depression.

2. *Adjustment policies at the country level*

Current adjustment policies in the LDCs have been inspired by the traditional IMF approach implemented in the 1950s and 1960s with the aim of improving debtor countries' trade balances. Section III showed that an extraordinary effort has been made by most Latin American countries, with huge economic and social costs. Although trade balance improvement has been impressive it has not been sufficient to generate the resources needed to fill the foreign exchange gap. That is why most countries have had to reschedule their foreign debt and still need higher capital inflows and/or a reduction in the real value of debt service in order to "finance" interest payments.

The adjustment experience during the 1980s has revived the discussion regarding its efficacy as well as the question of its sharing of the burden among debtor and creditor countries. The Latin american case reveals that certain old criticisms of traditional policies have solid bases and should receive more attention from multilateral organizations and advanced countries. In addition, however, developments in the 1970s and the changes that have taken place in international, regional and local scenarios, have given rise to new, non-traditional issues and problems which should also be incorporated in the analysis and discussion aimed at seeking policies that will allow for more efficient and equitable adjustment processes.

Adjustment policies recently implemented in Latin America show a clear recessionary bias. Improvement in the trade balance has been achieved essentially through lowering imports and diminishing the countries' standard of living, rather than by increasing exports. In other words, the reduction in aggregate demand tends to outweigh the change in output composition, while supply-oriented policies have proven particularly ineffective. The world recession and the increasing protectionism of the 1980s have contributed to this situation as well as the fact that outward-looking policies, when implemented globally are less efficient (as is implicit in current policy prescriptions) than when applied by a single "small" country.

However, it seems that the traditional approach, applied rather homogeneously to a number of quite different country cases, which assumes that current account problems are derived from excess demand for goods, blurs the basic fact that financial service payments are the major component of the current account deficit. Therefore, given that debt was acquired through time and that interest rates are now extremely high, policy prescriptions aimed at reducing "excess spending behaviour" and attempting to solve a "stock" problem with traditional instruments based on generating an excess supply of goods focus attention on issues and variables that, although related to the problem, are not the most efficient ways of dealing with it.

Furthermore, as mentioned in section II, when restrictive fiscal and monetary policies are implemented and devaluation takes place, the exportable and import subtitution sectors tend to respond slowly, while imports and economic growth slow down or are reduced rather quickly and non-tradeables supply, facing a scale effect that in the short run is much more important than the relative price effect, tends to stagnate or even to fall. From a development perspective, traditional adjustment measures present a further problem since the recessionary impact —given the fact that people will attempt to maintain current levels of consumption— tends to fall more heavily on investment. Finally, inflation associated with devaluation, together with a decrease in real wages and increases in unemployment, generates a regressive domestic distribution of the burden of adjustment, in addition to the costs incurred through the impact of stabilization policies.

The above-mentioned factors, traditionally associated with "orthodox" adjustment policies, have been amplified not only by the international scenario of the 1980s,

especially the world recession, terms of trade deterioration and higher interest rates, but also by inconsistencies associated with new phenomena, which tend to exacerbate economic fluctuations and recessionary effects. The amount of adjustment required has been amplified by the fact that the trade balance has had to improve not only to cover higher debt service payments but also to try to compensate for the smaller net lending due to the procyclical behaviour of the commercial banks. This "overadjustment" tends to be self-defeating since, as relative price changes prove less effective for reducing deficits, forcing additional emphasis on restrictive measures, these excessive restrictions damage the economic system as a whole and tend to increase the risks of lending as seen by the creditors.

In a number of countries, a similar situation to what has happened internationally in relation to debt service capacity, has occurred domestically. Much of the "debt" problem is originated not only by the lack of foreign exchange but also by the fact that domestic residents, firms and persons, have been unable to service their *domestic* debt. This situation, associated with inefficient resource allocation in previous years, has been exacerbated by the "microeconomic" effects of the adjustment policies that are being implemented. Falling sales and increasing taxes and financial costs —the importance of the latter in the structure of production costs having increased enormously— squeeze firms' profits as well as consumers' ability to pay, shaking the soundness of domestic financial systems and increasing the cost of the adjustment process as a whole. The need for recovery of the economy, so that domestic illiquidity and/or insolvency is eliminated (a necessary condition for servicing the foreign debt) is contradicted by the recessionary effect of the adjustment policies being actually implemented.

Closely related to the internal debt issue is the fact that in a number of countries in the region, especially those which engaged in unrestricted liberalization cum stabilization programmes, domestic real interest rates have reached excessively high levels and experienced extremely sharp movements. While those developments may have been justified on the basis of events taking place in the credit markets, their consequences for other aspects of the economy would have required a closer look, and actions, to deal with events affecting those rates so as to achieve better results in overall objectives of economic policy. Similarly, the extraordinary inflow of foreign capital and anti-inflationary policies based on exchange rate management, together with tendencies to integrate the goods markets into the world economy by lowering barriers to trade, generated in many cases grossly overvalued exchange rates which stimulated, in the wake of the world recession, huge private capital outflows outside the region. In summary, the behaviour of certain variables, namely exchange and interest rates, as well as real wages, foreign debt and asset prices, as "outliers" has enormously complicated and increased the cost of adjustment policies, since much more drastic changes in relative prices are required which, furthermore, may end up to being in contradition with the overall desired results.

The behaviour of asset prices merits special consideration in some Latin American economies. In the late 1970s and to a certain extent up to the present, real and financial asset prices soared, without adequate capital accumulation effort having taken place, creating a "bubble effect" which stimulated private expenditure. As the cost of domestic financing was higher than that of foreign financing, funding private sector excess spending abroad became a profitable way to circumvent the tight domestic credit or money markets. In many cases this was the main domestic cause of the external imbalance. However, the traditional approach to adjustment assumes that it is the public sector deficit which is the principal element behind excess spending, and higher prices for public sector services, lower government spending, higher taxes, etc., are therefore felt to be called for. Obviously, under these circumstances, although the trade balance will

improve, distortions created in the domestic economy, together with an unnecessary fall in investment as compared to the desired reduction in consumption, help to increase still further the costs associated with the current adjustment.

Finally, in more general terms, since the slower growth rates in industrial countries and the higher real interest rates in international markets, as well as the smaller increase in the foreign financing available to LDCs will probably prevail for quite a long time, it would be desirable that the adjustment process in debtor countries should be guided not so much by short-run financial or balance-of-payments considerations, but rather by long-run, development objectives. This requires —together with the attempt to minimize and better distribute the adjustment cost in the short run— appropriate "intervened" (as opposed to automatic) adjustment. In particular, policies aiming at increasing the flexibility of the domestic structure of debtor economies are called for. In this respect, it seems that the recent experience of some of the Asian NICs, particularly Taiwan and to a smaller extent Korea, which have been able to rely less on debt, to increase and diversify exports to both advanced and oil-exporting countries, and to substitute imports more efficiently, rather than reduce them, could be quite illuminating.

V

Final comments and conclusions. A new proposal

The economic size of the developing world, and its linkages both through trade and finance with the industrial countries, indicate the need to give higher priority to a global international approach to the balance-of-payments problems of LDCs. Even though adjustment is required, the prevailing approach considers countries on a case-by-case basis and tends to minimize the effects of the world economic stagnation on LDCs' recovery and to overlook the impact of their adjustment on the advanced countries' levels of exports and activity. Also the characteristics of the world economy today are quite different from those prevailing in the 1950s and 1960s. They require, from the international community, and especially from the IMF, a new approach to old problems. Recent experience shows, however, that apart from the IMF's role in leading efforts to obtain additional financing no major effort is being made in that direction; the implementation of traditional ideas and standard policies in the new international scenario is increasing the burden placed on LDCs by problems which urgently require a more efficient and equitable solution than the one currently being pursued. These considerations, together with the fact that developments that have occurred outside the LDCs' policies and responsibilities have played a major role in the actual crisis, mean that there is now an even greater need for financing than during the renegotiation processes that have been taking place since August 1982.

The adjustment and "overadjustment" of most debtor countries in the past eighteen months has been impressive. In spite of the huge economic and social costs incurred in terms of losses in output and higher inflation and unemployment, however, trade surpluses have not been sufficient to compensate for interest payments and smaller inflows of capital. The monetary authorities and governments in industrial countries, together with the IMF and private banks, have helped by rescheduling and consolidating existing debt.

These results, and the magnitude of the problems yet to be solved, indicate that the current approach to adjustment and the efforts made in that connection by all the principal participants have so far succeeded, at high and not equitably shared costs, in

something important but limited: buying time. It is doubtful, however, whether the present arrangements have bought enough time for all the countries concerned or can be used to buy much more in the future.

Private bankers, especially the smaller ones, are displeased with what they perceive as "arm twisting" and increasing official interference in their business, although many of them would appreciate being bailed out by their monetary authorities. The IMF's credibility has been shaken by the many breakdowns in its programmes. The industrial countries' concern about eventual tax increases and trade competition from abroad is reducing their governments' policy options. Last but not least, although it is true that "there is no such thing as a painless adjustment", the question is whether, over the longer term, the current adjustment policies in debtor countries, which tend to maximize cost in terms of output and employment losses and lower investment, will be worth the economic and social costs incurred. Many of the developing countries are concluding that adjustment cannot go on for much longer and are pressing for a much more equitable and development-oriented solution to current problems. Furthermore, they correctly argue that over the longer term improved creditworthiness must be based on growth in output and exports and not on reduction of economic activity.

As already mentioned, economic recovery as well as lower protectionism and interest rates in industrial countries would obviously help. However, it seems that even if developments in the world economy go in the right direction, neither their speed nor their foreseeable magnitude will be sufficient to induce urgently needed growth in debtor countries. Furthermore, as most of these countries start from such high debt burdens they probably cannot return to normal market borrowing for some years to come. Therefore, together with a healthier international economy, there is need for new loans and adequate growth of official development assistance so as to allow domestic policy changes to be appropriately and more smoothly accomplished.

As lending banks view their exposure with debtor countries as too high by today's standards, and given that the external financial constraint on LDCs is the most pressing one, no solution during the near future seems feasible without a fall in real debt burden. In this context, a number of proposals in relation to the debt problem have been advanced, which include special treatment of both amortization and interest payments. (Most of these proposals are contained in M. Guerguil, "The international financial crisis: diagnoses and prescriptions", to appear in *CEPAL Review*, No. 24.) They range from outright purchases of the loans by governments or official institutions to the establishment of long grace periods and guarantee schemes which would give both lenders and borrowers time to alleviate their problems, while the most extreme ones consisting of exchanging real assets for debt.

The main problems regarding the adoption of most of these schemes are the political implications involved in the capital losses associated with them. Although most of the debt problem is one of temporary illiquidity and not of fundamental insolvency, and in spite of recent and current emergency actions, many LDCs will not be able to service their debt, and therefore its level must be reduced. Someone has to make good the losses. In industrial countries the possibilities are reduced to savers or depositors' taxpayers, or the banks' shareholders.

Banks will have to keep lending to debtor countries because otherwise they will not even receive interest, or they might have to lower interest rates and/or commissions and fees in future (unavoidable) reschedulings, thus reducing their earnings. A certain amount of money is likely to be lost, and one possibility is that it will have to be written off by the creditors and spread over time, so as to preserve confidence in the banking system. At the other extreme, some proposals suggest that it is the LDCs which should make up

for the capital loss, in addition to current losses in output and employment, by exchanging part of the outstanding debt for shares in firms that their governments control (L.A. Metzler, *Financial Times*, 14 December, 1983). A whole range of "intermediate" proposals have been suggested, including a major role for SDRs (D. Avramovic, "The debt problem of developing countries at end-1982", *Aussenwirtschaft*, March 1983); reconversion of currencies as loans are rescheduled (M. Zombanakis, *Financial Times*, 9 November 1983); and stabilizing the real value of debt in terms of dollars (S. Brittan, "World debt: a suggestion", *Financial Times*, 29 September 1983).

Some of these ideas could not be considered seriously in the atmosphere of emergency which has prevailed until recently, when the restoration of confidence in the banking system and avoiding defaults by Third World countries had overwhelming importance. But now is the time for all parties concerned (especially governments, monetary authorities and commercial banks in industrialized countries, all of which share the responsibility and ought to share the debt burden) to study these proposals and act appropriately.

As indicated above, the fact that interest rates are substantially higher than their previous long-term average, and that these higher rates apply to the bulk of the external debt of the LDCs, compounds debt service payment difficulties. For Latin America as a whole, amortization and interest payments of medium and long-term debt after renegotiation absorb more than 50% of exports of goods and services, and more than 60% in the case of five countries of the region. A change of one percentage point in external interest represents US$ 2.8 billion per year: a sum equivalent to roughly 3% of the total exports of the region.

Lenders are normally willing to reprogramme or refinance amortization payments, but there are very few cases where this willingness extends to cover interest payments. A reduction in interest payments below market rates would reduce the operational income of the lending institutions without a corresponding reduction in operating costs.

Interest rates are not under the control of borrowers or lenders. They are a result of macroeconomic policies, and since these policies are not stable, interest rates cannot be expected to stabilize in the short run. Furthermore, the level of such rates in real terms is now five or six times higher than the longer-term (10 or 20 years) averages.

But if interest rates cannot be stabilized at normal levels, interest payments can be. A new proposal in this respect is as follows (C. Massad, "Una proposición para la solución de los pagos por intereses" (mimeo), ECLAC, November 1983).

a) A "reference" rate in real terms would be established at a level similar to the long-term average international real interest rates plus normal spreads.
b) Original debtors could pay interest in their own currencies to their Central Banks, at the originally agreed market rates.
c) The Central Banks would pay creditors interest up to a maximum equal to the reference rate. The difference, if positive, would be accumulated in special accounts at the Central Bank of the debtor country and credited to the original creditors.
d) If negative, the difference would be paid to the creditors by the Central Bank, drawing against the funds accumulated in the special accounts, in so far as there remain resources accumulated in the accounts. Such resources would accumulate when the market rates exceed the reference rate and would disaccumulate in the opposite case.
e) The Central Bank would assume the exchange risk, but not the commercial risk.
f) In their own accounts, creditors could present the amounts accumulated in the special accounts of the Central Bank as credits guaranteed by the Central Bank involved.

g) The system would operate as long as there are resources accumulated in the special accounts.

h) The scheme would be applied to debt outstanding as of a given date.

This proposal could make a very substantial contribution to strengthening the portfolio of creditor banks and to normalizing the situation in financial markets. Of course, the liquidity problem involved for creditors (banks pay interest at the going rate, but would only get them back over time) could be taken care of with the support of their own monetary authority. It would be a minimum contribution to the solution of a problem in which all parties involved bear some responsibility.

Two aspects of the proposal require global agreements: one is the necessary support of national monetary authorities of creditor countries to creditor institutions; the other is that of the general characteristic of the system and the general conditions for its application. The IMF could lead the effort to achieve such agreements. The proposal does not require setting up new institutions, nor does it call for asset transfers among creditors or between them and international organizations. The proposal also provides a simple mechanism for interest subsidization, if desired: funds put at the disposal of Central Banks could be used to reduce the amounts accumulated in the special account.

Other aspects, such as the precise scope of the system, rates and spread involved, funds accumulated in the special account and not fully drawn before payment of the debt, etc., are matters of negotiation, but it will be easy to propose some possible options if needed.

Finally, the scheme could run parallel to the rescheduling of debt amortization payments and need not interfere with it.

It is very probable that after the emergency debtor countries will still find serious constraints that will limit the scope for expansionary policies and will complicate the aim of achieving growth rates similar to those observed in the 1970s. The most important constraint will be external financing. In general, it will not be easy for governments or Central Banks of advanced countries or for official multilateral institutions to compensate for the expected smaller rate of increase in private bank lending. Improved financial management by LDCs, such as diversifying the currency composition of debt and using new financial tools and techniques, will be needed to optimize the use of the limited foreign finance available. In addition to this, it seems that the relatively smaller amount of financial credits will have to be compensated by resource transfers from industrial countries in other forms, mainly direct foreign investment, whose share in the 1970s diminished abruptly in favour of bank credits; new thinking is needed in this area also, so as to avoid the mistakes of the past.

On the internal front, adjustment and policy measures in debtor countries should be designed and implemented with a longer time horizon than is currently being used. Greater reliance on domestic saving, and efficient resource allocation aimed at increasing employment and the rate of growth of output and exports are required. Recent experience in Latin America as well as in some countries in South-East Asia suggest that much more attention than in the past should be given to "macroprice management", i.e., exchange rate, interest rate and wage policies. Consistent policies in these areas may contribute decisively to increasing saving and allocating investment more efficiently. This, together with adequate pricing policies and reforms aimed at increasing market and management flexibility, in a joint effort by the government and the private sector, should contribute decisively to put those countries on a higher growth path based on a dynamic tradeable sector (for export production and import substitution), which at the same time can be induced to use labour-intensive technologies.

NOTES

[1]Naturally, as a result of alternative hypotheses developed to explain these disequilibria and imbalances, different "structural" changes have been proposed: nature and speed of reindustrialization, supply-side economics, redefinition of government intervention in the economic sphere, implications of the size and characteristics of the "welfare State" on overall economic performance, etc.

[2]It is implicitly assumed that authorities sterilize the monetary effects of the net increase in foreign debt; otherwise the fall in money supply generated by the net inflow of foreign exchange would induce a sort of endogenous adjustment process through its depressive effects on aggregate demand and expenditure.

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