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STABILIZATION AND ADJUSTMENT POLICIES AND PROGRAMMES

COUNTRY STUDY
7
MEXICO

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COUNTRY STUDY: **MEXICO**

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PREFACE BY THE DIRECTOR

This monograph is part of a series being published by WIDER on the experience of developing countries with stabilization and adjustment programmes in the 1970s and 1980s. Each study analyzes the package of policies implemented by a specific country; its relations with the IMF and World Bank; the effects of the policies on production, employment, the balance of payments and social welfare; and what other policies might have been followed instead.

The intention of the series is to assist developing countries to devise adjustment policies that would, while accomplishing desirable adjustment and growth objectives, simultaneously remain politically viable in the particular country settings studied.

For this purpose it was thought desirable to explore policy alternatives to the adjustment programmes being implemented. Built into the design of the series, therefore - and constituting indeed its special feature - is the requirement that each study include a 'counterfactual' exercise to illustrate the effects of alternative policies. Utilizing econometric models adapted or specifically developed for each country, the probable effects of alternative policy packages are estimated; the object was to see how far the balance-of-payments adjustment and growth goals of a particular programme might have been achieved at a possibly lower social cost with a different policy mix.

Each country study is written by an independent scholar and expert in the relevant country. First drafts of the studies in this series were discussed at the WIDER conference on stabilization and adjustment policies in developing countries which was held 19-22 August, 1986 in Helsinki. Each study has been reviewed by WIDER's research advisers for the project, Professors Gerry Helleiner and Lance Taylor, and revised substantively by the author as necessary; subsequent editing has been conducted under the overall supervision of Mr Robert Pringle, Senior Fellow, who serves also as editorial adviser on WIDER publications.

A companion volume by Professor Taylor summarizing the experience of the countries surveyed will draw broader implications for the theory and practice of stabilization and adjustment policies; this volume will be published by Oxford University Press. The individual country studies in this series will subsequently be grouped into separate volumes, also for eventual publication by Oxford University Press.

Lal Jayawardena
Director
March 1987

EXECUTIVE SUMMARY

By the time Mexico declared a suspension of debt
service payments in August 1982, it had already begun a
process of external adjustment that was to prove in the
short run outstandingly successful compared with that of
other countries, but was based on a total collapse of
domestic investment and imports of capital goods. In 1983,
imports fell by 42 per cent and GDP by 5 per cent.

The drastic effects of this depression on living
standards are self-evident: by 1984 the purchasing power of
the average wage was little more than half its level in the
late 1970s. The country's total wage bill plunged by 32 per
cent from 1982 to 1984.

The recession went far beyond what was necessary to
meet the external debt problem. In 1984, when domestic
aggregate demand fell short of supply by some 17 per cent,
only 6 per cent was required for the transfer of real
resources abroad as a result of the debt crisis. The rest
was attributable to the depression and provides one measure
of the waste of resources involved.

Even this level of demand reduction did not, however,
deal with the inflationary problem - indeed, inflation
accelerated to over 100 per cent in 1984. Dr. Nora Lustig
and Dr. Jaime Ros argue that this was not surprising, as
these policies were based on an erroneous model of
inflation. In fact inflation is not very sensitive to demand
restraint; by contrast, the nominal fiscal deficit is,
however, highly sensitive to inflation. Thus the attempt to
achieve a pre-determined fiscal target by cutting real
government investment and social expenditure led to a
recession that was much deeper than planned, leaving
inflation well above the planned level.

The mild recovery in 1984-85 soon ran into renewed
payments difficulties as non-oil exports failed to respond
as much as hoped to the maxi-devaluation. This failure,
reflecting again the use of wrong-headed economic models,
led directly to the payments crisis of mid-1985, a new
policy package and a new recession - all worsened by the
collapse of the oil price in 1986.

These policies caused a reduction of some 10 per cent
of GDP, between 20 per cent and 30 per cent of investment,
and 30-35 per cent in real wages in 1985 compared with what
would have been the levels under more sensible economic
policies - not to mention the more enduring loss due to the
once-for-all destruction of productive capacity. If one
wants to find an example of negative structural adjustment,
one need look no further than Mexico.

ACKNOWLEDGEMENTS

I.   INTRODUCTION

Mexico's economic development over the post-war period was for a long time considered a success story. Industrial development - based on trade protection, state development financing and fiscal incentives - led a process of structural transformation and of high economic growth at sustained rates of 6 to 7 per cent per year (Table 1). Low inflation rates, at roughly international levels, and exchange rate stability prevailed from the second half of the 1950s to the beginning of the 1970s. The political system also remained stable in spite of the persistence of a skewed distribution of the benefits of growth; a stability rooted in a presidential regime supported by the dominant party system which emerged from the 1910 armed revolution based on a coalition of peasant, worker and urban middle class organizations.

Compared with other Latin American countries, stabilization programmes in Mexico have been relatively rare. Before the 1970s there was only one stabilization attempt involving an agreement with the IMF. This occurred in 1954[1] as a response to the worsening of the trade balance and the slowing of economic growth in 1953, which followed the end of the Korean war. This led in April 1954 to a 50 per cent devaluation, accompanied by a rise in public investment. Growth resumed rapidly, inaugurating a period of sustained economic expansion with exchange rate stability and very low inflation rates (Table 2).

The reappearance in the 1970s of two-digit inflation, together with real exchange rate appreciation, rapidly increasing trade and fiscal deficits and capital flight,[2] ended in a foreign exchange crisis and the application of a stabilization programme which was supposed to last from late 1976 to 1978. The policy package of this programme comprised an 80 per cent devaluation in August 1976, a contractionary fiscal adjustment in the 1977 budget and a programme of gradual import liberalization. At the root of these economic

troubles lay the progressive stagnation of agricultural output, starting in the mid-1960s, and a decline in the agricultural trade surplus, together with a worsening of industrial performance, as the dynamic effects of the intense import substitution process of the 1960s receded. The 1973-74 oil shock was not beneficial at that time since Mexico had recently become a moderate net importer of oil.

The economic slowdown of 1976-77 was, however, mild and short-lived (Tables 1 and 2). The discovery and exploitation of Mexico's massive oil reserves relaxed the balance-of-payments constraint, giving rise to a period of very rapid economic expansion from 1978 to 1981. During this period GDP grew at around 8-9 per cent per year, oil production at 19.4 per cent and oil exports at 52.7 per cent. The oil boom showed, however, an increasing real and financial vulnerability, represented by a growing dependence (of both the current account balance and the government's budget) on oil export revenues, which reached around 70 per cent of total exports by 1981, a sharp deterioration in the non-oil trade balance, and an explosive growth of foreign debt (Table 1). In the context of free capital mobility and a rising real appreciation of the exchange rate, in 1981 and 1982 public foreign debt was mainly used to finance massive capital flight (estimated at around $20 billion for the two years taken together). Rising interest rates abroad, falling oil prices, and the drying up of new international loans led to the 1982 economic crisis, characterized by sharp devaluations and drastic fiscal and external adjustments which resulted in economic contraction, high inflation rates and large shifts in the distribution of income and wealth (Tables 1 and 8). At the end of 1982, the Mexican government signed a new agreement with the IMF which involved a stabilization programme for the following three years.[3]

Undoubtedly, the sudden cut in the availability of fresh money, together with the reversal in terms of trade implied by declining oil prices and rising interest rates, required an adjustment on the part of Mexico to the new

conditions. The issue is whether the adjustment process since the end of 1982 has succeeded in: one, achieving a new equilibrium and, two, whether it was done at the lowest cost for the population at large. The evidence suggests the programme failed in both respects.

Section II includes an overall description of how the Mexican economy works and a comparison with orthodcx views on the subject. In section III we discuss the nature and effects of the stabilization policies followed since 1982, in light of the model presented in the previous section; the focus will be on the short term behaviour of key macroeconomic variables. The impact of stabilization policies on living standards and on the distribution of income and wealth and their implications for longer-run growth are the subject of section IV. The fifth and final section contains a discussion on the feasibility and consequences of alternative policies on the basis of a counterfactual exercise over the period 1983-85 and projections of the economy for 1986-90, both under orthodox and alternative scenarios.

II. A MODEL OF THE MEXICAN ECONOMY

This section presents an analytical view of how the Mexican economy operates with respect to price and wage formation, the determination of output, effective demand and the trade balance, and the behaviour of financial markets and monetary policy. The picture presented here is based on a number of empirical studies on these subjects.

1. Price and wage formation

It is possible to distinguish several mechanisms of price formation in the domestic markets for goods and services. In most of the manufacturing and distribution sectors, prices are determined by a mark-up over costs. In those sectors where product differentiation and oligopolistic market structures prevail, short-term demand pressures appear to have negligible effects on mark-up behaviour (for the manufacturing sector, see Ros, 1980; Jiménez and Roces, 1981). Trade barriers or the non-tradeable nature of some sectors (e.g. commerce) also account for the absence of significant effects of international prices except for the latter's impact on intermediate import costs (see Ros, 1980).

Policy-determined prices prevail in public enterprise sectors such as energy, urban transportation and communications, as well as in the private sectors producing basic foodstuffs. Policy rules here take into account the behaviour of production costs, the government's fiscal targets, and social welfare goals. By assuring adequate supplies, policies toward price subsidies and imports have, in general, been able to avoid the growth of parallel or black markets.

A stylized picture of Mexican agriculture would distinguish between a large peasant sector producing basic food for the domestic market (maize and beans, typically) and a capitalist farm segment producing export crops

(cotton, coffee and tomatoes, for example).[4] The domestic markets for basic foodstuffs are subject to considerable government intervention by means of guaranteeing minimum prices to producers, commercial intermediation, holding of stocks and control over imports through CONASUPO, a major government agency. These policies have aimed at stabilizing markets, 'guaranteed' prices being fixed by taking into account the behaviour of domestic costs and, especially, of international prices together with policy objectives regarding agriculture such as, for example, self sufficiency in food crops. (Rodríguez, 1979).

In the exportables sector of capitalist agriculture, prices - both in the short and in the long-run - follow the behaviour of foreign prices quite closely, and the 'law of one price' is, therefore, a good first approximation to price determination (Rodríguez, 1979). The same mechanism applies to other primary sectors specialized in tradeable and non-differentiated goods which are largely open to international markets, such as livestock and mining (including, of course, exported oil). Finally, conventional flex price behaviour appears to be limited to a few agricultural markets and to private services.

One important implication of these mechanisms of price formation is that the primary sector's terms of trade (especially mining and the exportables sector in agriculture) tend to reflect the behaviour of the real exchange rate and of international relative prices for those commodities.[5]

Wage determination responds to two different mechanisms. In the modern or formal urban sectors, average wages follow the behaviour of urban minimum wages relatively closely and are influenced through a low coefficient, by the level of unemployment rates. Minimum wages are subject to a complex process of negotiation in a tripartite commission, integrated by representatives of the government, the confederation of labour unions, and business organizations

(Casar and Márquez, 1983). Wage settlements are determined both by economic factors, mainly past inflation, and by policy objectives and ideological elements which greatly condition indexation rules. This process of wage determination gives the government's wage policy considerable room for manoeuver for decades a remarkable feature of the Mexican social and political system.[6]

In the informal rural and urban labour markets with relatively easy entry to newcomers, earnings are more influenced by supply and demand conditions. Labour supply is related directly to the surplus of the labour force over formal employment and inversely to the level of wages in the formal sector, while demand conditions respond to economic activity and real incomes in the modern sectors.

The above description of price and wage formation differs substantially from the orthodox view with respect to price flexibility in the goods and labour markets and the prevalence of the 'law of one price' in the long term. The domestic price level is neither largely sensitive to aggregate demand pressures[7] nor pegged, in the long run, to international prices in domestic currency. Nevertheless, devaluation – as well as other relative price shocks such as public price increases – can have a strong inflationary impact through its effects on tradeable commodities and imported industrial inputs, to the extent that indexation mechanisms propagate and perpetuate the initial inflationary pressure (see, for example, Easterly, 1985).

2.   Output, effective demand and the trade balance

Output determination responds to two principal mechanisms corresponding to the pattern of a semi-industrial open economy showing the coexistence of sectors presenting different market structures, competitive processes and rules of price determination. The most important of these mechanisms prevails in the so-called fix-price markets of the industrial and service sectors where output adjusts to

effective demand at levels generally below full capacity utilization.

Here, market adjustments do not fit either the assumptions of a neoclassical small open economy model or those of a pure Keynesian open economy model. In contrast to the conventional model of a small open economy (which assumes exogenous terms of trade and infinite price elasticities), a key feature of most manufacturing and service sectors is that domestically produced tradeable goods are generally imperfect substitutes of those traded in international markets, reflecting the importance of non-price factors in the determinants of international trade. As is well known, in the small open economy model exports are determined by excess supply functions while imports respond to an excess demand model; domestic supply is given at full capacity levels. In contrast, most Mexican exports and imports are determined through demand functions which have among their main arguments income and relative price variables; the price elasticities are clearly less than infinite (reflecting the world demand constraints) in spite of the generally small share of Mexico's exports in world markets. Moreover, in the case of imports, the technological constraints prevailing in many sectors peg their size to output and investment levels, making imports quite insensitive to price variations.

Since terms of trade for these 'fix-price' sectors are largely endogeneously determined, devaluations can have a strong terms of trade effect on real income, particularly in the export service sectors (tourism), where domestic costs have a very large influence in the determination of export prices. Marshall-Lerner conditions are fulfilled, although import-price elasticities are generally low due to the large proportion of complementary imports (Rock, 1979; Aceituno and Mattar, 1984).

On the other hand, output determination in the 'fix-price' sectors differs also from a pure Keynesian model

of an open economy. In contrast to the latter, capacity
utilization enters prominently into the determination of
export and import volumes, reflecting the presence of normal
discrepancies between the structure of demand and the
composition of domestic productive capacity (Ros, 1984): as
demand presses on productive capacity, required imports
accelerate and the availability of exports may decline. As a
consequence, output determination will depend, even in the
short run, on productive capacity.[8] The presence of capacity
utilization in export and import functions introduces a
strong trade-off between the trade balance, on one side, and
capacity utilization or output (given productive capacity),
on the other. The nature of this relationship between the
trade surplus and capacity utilization is in turn affected
by the other determinants of trade volume such as foreign
demand, terms of trade, the real exchange rate, trade
policies and the composition of domestic demand vis-a-vis
the structure of local productive capacity, which affects
the size of the capacity utilization coefficient in export
and import functions (see section IV below).

The second main mechanism of output determination
operates in supply-constrained sectors, such as agriculture
and mining (with the exception of oil), producing
'conventional' tradeables. Here, the adjustment between
supply and demand takes place mainly through changes in the
trade balance at prices determined in the international
market. For such sectors the small open economy assumption
is a good first approximation to market behaviour. In this
case output does respond to relative prices and the relevant
price ratio is the price prevailing in these sectors
relative to those in other tradeable and non-tradeable
sectors.

An important exception to these two general mechanisms
is the market for exported oil. In this case both the
international price and the (demand-constrained) export
volume are given. These peculiar characteristics make the
level of output of such sectors insensitive to both the

supply-side and demand-side effects of devaluation, which are generally present in other markets.

In addition to external demand and fiscal policy, the level of effective demand depends on the two main components of private expenditure. Private consumption is mainly determined by personal disposable income, wealth and their distribution between wage-earners, profit recipients and the low income non-wage earners in the rural and urban sectors. The appearance of large holdings of dollar-denominated assets in the hands of the public, over the last decade, has given rise to new wealth effects in the face of devaluations which may influence private consumption levels (Easterly, 1985). Empirical research on the size of this effect is, however, non-existent.

Although there is no clear consensus on the determinants of private investment, two main variables are present in most econometric models and studies: effective demand and public investment (Aceituno and Mattar, 1984). The former affects the level of investment either through an accelerator mechanism or through its influence on the level of capacity utilization. On the other hand, public investment exerts a significant complementary effect on private investment. Other models and studies emphasize the role of another set of variables on investment decisions: credit restriction (Secretaría de Hacienda y Crédito Público, 1979; Economía Aplicada, S.C., 1983); profits and interest rates (CIDE, 1985); capital losses on the dollar debt of private firms following a devaluation (Easterly, 1985); and the relative price of imported capital goods (Córdoba and Ortíz, 1980). A precise and quantitative picture of financial and exchange rate influences on private investment is still in need of further empirical research.

The general picture described above suggests the following implications with respect to macroeconomic policy. First, fiscal policy, especially via public investment management, will have strong positive effects on economic

activity (and the trade deficit), both through its multiplier effects on aggregate demand and, indirectly, through private investment, given its complementarity with public investment. Secondly, devaluation will have both expansionary effects on exports (net of imports) and wealth-holders' consumption, and contractionary effects via real national income (terms-of-trade and foreign debt effects), private investment and wage-earners' consumption. Which effect will predominate depends crucially on import and export price elasticities, the size of the net wealth effect,the changes in income shares and the corresponding size of the income elasticities, as well as on the time horizon considered.

3. Financial markets and capital flows

The main features of financial markets and their operation can be summarized as follows. A first and widely accepted characteristic relates to the absence of well developed financial markets for equity and government bonds: thus, in the period 1980-85, the proportion of non-bank financial instruments in M_5 (roughly the gross stock of domestic financial assets in the hands of the private sector) was only 8.3 per cent on average, and 12.8 per cent at the end of that period.

A second and related feature is the large proportion of dollar denominated assets in private portfolios, as a result of the increasing international financial integration of the 1970s. Dollarization can take different forms: acquisition of 'mexdollar' deposits in the domestic banking system, which, before their elimination in August 1982, represented around 16 per cent of total bank liabilities (at pre-devaluation exchange rate);[9] investment in foreign physical (real estate) and financial assets abroad, which, at the end of 1984 have been estimated at more than $50 billion (Ros, 1985), equivalent to a high proportion of Mexican public sector's foreign debt.

The high substitutability between domestic and foreign financial assets does not imply, however, the presence of perfect international capital mobility, except perhaps during some years of unconstrained credit availability in the 1970s. Capital mobility is best described as imperfect – due, among other factors, to external credit rationing – and asymmetrical. That is, while capital flows are not infinitely interest-rate elastic over a significant and relevant range, the domestic interest rate is nevertheless subject to a minimum critical level highly dependent on volatile exchange rate expectations. Below this critical level, excess demand on domestic credit markets could lead, in the absence of capital controls, to a permanent capital flight, giving rise to a 'liquidity trap-like' phenomenon in the demand for foreign financial assets (see Arida and Taylor, 1985; and Brothers and Solís, 1966, in the context of the Mexican economy).

A third and more controversial feature refers to the operation of monetary policy. Given the absence of well-developed markets for government bonds and the presence of imperfect and asymmetrical capital mobility, monetary policy and interest rate determination operate within relatively narrow limits. On the lower bound, domestic interest rates are limited by that minimum level related to the 'liquidity trap' phenomenon discussed above. On the upper bound, an active monetary policy is limited by a maximum critical level of deficit financing through government bonds, above which a vicious circle is set into motion, involving higher interest payments on public debt, increases in the fiscal deficit and larger financing of fiscal deficit through government bonds. Such a vicious circle gives rise to a 'fiscal trap' phenomenon which deters financial authorities from maintaining the monetary contraction.[10]

The relatively narrow limits within which monetary policy operates make the quantity of money largely endogenous, except under occasional and temporarily limited

periods of credit squeeze (Quijano, 1983), and in spite of the fact that some segments of credit markets are permanently rationed through the operation of selective credit policies. Endogeneity of money here is of a Kaldorian type [11] and, thus, quite different from that described by the monetary approach to the balance of payments within the context of a fixed exchange rate regime. In the latter, the monetary base adjusts to demand through changes in international reserves under the assumptions of perfect international capital mobility and of a tight control over domestic credit expansion by the central bank. In contrast, our view of financial management implies that domestic credit is endogenous. On the other hand, international reserves can be taken as a policy objective, the residual balancing item being either foreign public indebtedness (at times of external credit availability) or the current account through fiscal and/or exchange rate management (at times of external credit rationing).

Bringing together the operation of the markets for goods and financial assets has additional implications for the impact of fiscal policy. A first one is that financial crowding-out effects of fiscal deficits on private expenditures are severely limited by the 'fiscal trap' phenomenon discussed above. Thus, changes in fiscal policy (tax rates and real government expenditure decisions) do indeed have important effects on total output and income levels and on the current account of the balance of payments. In addition, the ex-post size of the nominal fiscal deficit is not under complete control of the authorities, since it is actually endogenously determined through a complex process involving not only the fiscal variables subject to policy decisions but also the level of inflation and nominal interest rates as well as the expenditure and asset accumulation decisions of the private sector itself (Ros, 1984). Though the later can be subject to the influence of policy variables - they largely remain beyond the government's control.

III. ORTHODOX STABILIZATION

This section presents the goals and rationale of recent stabilization attempts and discusses their effects and credibility in the light of the analysis presented in section II. First the policies themselves are outlined, as well as the main changes in them. Then each phase of the adjustment programme is examined, and an attempt is made to explain the performance of the relevant economic indicators and the results of the policies followed. A final sub-section presents a comparison with the 1954 experience.

1.   The goals and rationale of the stabilization programme

As in other debtor countries, a formal agreement for a three year IMF-stabilization programme came after a period of 'chaotic adjustment'. Beginning in 1982, international oil prices continued the downward trend started in 1981, capital flight was at its highest and nearly half the country's foreign debt required repayment or refinancing over the following twelve months. In February, the government adopted a fiscal contraction-plus-devaluation package involving cuts in real public investment and in subsidies on basic foodstuffs, an increase in public energy prices and an 80 per cent nominal depreciation of the peso. The latter was followed, in April, by recommended 'emergency increases' of 30 per cent in minimum wages and 20 per cent and 10 per cent for higher wage levels.

Continuous capital flight and the sudden interruption of the flow of international lending led, in August of that year, to new and dramatic devaluations and to a 90-day suspension of the government's payments on its foreign debt, signalling the beginning of the international debt crisis. A two-tier peso-dollar rate was then established, with a 'controlled rate' for foreign trade and debt transactions and a free rate for other transactions, subject to variable ceilings per purchase of dollars. Culminating a process of mounting tensions between the government and the large

financial conglomerates of the private sector, in September 1982, full exchange controls on capital flows were adopted and the private banking system was nationalized.

In spite of the attempt made to implement an unorthodox monetary policy under very adverse conditions (see Tello, 1984), the last few months of the López Portillo administration were marked by the preparation and negotiation of an adjustment programme with the IMF. The terms of this programme were to be defined and applied by the new government of De la Madrid who would take office on 1 December, 1982. As described below, over this period economic activity contracted and inflation sharply accelerated. Simultaneously substantial adjustments occurred in the real exchange rate, the trade balance and the public sector accounts (see Tables 5, 6 and 9).

The main targets of the three year programme (1983-85) - including both the original IMF macroeconomic projections and the revisions made in light of yearly results - are presented in Table 3. In principle, two main phases can be distinguished in the IMF programme: a 'shock treatment' phase in 1983 and a 'gradualist' phase in 1984-85. During the first phase, the goals of the programme were a sharp and ambitious reduction of the inflation rate (from around 100 per cent in 1982 to 55 per cent in 1983) and a $2 billion adjustment in the current account of the balance-of-payments. Growth of output was supposed to be only marginally affected, remaining at zero per cent in 1983 (GDP fell by -0.5 per cent in 1982).

The presumption was that these targets could be achieved by means of three principal policy instruments. First, an additional and drastic fiscal adjustment - cutting by half the nominal public sector deficit as a percentage of GDP - was enacted through a fall of 32.5 per cent in real terms in public investment (mainly that of public enterprises, an increase in indirect taxes (net of subsidies) by 3 percentage points of GDP, and a sharp upward

adjustment of public sector relative prices. A second policy tool used to achieve these targets consisted of additional devaluations of the peso announced in December 1982. Immediately after the new government of De la Madrid took office, the 'free rate' was devalued by 114 percent and the controlled rate by 90 per cent.[12] Third, the mechanisms of indexation of the minimum wage was changed. In the negotiations of 1983, this led to a contraction in the adjustment of wages to past inflation from a normal level of around 100 per cent to one of less than 50 per cent - the largest contraction of wages since World War II. (see Ros, 1985).[13]

From the very beginning, the government made clear its willingness to negotiate the interest and capital payments on the over $60 billion public foreign debt. Unilateral default or the conformation of a 'debtors' club' with the other large debtors in Latin America were excluded. The negotiations resulted in a smoothing out of the capital repayments over the rest of the decade rather than having to pay larger amounts in the 1983-85 period and in a lower spread on interest rates. In addition, in order to avoid bankruptcies of private enterprises that held dollar denominated debt (totalling around $20 billion), the government installed a system (FICORCA) that allowed those enterprises that had been able to restructure their debt for an eight-year period to enter the FICORCA system. The latter implied that their payments would be constant in real terms and could be made at the controlled exchange rate. This avoided the lumpiness of payments in the first years (which for many enterprises would have meant bankruptcy) that would have resulted if FICORCA had not been implemented, and - during some periods - it resulted in important 'savings' to enterprises considering the difference between the controlled and the free exchange rate.

In the second phase of the stabilization programme (1984-85), which we have called the gradualist phase, the main goals were a continuous but more gradual deceleration

of inflation and the recovery, by 1985, of GDP growth to its historical rates, together with a further improvement in the external accounts (see Table 3). The gradualist approach to the deceleration of inflation consisted of: (a) setting the main key prices in the economy (i.e., nominal wages, public prices, and especially the exchange rate) according to the programme's inflation target ('expected inflation'); (b) fiscal policy, based on nominal public deficit targets as a percentage of GDP, consistent in principle with inflation forecasts, was to be managed as an automatic stabilizer of inflation whenever actual inflation differed from expected inflation.

The resumption of economic growth would take place according to a long-term model of 'structural change', whose main characteristics would be a rapid expansion of non-oil exports and a greater reliance on domestic savings. In addition, the major actor of this new strategy would be the private sector, as opposed to the public sector in previous periods. In contrast with the past active intervention of the state in the economy, the responsibility of the government would be to provide the private sector with the 'right' signals to achieve the growth objectives.

Specific policies for attaining this structural change involved the following:

(a)   a radical shift in the tradeable-non-tradeable relative prices induced by the exchange rate adjustments of 1982 and 1983, together with a new regime in trade policy involving the progressive replacement of import permits by tariffs. Another reason for this shift in trade policy was to generate a lower and more uniform structure of effective protection rates in order to eliminate the 'anti-export bias' generated by protection and promote the growth of non-oil exports.[14] At the same time, however, financial and fiscal incentives for exports were largely abandoned - the main example being the elimination since the 1982

devaluations of the export fiscal subsidies (CEDIS) which were used with considerable success over most of the 1970s (see CEPAL, 1976, 1979) - in the context of the bilateral agreement between the United States and Mexico, signed in May 1985, and of Mexico's decision to join the GATT;

(b) the introduction of generous fiscal incentives to private investment (by late 1983) in the form of accelerated depreciation allowances at rates of 75 per cent in 1984, 50 per cent in 1985, and 25 per cent in 1986;

(c) the correction of public prices, real interest rates and taxes and subsidies in order to increase the domestic savings rate, in view of the present and future scarcity of foreign savings;[15]

(d) the 'rationalization' of state intervention, involving the sale or liquidation of 236 small and medium-sized public enterprises in 1985;

(e) a new structure of factor prices which, together with the elimination of trade restrictions, would result in a more efficient allocation of domestic factor endowments.

This second phase of the stabilization programme was interrupted in mid-1985 because the rapid erosion of the trade surplus during the mild recovery of 1984 led to another, though less severe, payments crisis. As a consequence of the latter, policy shifted away from gradualism and the orthodox shock treatment was applied with renewed vigour. The most important components of the 'new' policy package announced in July 1985 were:

(a) current public expenditure suffered further cuts;

(b)   the controlled exchange rate was devalued by 20 per cent and a new exchange rate system was adopted, involving a 'regulated float' in the controlled market and a fully flexible rate in the free market, with banks authorized to change dollars at the hitherto black market exchange rate;

(c)   the trade liberalization programme was accelerated, implying a decline from 75 per cent to 38 per cent in the percentage of total imports subject to permits while at the same time the weighted average level of tariffs was raised from 8.9 per cent to 17.4 per cent;

(d)   a severe credit squeeze, in contrast with the softer monetary policy followed over 1983, which continued up to the end of 1986 and pushed real interest rates to unprecedented levels. Short-term government bonds, for instance, yielded 20 to 25 per cent real returns on an annual basis during the first half of 1986. This reinforcement of orthodoxy dictated the policy package for 1986 and as a consequence, previous growth targets were abandoned and for 1986-87 there was a renewed emphasis on stabilization goals very similar to those which were set for 1983 (see Table 3).

That concludes our outline of the principal goals of the policies; now we turn to their effects.

(2)   Recession and overkill: 1982-83

The fiscal contraction-cum-devaluation package of February 1982 was the starting point of the 1982-83 recession (see Table 4). In 1982 the fall in aggregate demand was led by private investment (-26.1 per cent) whose performance was affected by several factors. First, the contraction of public investment (-14.2 per cent) had a negative effect on private investment, due to the complementarity between them (see section I). Secondly, the present and future profitability of productive investment

was seriously reduced by the sharp increase in the price of imported capital goods and in the real value of firms' foreign debt resulting from devaluation, together with the depression of the real market value of physical assets associated with massive capital flight.[16] Third, the radical shift in exchange rate expectations - which continued to be pessimistic even after the February 1982 devaluation - led to a large increase in the profitability of foreign assets relative to that of domestic investment. These last two causes made productive investment in Mexico utterly unattractive.

The demand shock continued in 1983 and public and private investment declined even further (at rates of over 30 per cent). Private consumption contracted (at 10 per cent in per capita terms) as a consequence of the shift in the distribution of income away from wage earners (see Table 8).[17] This belt-tightening caused an unprecedented fall of output: in 1983 GDP fell 5.3 per cent, with non-oil industry declining 9.3 per cent. Within the latter, the consumer durables (highly elastic to real income changes) and the capital goods sectors contracted the most. Corrected urban unemployment rates jumped to 9 per cent (see Section IV and Table 9).

The trade balance moved into surplus in the second half of 1982 and the surplus climbed dramatically in 1983, reaching a figure of $14.4 billion; the current account was also buoyant, moving from a deficitnearly $5.5 billion in 1982 to a surplus of $5.3 billion, more than $7 billion over the target (see Table 3). The external adjustment was the result of the sharp decline in public and private investment and the collapse of the consumer durables industries - with high import requirements - which led to a 37.1 per cent fall in total imports in 1982 and a 41.7 per cent fall in 1983. The steepest decline took place in imported capital goods, which fell by 42 per cent and 62.2 per cent in 1982 and 1983, respectively. Simultaneously, oil exports continued to rise in volume in 1982 and non-oil exports gradually began

to respond, in the second half of 1983, to the real exchange rate adjustment and the fall in domestic demand; their growth rate equalled 13.8 per cent in 1983. But the contribution of exports to external adjustment was minor compared to the fall in imports. Moreover, the pattern of export growth, which continued in 1984, was largely concentrated in a few products: automobile motors, petro chemicals and oil products, together with 'maquiladora' products from assembly plants on the northern border which are subject to a free trade regime. The first three items contributed around $1 billion each to the increase in exports in 1983 and 1984; while the fourth increased by $0.3 billion over the same period.

Mexico's 1982-83 external adjustment is outstanding when compared to other countries, but it was based on the total collapse of domestic investment and capital goods imports, and was, paradoxically, supported by what now seem to be two long-term weaknesses of Mexico's economic structure: first, the country's dependence on oil revenues as a source of foreign exchange, and, secondly, the under-developed nature of the Mexican capital goods industry, which amplifies the effect of a fall in investment on imports.

From the beginning of 1982 until mid-1983, inflation accelerated continuously. From an annual rate of 25-30 per cent in 1981, it reached an annualized rate of 100-120 per cent in the first half of 1983. This sharp rise was a direct consequence of the large adjustments that had taken place in 1982 and early 1983 as regards the exchange rate, public and controlled prices and net indirect taxes[18] (see Table 6). During 1982 attempts were made to keep wages in line with inflation: there was a recommended 'emergency' increase in April 1982 and a de facto switch from annual to semestral negotiations of minimum wage settlements. In contrast, in 1983, wage adjustments were repressed and inflation continued to accelerate, though at a slower pace. From mid-1983, inflation rates decelerated, as discussed below.

During this phase of accelerating inflation, a radical alteration of relative prices took place: By the first semester of 1983, real wages were 20 per cent below their 1981 level, the real exchange rate 73 per cent above, and public energy prices 90 per cent higher.

A large fiscal adjustment had already taken place in 1982 (see Table 7), although this is not obvious at all when a conventional measurement of the public sector's deficit is made (i.e., not corrected for inflation). In 1982, the uncorrected deficit reached a peak of 17.9 per cent of GDP as a consequence of enlarged interest payments on public debt – resulting from the acceleration of inflation and exchange rate adjustments – and financial subsidies. These were of a once-for-all nature, associated with the conversion into pesos of the banks' dollar assets and liabilities at different peso-dollar exchange rates.

From 1982 to 1983, the nominal deficit fell from 17.9 per cent of GDP to 8.9 per cent. This reduction was close to the programme's target (8.5 per cent) and was the product of several factors. On the expenditure side, public investment fell by 2.8 points of GDP and public consumption by 2.1 points, a result of the sharp reduction of public sector employees' real wages and salaries. The disappearance of the 1982 once-for-all financial subsidies (due to the differential in the purchase and sale prices of the dollar for enterprises) also made a substantial contribution to this decline (around 4 points of GDP). On the income side, indirect taxes (net of subsidies) increased by 1.7 percentage points and the upward adjustment of public sector relative prices together with the revaluation of export revenues of the state-owned oil monopoly (PEMEX) resulting from devaluations led to an increase of 3.2 percentage points in the gross surplus of public enterprises (5.5 points above its 1981 level).[19] Since inflation, interest rates and nominal interest payments on public debt remained well above those planned, the fulfillment of the fiscal target for the nominal deficit implied a real fiscal

contraction that was larger than expected, leading to a surplus of 4.3 per cent of GDP in the fiscal balance excluding interest payments (see Table 7).

Summing up, economic activity in 1983 declined 5.3 percentage points more than was expected, the current account of the balance of payments exceeded the forecast by $7 billion, and inflation remained 25 percentage points above target. In contrast, the fiscal target was practically fully achieved.

We faced a typical case of overkill, related to the transfer of resources abroad over and above what was required by the debt crisis. Thus it has been estimated that still in 1984, domestic aggregate demand fell short of potential output by about 17 per cent. Only 6 points may, however, be attributed to the transfer of resources abroad resulting from the debt crisis. The remaining 11 points must be accounted for by the depression of economic activity, and they provide a rough measure of the waste of resources consequent upon the economic policy adopted; a waste which cannot be said to have had any beneficial impact by way of compensation, either for Mexico or for the rest of the world (see Economia Aplicada, 1985).

In our view, three elements in the policy approach accounted for this typical case of overkill. The first was plainly a wrong inflation model, and more precisely the view that restrictive fiscal-monetary policy is an effective policy instrument to deal with inflation with uncertain but small effects on economic activity (Khan and Knight, 1985). This, in our view, was the rationale for the setting of nominal public deficit targets as a percentage of GDP and the attempt to use fiscal policy as an automatic stabilizer of inflation. By including in the fiscal target the nominal interest payments - corresponding, in real terms, to capital repayments on public debt - which are highly sensitive to inflation, the real fiscal stance becomes automatically more restrictive than planned, whenever actual inflation

overshoots the inflation forecast on which the budget was prepared, while it is automatically relaxed when actual inflation is below planned (see Miller, 1982). As the 1983 experience shows, if inflation fails to be highly sensitive to demand pressures, the achievement of the nominal fiscal target leads to a recession much deeper than expected leaving the inflation rate well above planned. Moreover, the experience of recent years shows an inverse relationship between the real fiscal deficit[20] as a percentage of GDP and the rate of inflation which suggests that the large increases in net indirect taxes and public prices have more than offset the demand-induced effects on inflation of a contractionary fiscal policy (see Economîa Aplicada, 1985; Ross, 1985).

The second element was the under-estimation of the short-term contractionary effects of devaluation which, as we have seen, were important in the reduction of private investment and wage earners' consumption.[21] In fact, the assumptions behind a fiscal contraction plus devaluation package are generally that: (a) devaluation has an expansive impact on output; and (b) the economy is, and will remain, in a position close to full employment (see Meller and Solimano, 1985).

And third, the programme under-estimated the complementarity between private and public investment, as well as the depressive effect on investment resulting from a fall in real wages (because of its impact on effective demand), both discussed in section II. The implicit assumption that private investment can play a compensating role in sustaining aggregate demand turned out to be highly unrealistic.

(3) Economic recovery and the payments crisis (1984-85).

The beginning of 1984 saw the start of a moderate economic recovery led by manufacturing, but at rates well below the historical average (3.7 per cent in 1984 and 2.7

per cent in 1985). This recovery continued up to mid-1985 when the adoption of a new stabilization programme started another recessionary phase.

Three main factors, besides the United States import boom, account for this short-lived recovery. First, the relaxation of the fiscal stance as measured by the real fiscal surplus, - associated with a 6 per cent growth in employment in the central government during 1984 and the reduction of the inflation tax induced by the deceleration of inflation. This explains the recovery of private consumption of 2.8 per cent in 1984 and 2.9 per cent in 1985. Second, the combination of the favourable short-term impact of the 1984 appreciaton of the real exchange rate with the medium-term expansionary effects of the real devaluations of 1982 and 1983 which led, together with the US import boom, to a rapid growth of non-oil exports in 1984 (18.4 per cent in current dollars).[22] This particular combination of effects resulted, in our view, from the different time lags in the responses of trade volumes, consumption and investment to exchange rate movements.

The third, and perhaps, most important factor, however, behind this mild recovery was the expansion in private investment - at rates of 9 per cent in 1984 and 15 per cent in 1985 induced by fiscal incentives (accelerated depreciation allowances), whose pattern determined the nature of the industrial recovery. The latter was largely concentrated in the automobile industry: given the 1983 depression of sales and the prevailing low levels of capacity utilization in manufacturing, the accelerated depreciation allowances were used by private firms mainly to replace its stock of automobiles instead of investing in additional capacity. The boom in the sales of vehicles to private firms which followed (33.4 per cent in 1984) explains most of the 1984 increase in private 'investment', and it also explains the fact that amidst stagnation in the rest of the manufacturing sector, the automobile industry

showed surprisingly high rates of growth (23.3 per cent and 27.8 per cent in 1984 and 1985 respectively).

The recovery was accompanied by a rapid deterioration of the trade surplus from mid-1984 onwards (in the first half of 1985, the trade surplus was almost 50 per cent below its level in the first semester of 1984). This deterioration was the result of the rapid increase in imports (27.1 per cent and 15.8 per cent in current dollars in 1984 and 1985, respectively) due, in part, to the real appreciation of the exchange rate and, mainly, to the composition of industrial recovery, which was biased towards highly import-intensive sectors such as automobile production. Also, non-oil exports slowed down[23] as the three elements which accounted for their earlier growth eroded: i.e., the high domestic growth rate in the United States the highest in more than a decade; the relatively large size of an exportable surplus, due to domestic depression; and a real exchange rate which was exceptionally favourable to exports (see Economia Aplicada, 1985). In addition, the decline of the trade surplus in 1985 was aggravated by a $2 billion loss of oil export revenues, due both to falling international prices and a 13 per cent reduction in export volume.

Inflation ceased to fall further and remained well above IMF targets. From mid-1983 to late 1984, inflation had fallen[24] from its peak of 100-120 per cent in 1982-83 to 55-60 per cent during most of 1984 due to the repression of wages and a gradual recovery of the real exchange rate. But early in 1985, inflation entered an inertial phase, as wage indexation mechanisms were progressively normalized: the pass-on coefficient for wages continued its return to historical levels (see Table 6), while the rate of mini-devaluations was upwardly adjusted in December 1984 and March 1985. Thus, during the first half of 1985, inflation was running at a similar rate to that prevailing in the same period a year before and real wages were stabilizing at 30 per cent below their level in the second half of 1981.

During 1984 and 1985, fiscal adjustment was relaxed, and no sharp changes in the fiscal balance, excluding interest payments, occurred. The behaviour of the nominal deficit as a percentage of GDP reflected the behaviour of interest rates, declining by 1.7 percentage points during the deceleration of inflation in 1984, and increasing again in 1985 (by 2 points) as monetary policy became very restrictive in an attempt to avoid a payments crisis. The over-shooting of fiscal targets (by 1 point in 1984 and 4 points in 1985) is then fully explained by the higher than planned interest payments - together with an unexpected loss in oil export revenues in 1985. Real public investment was subject to a fall as the government made efforts to achieve the PSBR target, and remained below the levels originally planned.

Compared to the original goals, the period 1984-85 reveals a deteriorating performance in terms of inflation, fiscal targets and trade. In mid-1985 this deterioration forced the interruption of economic recovery.

The gradualist approach to the deceleration of inflation pivoted on two elements of policy making. These were: the setting of key prices in the economy (the exchange rate in particular) along the lines of 'expected' inflation, and the use of fiscal policy as an automatic stabilizer of inflation. Besides the already discussed doubtfulness surrounding the efficacy of fiscal policy as an instrument to curtail inflation, the gradualist strategy was faced with several limitations in its implementation.

One limitation was the absence of an effective price control mechanism, by which the rule of adjusting prices below past inflation could have been generally applied. The result was that, apart from some key prices, the rest of them did not behave according to inflation targets. Since Mexico's is an intermediate inflation with relatively large lags between cost and price changes and leads and lags in price and wage relativities, applying the rule only to key

prices was insufficient to eliminate the inertial elements of present inflation.

In addition, the rule was not uniformly applied to all key prices as a result of the conflict, underlying the programme, between the goal of decelerating inflation and that of modifying the structure of relative prices. Thus, from mid-1983 to late 1984, while the real exchange rate appreciated by 20 per cent, public energy prices continued to increase in real terms by an additional 30 per cent. This policy was favoured, in the case of public prices, by the importance attached in policy making to fiscal targets in nominal terms. In the case of the exchange rate, it was caused by the large and unexpected increase in foreign reserves - resulting from the external over-adjustment of 1983 - and a rising concern about its monetary implications, which led to the short-term overall performance of the balance of payments being considered the best criteria of exchange rate management.[25]

Finally, the confidence on the part of the government that it would be able to induce 'cooperative behaviour' among economic agents for a long period, appeared to be unfounded. The failure was probably influenced by two of the factors previously mentioned: the fact that economic agents (and, thus, social actors) were not treated equally, as well as the fact that the strategy was preceded in 1983 by a period of extreme wage repression and a 30 per cent fall in real wages.

The failure of exports to sustain their earlier growth also underlined fallacies in the assumptions on which policies were based. A large real depreciation of the exchange rate took place: in the first half of 1985, the real exchange rate was 33 per cent below the level of the second semester of 1981 and even slightly undervalued with respect to 1978, generally considered as the 'equilibrium level' - despite its gradual appreciation from 1983. The shift in relative prices was, thus, undoubtedly achieved.

Nevertheless, non-oil exports fell by 3 per cent in 1985, contradicting the view that the correction of the real exchange rate, together with appropriate demand management policies, would set in motion a process of high and sustained export growth. For such a process to take place one must rely on either of the following two sets of assumptions.[26]

(a)   First, the small country case of a supply-constrained economy facing exogenous terms of trade and no demand constraints for its exports. Then, with an appropriate price ratio between tradeable and non-tradeable goods, export growth will face no constraints apart from those determining the growth potential of the economy. These assumptions, however, are far from being fulfilled in the Mexican economy, as discussed in section I. Exports are demand-constrained and the terms of trade are partially endogenous; thus, real devaluations work, to a large extent, through its effects on export demand which are of a once-and-for-all nature, just as recent experience has confirmed.

(b)   A second set of assumptions is more heterodox and relates to the case when the increase in exports resulting from devaluation is such that a self-sustained and cumulative process between exports, investment and productivity growth in industries showing dynamic economies of scale is set in motion. For such a process á la Beckerman (1962) or Kaldor (1971) to take place other conditions, however, besides the presence of increasing returns in the export industries, must be fulfilled. For instance, the share of exports relative to that of the domestic market has to be large enough for exports to induce a sustained process of investment expansion. In Mexico, however, the share of exports in manufacturing is only between 5 per cent and 7 per cent. The recovery of private investment in 1984-85 had hardly anything to do, as we have seen, with export expansion. Moreover, such a

strategy also requires an active industrial policy shifting investment towards industries having high returns to scale, rapid technical progress, large income elasticities of domestic demand and a significant export potential (see Shinohara, 1982; Fajnzylber, 1983). In fact, to the extent that manufacturing export growth has taken place in the past in Mexico it is largely attributable to such cumulative causation processes induced by industrial policy (see Ros and Vázquez, 1980; Brailovsky, 1981). In our view, it is the absence of these two conditions that has hindered a sustained process of export expansion.

(4) The present phase

The payments crisis of mid-1985 and the policy package which followed initiated a new recessionary phase, which continued for 1986 and 1987. A clear manifestation of this recession was that output in manufacturing fell at an annual rate of around 3 per cent in the second half of 1985 (after almost two years of positive growth rates). A 20 per cent real devaluation of the exchange rate in mid-1985 increased inflationary pressures and, in the second half of 1985, inflation once more showed an upward trend.[27]

The sharp decline in oil prices that took place during the first half of 1986, from above $20 per barrel to around $11 per barrel, meant another severe 'external shock' to the Mexican economy by drastically cutting foreign exchange earnings and fiscal revenues obtained from PEMEX, giving rise to the new dilemmas discussed in section IV.

Delays in the final arrangements with the IMF and foreign banks, largely determined by the reluctance of creditors to engage in new lending, meant that for most of the year fresh money was not available. The adjustment of the current account balance had thus to be larger than expected, although not as drastic as in the first scenario of full domestic absorption of the oil shock (with a

balanced current account). As a consequence, the fiscal
stance was lighter and real exchange rate depreciation
larger than assumed.

As for 1987 onwards, the present arrangement with the
IMF and the banks involves further adjustments in the fiscal
accounts for 1987, in spite of the already large correction
that has taken place in the balance of payments. A
significant recovery of the economy is not, therefore, to be
expected in 1987. True, the $12 billion credit package has
brought a sudden inflow of foreign exchange and reserves are
at a record $16 billion. It is true also that the
counterpart of the continued recession will be, undoubtedly,
an outstanding balance of payments performance. Although not
as 'brilliant' as in 1983-84 (when the price of oil was much
higher), it will certainly be much better than assumed in
our projections ... at the expense of lower growth.
Meanwhile, despite the recession, inflation is getting
worse. It looks very much as if history is repeating itself.

(5) A comparison with the 1954 experience: a digression

The shortcomings of present stabilization policies can
be further illustrated by a comparison of their recent
performance with that of the stabilization programme of
1954. While in 1982-83, as well as in 1976-77, external
adjustment came about as a result of a sharp fall in imports
due to the collapse of public and private investment and
economic recession, in 1954-55 this was achieved in the
midst of a strong economic recovery - at rates of 10 per
cent in 1954 and 8.5 per cent in 1955 - accompanied by
significant export expansion.

These differences can be explained by several factors.
First, the 1954 stabilization was not a strictly orthodox
one: for example, devaluation was accompanied by an
expansionary fiscal policy, which led to a 14.3 per cent

increase in real public investment, most of which was directed to industries which, at that time, had significant state participation and a high potential for import substitution. Moreover, in February 1954 import tariffs were increased by 25 per cent and from then onwards direct controls started to be used more intensively than in the past (see Villarreal, 1976).

Secondly, the contractionary effects of devaluation were probably much less important in 1954 than they are at present: private foreign debt was non-existent, the share of wage-earners (low savers) in income and consumption was even smaller than today and the trade deficit was very small at the time of devaluation. Moreover, the expansionary effects were probably stronger: the potential for the substitution of competitive imports was larger and the share of exports unresponsive to exchange rate adjustments (such as oil exports) was much less important.

The third contrast refers to the effects of the 1954 programme on the inflation rate. In spite of wage restraint in the recent experience, the radical shift in the structure of relative prices from 1981 to 1985 has been achieved through an acceleration of inflation towards a new and higher plateau - from 25-30 per cent in 1981 to 60-65 per cent in 1985. In 1954 and 1955, inflation did also rise as a consequence of devaluation - from nil in 1953 to around 10 per cent in 1954-55 - but these price increases were mostly of a once-for-all nature and, from 1956 onwards, inflation declined rapidly to international levels. Behind this contrast lies the level of inflation previous to the stabilization package and the magnitude of relative price adjustments, but above all, the large differences in the indexation mechanisms during the two experiences. These differences can be accurately exemplified by the fact that while in the 1950s minimum wage settlements took place every two years, at present they have become semestral. The level achieved by inflation in the recent experience has brought with it a larger inertial component, together with the

enhacement of formal and informal indexation - which is implicit, for example, in the mechanisms of mini-devaluations or in the increased frequency of wage and public price adjustments - and which make it much more difficult to achieve relative price changes without a shift in the inflation rate, instead of a once-for-all change in the price level.

IV. ADJUSTMENT; LIVING STANDARDS AND PROSPECTS.

While the stabilization programme yielded lower growth
and higher inflation rates than were initially expected, the
transfer of real resources to the outside world through the
trade balance turned out initially to be larger than
planned. Moreover, the higher-than-expected inflation rates
resulted in a larger contraction in real fiscal expenditure
than otherwise would have been the case. In addition, the
terms under which minimum wages were negotiated brought a
severe reduction in real wages.

The conjunction of all these factors resulted in
important shifts in the distribution of income and in
changes in the real incomes of the various groups in Mexican
society. Moreover, the changes in real earnings were
accompanied by severe cuts in social expenditure. Subsidies
on basic foodstuffs were also cut and the general value
added tax rate raised, raising prices of goods and services,
which are felt relatively more by the poorer households
especially in the urban areas. Big shifts have also occurred
in the distribution of wealth as a result of the revaluation
of the massive amounts of financial assets held abroad.

At the outset of the oil boom, inequality and poverty
in Mexico were a pervasive characteristic of the country's
social matrix.[28] In spite of the sustained government
efforts to provide social services to the population and of
more than 25 years of continuous economic growth, most
people were still very poor. At the end of the 1970s around
19 million people suffered from malnutrition and infant
mortality rates were still high compared with other
countries with lower per capita income (50 per 1,000
children born alive). In addition, around 45 per cent of the
population did not have access to free health care, and 22.3
per cent of the dwellings were estimated to have no services
at all, while 50 per cent had no access to water or sewage
systems. About 15 per cent of the adult population were
illiterate; about 22 million persons of 14 years of age or

more were either illiterate or had not finished primary
school (see Lustig, 1986).

After four years of adjustment, real GDP in 1985 was
the same as in 1981, while the number of Mexicans had risen
by around 6 million. Living standards had fallen further.

(1) Adjustment and the distribution of income

The debt crisis caused a redistribution of income to
the foreign sector. As external interest rates rose and new
funds dried up, Mexico, as well as the rest of the Latin
American debtor countries, was forced to generate sufficient
amounts of foreign exchange to cover factor payments abroad.
In the last three years interest payments have equalled
around 40 per cent of total export earnings; in real terms
the share of the foreign sector rose from 3.5 per cent in
1981 to 8.3 per cent in 1984. This calculation takes into
account terms of trade variations - which have favoured the
rest of the world since 1981 due to declining oil prices and
devaluation.

The private sector had to tighten its belt for the
benefit of the public and external sectors.[29] In 1983, the
private sector's share was more than 5 points below its
level in 1981: the government was making up for past
'transfers' in the form of cheap goods and services and
financial subsidies. In a way, what has happened since the
stabilization programme has been implemented was a reversal
of what occurred during the boom years: then, the government
acted as an 'intermediary' to channel resources
(dollar-denominated assets at relatively cheap rates) from
the foreign to the private sector; since 1983, the
government has absorbed resources from the private sector to
channel them to the external sector. However, as we shall
see later, within the personal sector, those who had to pay
during the crisis were not the same as those who benefitted
the most during the boom.

Within the private sector there has been a major shift in the income share of wages to surplus or non-wage income (see Table 8). Between 1981 and 1984 the wage share has declined by more than 10 percentage points and is at its lowest level of the past 15 years. This crunch is mainly the result of the decline in real wages discussed below.

Current available information, unfortunately, does not allow a more detailed breakdown of the distribution of private income. However, we shall draw some inferences on income performance by looking at data on remuneration and non-wage incomes at the branch level and terms of trade and output performance for agriculture.

(2) Wages, employment and real incomes in the urban sector

The purchasing power of the minimum wage in 1984 was equivalent to 70 per cent of the 1980 wage and 55 per cent of the 1976 level (CEPAL, 1984), and average remuneration in 1982-84 declined even more steeply. This, together with the fall in employment in 1983 resulting from the contraction in economic activity, explains the notorious 32 per cent fall in the wage bill in 1982-84. This unprecedented wage cut was imposed without causing any significant protest or violent response from workers. Some public officials have argued that this is mainly due to the fact that unemployment has been kept in check. That is, most families have been able to maintain their source of income although admittedly the purchasing power of that income has been shrinking considerably. In addition, as opportunities to work as wage-earners have been reduced, or as income has become insufficient to cover the minimum household expenses, people have found other ways to complement their earnings, usually as self-employed workers in the so-called informal sectors. It is true that open unemployment statistics show that the latter has not risen as much as one would have expected, given the decline in economic activity.[30]

However, the percentage of those classified under 'hidden unemployment' has risen, increasing the adjusted

unemployment rate for 1984 by almost 3 percentage points above the unadjusted rate (see Table 9).

Moreover, the proportion of workers without remuneration has been rising. That is, in a country such as Mexico with no unemployment insurance, the open unemployment statistics are not an adequate reflection of the conditions prevailing in the labour market. Since the unemployment statistics give an estimate of the proportion of people that are unemployed and - according to ILO standards - a person is considered as employed if he/she has worked for at least one hour per week, the results might be quite different if the relevant figure were the number of hours that are involuntarily unemployed. Unofficially it has been argued that if the latter were the criterion used, open unemployment could be twice the official figure.[31]

As for the argument that other sources of income compensated the wage crunch, even under the most optimistic assumption that all the increase in non-wage income (excluding agriculture and public enterprises) went to (non-agricultural) wage earners, that was only equivalent to around 12 per cent of the loss in the total wage bill over the 1982-84 period. That is, non-wage income could hardly compensate the loss in wage income for households on the average.

Moreover, given the fact that the largest rise in non-wage income occurred in manufacturing, which has a lower share of informal labour than commerce and services (Secretaría de Programación y Presupuesto, 1976), one would presume that this rise reflects an increase in pure profits more than in incomes of the self-employed or of 'informal capitalists'.

The explanation for the absence of protests in the face of the sharp deterioration in wages must therefore be found elsewhere. There are three elements that may form part of the explanation: first, the existence of a reserve of income

accumulated during the oil boom; second, the corporative character of the labour organizations and leadership, which function under the general premise of avoiding any de-stabilizing behaviour and which enabled the government to absorb any dissent which emerged; and, third, the widespread prevalence of subsidized goods and services - especially basic foodstuffs, transportation, education and health care - which reduced the effect of the crisis on purchasing power. These elements, as we shall see, are in the process of erosion, due to economic and political reasons. The consequences of this erosion are unknown and unpredictable, yet they might be costly and damaging in very profound ways.

Another factor which may have contributed to a 'peaceful' adjustment process is the relatively positive performance of the agricultural sector, discussed below. This positive performance of agriculture has isolated a significant portion of the poorest population, it seems, from the harshest consequences of the crisis.

(3) Agricultural output, guarantee prices and real incomes in the rural sector

In the midst of overall economic decline, the agricultural sector, in terms of output performance, has been able to isolate itself from the severity of the economic crunch that has taken place in the rest of the economy (see Table 4). For example, in 1983, when aggregate GDP fell by 5.3 per cent, agriculture grew by 2.9 per cent. There are two main explanations for this counter-cyclical behaviour: first, weather conditions have been very favourable; and, second, due to the devaluations, internal prices for export as well as for some domestic crops have on average risen above the overall rate of inflation.

It seems that this relative improvement has benefited the peasants as well as the larger capitalist farmers. Based on output performance, as well as the increase in real guarantee prices and the ratio of prices to costs for the

two peasant crops (corn and beans), one would expect that the production component of peasant families' income has improved.[32]

However, at least 1.5 million peasant households rely on wage income to subsist. Their living standard strongly depends on the evolution of employment and real wages in agriculture, as well as the relative weights of the two sources of earnings (i.e. income from production activities and wage income). According to the National Accounts the wage bill for agriculture suffered a contraction as severe as that of most other sectors: the decline (in real terms) for the 1982-84 period was estimated for this branch at 32 per cent. These results imply that those families in rural areas that depend on wages as a source of income have experienced a big fall in their purchasing power. Acording to the results of the 1977 Household Income Expenditure Survey, a large portion of the poor is composed of households that are workers or small-scale producers in agriculture.

In sum, as far as rural incomes derived from agricultural activities are concerned, one could synthesize the picture in the following way. Producers with a surplus and who do not rely on wages as a necessary source of income have been able to isolate themselves from the crisis with a greater or lesser degree of effectiveness, depending, among other things, on their size. However, a large number of below-subsistence peasants have suffered a decrease in their income and consumption levels.

(4) Public policy and standards of living

The large contraction in government outlays which took place in 1983 (see Table 7) was reflected in a sharp drop in per capita expenditures on social development (see Table 11). In spite of the slight recovery that took place in 1984, real per capita expenditure in education, health care and social security in that year was equivalent to 66 per

cent, 70 per cent and 75 per cent respectively, of the levels prevailing in 1982.

Since the impact on the availability of physical and human resources is not as evident yet (see Lustig, 1986), the decline in real monetary resources reflected two things: the drop in real wages of public employees and the decline in gross investment.[33] The impact of the drop in wages on the quality of the service is hard to estimate although one would suspect that if the levels of remuneration for public employees in the area of health and education are much lower than those paid in the private sector, there would be a tendency over time for the more qualified personnel to leave the public sector. The decline in gross investment means not only that new capacity is not generated but that maintenance of the existing capacity is not kept up; the effect on the quality of the service will appear sooner or later.

At the beginning of 1983, the government raised the general rate of the value added tax,[34] a measure that undoubtedly bore heavily on the poorest section of the population, i.e. people with an income below the minimum wage who do not pay income taxes.

At an aggregate level there is evidence that the total subsidy given by CONASUPO has declined in real terms. According to some estimates, between 1984 and 1984 the drop was equal to 43 per cent.[35] This entailed increases in the prices of basic foods exceeding the rise in wages. For example, while between the end-1982 and mid-1985 the minimum wage rose by 363.3 per cent in nominal terms, the price of tortillas increased by 416.1 per cent, the price of bread by 1,800 per cent, the price of beans by 775.9 per cent and the price of eggs by 581.8 per cent, to name a few cases. The per capita cost of a minimum diet which was equivalent to 8.5 per cent of the prevailing minimum wage in January 1982, rose to 13 per cent in May 1986. If we assume that on average a household is composed of four adult-equivalent members, the proportion of the minimum wage that has to be

allocated to fulfill a basic diet increased from 34 per cent to 52 per cent (Lustig, 1986).

(5)   Wealth re-distribution effects and financial flows

By the end of 1981, the Mexican economy was highly dollarized, that is, different economic agents in the economy were either holders of net foreign assets or net foreign liabilities (see Table 12). The results presented in Table 12 provide some orders of magnitude of the effects of exchange rate changes through a very simple exercise: the net worth of the 'rentiers' (foreign asset holders) more than doubled with the 1982 devaluations even under the assumption that their net foreign assets remained the same as in 1981. The other big gainer was the foreign sector. At the other extreme, the private net debt holders position worsened by more than three times and the same occurred in the public sector. If we assume that net foreign asset holders are mainly at the top of the income scale,[36] then the locally famous phrase used by López Portillo during his last presidential speech in September 1982 ('poor enterprises with rich entrepreneurs') is no longer rhetoric but vivid reality. It is also painfuly clear how the government had debt-financed the acquisition of foreign assets (capital flight) on the part of the richer people within the personal sector at a subsidized rate, given that the peso had appreciated in 1981 (see, also, Taylor, 1984). Another interesting result is that private banks could not have tolerated a different treatment for Mexdollars than for dollars (as occurred after the nationalization of the banking system) because they would have changed from a small but positive to a negative and high net worth position; this loss was absorbed by the government after nationalization (see Table 12).

The wealth effect on financial assets gives an incomplete picture of the total wealth effect, but it is quite illustrative.

quite illustrative. Moreover, analytical results obtained
from a properly constructed general equilibrium model on
real income changes and wealth effects (considering the
changes in the valuation of physical as well as financial
capital) lead to the same conclusions as to the impact of a
nominal devaluation (Easterly, 1985).

In spite of the large devaluations of the peso, the
private sector has continued to put its money abroad.
Indeed, as shown in Ros (1985), the proportion of the
private sector financial surplus invested abroad actually
increased on average from 1982 onwards, although the large
adjustments in the real exchange rate have substantially
reduced the dollar value of the financial savings which are
flowing out of the country. It is worth noting that the
financial deficit and surpluses and their composition when
corrected for inflation, would look still more dramatic
since, from 1983 onwards, the change in the real value of
the private sector holding of Mexican public debt has been
negative and, thus, the whole of its net real financial
savings has been invested abroad. From 1983 to 1985, the
latter were financing the current account deficit of the
rest of the world (with respect to Mexico), as well as
through the intermediation of foreign banks, the nominal
borrowing from abroad by the Mexican public sector. This
borrowing is, thus, a consequence of the need to balance the
external accounts in the face of a major alteration in the
asset composition of the private sector's net financial
savings (see Ros, 1985).

(6) Effects on long term economic growth

The effects of IMF-like stabilization policies on
growth are subject to considerable debate (see Khan and
Knight, 1985). The defence presented by those who claim that
growth will not suffer is rather weak from the theoretical
point of view. For example, it is never explained how the
country will travel from a severely contracted economy in
the short-run to a sustainable long-run growth path.

In addition, the stabilization programme is imposed on an economy independently of the kind of growth strategy the economy was on before it had recourse to the Fund. In Mexico's case it would seem that a substantial part of the 'oil surplus' was used to expand the productive capacity of the country (see the investment coefficients in Table 1; Taylor, 1984): certainly the bulk of manufacturing imports in 1978-80 went to the non-oil manufacturing sector, and these imports were largely composed of capital goods (see Schatan, 1983).

Even admitting the fact that important policy mistakes were committed during the oil-boom, the 'net-effect' of the strategy followed during these years, might have been positive had the investment projects that were undertaken been allowed to mature. For example, they might have resulted in a substantial expansion in export capacity. The financial crisis of 1982 and the adjustment programme that followed interrupted a process of structural change which, in spite of the short-run imbalances, might well have had a net beneficial outcome in the longer run. Moreover, this interruption may be irreversible as a result of 'economic' destruction of capacity during the years of adjustment. In spite of (or because of?) all the efforts directed to increase the public and private savings rate, the investment ratio and economic activity sharply declined in 1983-86 (Table 1); productive capacity, in the economic sense, was 'destroyed'. (Such a process has been described as a process of 'hysteresis' by Arida and Taylor, in the sense that productive capacity adapts to demand conditions.)

This damage to the growth potential of the Mexican economy is reflected in changes in the 'full employment balance of trade' (corrected for changes in oil export prices and volumes), during the period of adjustment. In 1986, a given non-oil trade balance supported a lower GDP than at the beginning of the adjustment period in the first half of 1983. The real exchange rate and GDP were at similar levels in both periods, foreign demand and non-oil exports

were larger in the second period: but the non-oil trade deficit increased. The Mexican economy has suffered a negative structural adjustment, because of: (a) a deterioration of productive capacity; (b) greater lack of corrrespondence or 'fit' between the structure of domestic supply vis-a-vis the composition of domestic demand; (c) an increase in import elasticities associated with changes in trade policies.

V.   ALTERNATIVE SCENARIOS AND POLICIES

This final section discusses the feasibility and consequences of alternative economic policies, both for the recent adjustment period and for the 1986-90 period.

This will be done using a small macroeconometric model which captures some of the main features described in section II.[37]

(1) An alternative adjustment process: a counterfactual exercise for 1983-85

Our simulation of alternative policies over the historical period refers to the years 1983-85.[40] The two counterfactual exercises presented here are limited to simulate different combinations of fiscal, exchange rate and trade policies that could have avoided the most evident economic and social costs of the actual programme; in particular, the costs derived from the reduction in absorption and growth rates to levels beyond those required to achieve the original balance-of-payments objective of the programme. For the present, we leave aside analysis of the implications of more 'radical' alternative policies (such as redistributive policies through tax reform and government subsidies and expenditure, a 'heterodox shock' a la Argentina or Brazil to deal with inflation, or a hard-line approach to the foreign debt), as well as of a comprehensive industrial policy and its long term consequences. In both counterfactual experiments the single most important underlying assumption is a much smaller transfer of resources to the outside world than the historical one reflected in the size of the trade gap and the size (and sign) of the current account balance. The corresponding numbers of the latter will be presented later.

Both experiments for 1983-85 assume the following set of policies:

(a)   In the realm of fiscal policy: real public prices and
      net indirect tax rates would be maintained at their
      1982 levels, avoiding the sharp increments of 1983;
      real public consumption would not increase over
      1983-85; investment is determined at levels compatible
      with balance of payments targets given the rest of the
      policies.

(b)   The real exchange rates in the controlled and free
      markets would be maintained at their average level of
      1982, avoiding most of the impact of the
      maxi-devaluation of December 1982 and of the subsequent
      real appreciation from the first half of 1983 to 1985.

(c)   Full import controls over the period. (Export policies
      are defined below since they differ in both experiments
      under consideration.)

(d)   Wages follow a 100 per cent indexation to past
      inflation from 1983 onwards.

      The differences are that: (a) The first exercise
assumes financing will be available to allow a current
account deficit equal to US$1.5 billion over the three year
period, whereas the second exercise allows a current account
deficit of $5.2 billion, equal to that settled in the
original IMF projections at the end of 1982, and (b) in the
first simulation there are no export subsidies, whereas the
second exercise includes the introduction of export
subsidies starting in 1983 equivalent to a 5 per cent real
devaluation on average for the three year period in terms of
the subsidies' effects on export performance.

      It is clear that current economic activity as well as
the growth rate of capital stock would have suffered much
less under either of these alternatives; real wages would be
30-35 per cent higher and inflation would have remained
moderate. For details, see Table 13.

At first sight, these results may seem the product of an outsider's daydreams. However, if one considers the implied differences arising in the counterfactual exercises with respect to the distribution between the internal and external sectors, between the public and the private sectors, and within the latter, between wage-earners and the rest, the improvement in the simulation over actual events becomes more credible. It can be viewed as the result of channelling much fewer resources to the rest of the world and a more gradual improvement of fiscal accounts. After all, the original IMF projections done at the end of 1982 depicted a future that was drastically different from actual events (see Table 3).

(2) Alternative scenarios for 1986-90

The simulation experiments constructed for the alternative scenarios for 1986-90 concentrate on assuming different possibilities of absorbing the oil-shock of 1986 and their implications on key economic variables. Firstly, we analyse the implications of absorbing the oil-shock without any additional foreign finance; that is, the burden of adjustment falls completely on the domestic economy. The policies to absorb it, however, contemplate different combinations of specific measures of fiscal contraction, devaluation and import controls. This analysis shows the dramatic consequences that would befall the Mexican economy in the event that the oil price were to remain depressed at its 1986 real levels and no changes were introduced in order to reduce the net transfer of resources abroad.

In the second set of projections we assume that the burden of the oil shock is 'shared' by the internal and external sectors in the sense that fresh money is made available and that domestic policies continue along the lines that have existed previously (i.e., fiscal stringency, import liberalization and devaluation). The purpose of this exercise to examine the effect of such a situation on economic growth, inflation, and wages and unemployment. This

set of experiments, in fact, can be viewed as rough approximation of the recent arrangement with the IMF, whose main component is a relaxation of the external constraint by pumping in additional finance, some of it attached to the performance of oil prices and the rate of GDP growth.

In the third set of projections, we assume that the country is able to isolate itself from the oil shock (in the sense that interest payments would only take place if the price of oil rises above the current level in real terms) and this is accompanied by different domestic policies, especially in the area of trade restrictions. The intention here is to estimate the benefits to Mexico and costs to the external sector if the oil shock were to be compensated by an equivalent reduction in foreign interest payments over the next five years.

First scenario: domestic absorption of the oil shock under different adjustment policies

In this scenario we contemplate three types of adjustment which by using fiscal, exchange rate and trade policies, oblige the economy to adapt to the decline in oil prices with no additional foreign credit. The assumptions common to the three experiments are that oil prices remain at around $13 per barrel at 1986 prices for the 1986-90 period and that the current account must be in balance.[41]

The specificities of the three experiments are the following. In the experiment called <u>fiscal adjustment</u> public consumption and investment contract to the point required by the balance-of-payments constraint. Neither real devaluation, nor adjustment in public prices and taxes take place, and wages are fully indexed to past inflation every six months. Trade liberalization continues and in 1988 the amount of controlled imports represents around 10 per cent of total imports.

In the exchange rate adjustment experiment a 50 per cent real devaluation is assumed to occur in 1986 with a constant real exchange rate thereafter. Public spending acommodates to achieve the external constraint. Wages are now fully adjusted to past inflation on a quarterly basis due to the acceleration of inflation. Trade liberalization takes place along the same lines as in the fiscal adjustment case.

The exchange rate adjustment-cum-import controls experiment consists of a 30 per cent real devaluation in 1986 with a constant real exchange rate thereafter together with full re-establishment of import controls. Fiscal and wage policy are equivalent to the previous experiment.

The results of these alternative adjustment packages are summarized in Table 15. Here we can observe that fiscal adjustment causes a profound recession: in 1986 GDP decline by 10 per cent, investment falls by more than 30 per cent and unemployment nearly doubles. At the same time, real wages and productivity fall sharply and inflation accelerates moderately. From 1987 onwards the economy remains stagnant, with declining productivity levels, falling real wages and decreasing productive capacity, and with a progressive acceleration of inflation.

In the case of the exchange rate adjustment in 1986 there is also a recession, though less sharp than in the previous experiment. However, the inflationary consequences of the devaluation are very large with the inflation rate reaching levels close to 150 per cent per year, a level sustained for the entire 1986-90 period. Moreover, after a slight recovery in 1987 due to the lagged response of exports to devaluation, the economy stagnates at GDP per capita growth rates of around 0 to -0.5 per cent. Real wages and productive capacity suffer a similar fate. Unemployment rises but by less than in the fiscal adjustment case.

In the third experiment, when import controls are introduced as one of the measures, there is a milder recession in 1986 with GDP declining between 3-4 per cent. Real wages contract less and inflation is below that of the previous experiment. After 1987 the economy reaches a plateau growing at rates around 3 per cent per year for the rest of the decade, with real wages and capital stock growing at very low rates.

The results of these three experiments serve to illustrate that the domestic absorption of the oil shock is extremely costly both under 'orthodox' and under 'heterodox' adjustment policies. The choice the government faces is to pick the lesser of evils, but in any case, the trajectory would remain below that required to absorb the increase in the labour force and improve the living standards of the population.

Second scenario: 'shared' absorption of oil shock through larger indebtedness

The main common assumption of the two experiments considered here is the availability of additional foreign credit. The specific assumption is that additional funds equal to $11 billion are made available for 1986-87, but from 1988 onwards foreign credit is rationed depending on oil prices. In addition, the other assumptions in common are: a 20 per cent real devaluation in 1986 with the real exchange rate kept constant thereafter, public prices are increased by 20 per cent in real terms in 1986 and maintained thereafter, and public spending accommodates to the balance of payments targets; trade liberalization takes place along the lines described in the scenarios presented above, and wages are fully indexed to past inflation each semester. The first three of these assumptions reflect the domestic contribution to the adjustment to the oil shock.

The differences between the two experiments are the following. In the 'pessimistic' run, oil prices remain at

$13 per barrel at 1986 prices for the rest of the decade. This causes external credit to be rationed drastically: in 1988 foreign credit equals $1 billion, and is equal to zero in 1989 and 1990. In the 'optimistic' simulation oil prices gradually recover in real terms, reaching in 1990 their 1985 levels in real terms. Though external credit is reduced in 1988, the decline is much lower than in the 'pessimistic' run. On average available foreign credit equals $2 billion per year for the 1988-90 period.

The results shown in Table 16 indicate that the recession in 1986 would be smaller in magnitude than in the fiscal or exchange rate adjustment experiments in this scenario when the absorption of the shock is 'shared' by the external sector. The decline in real wages is less severe because inflation does not accelerate as much as in the case where we have assumed a substantial real devaluation. After a slight recovery in 1987 due to the combined effects of credit availability and lagged impacts of devaluation on exports, the economy enters a critical period caused by credit rationing. In the 'pessimistic' experiment there is a sharp recession in 1988, accompanied by a declining real wage, a shrinking capital stock and the acceleration of inflation. In the 1989-1990 period the economy stagnates and inflation continues to acelerate. On the other hand, if the price of oil recovers and credit rationing is therefore less stringent (that is, the 'optimistic' experiment), the recession in 1988 is slighter. However, for the rest of the decade the economy grows at an unsatisfactory rate which is unable to avoid an increase in the unemployment rate.

These results illustrate that a 'shared' arrangement along the lines described above may provide an important short-run respite, but does not offer a complete cure. Of course, the results would be better were the recovery in oil prices more pronounced. Nonetheless, the experiments hint that, unless the price of oil reaches a level much higher than that of 1985, Mexico is closer to a situation of insolvency than to one of liquidity troubles.

Third scenario: isolation from the oil shock

In this scenario we assume that debt interest is paid only when oil prices are above $13 per barrel in 1986 prices and only the excess revenue over and above $13 per barrel is used for that purpose (up to the point in which this difference implies higher payments than those required by the existing rules; this level is never reached by assumption). In addition, the real exchange rate is maintained at the end-1985 level, import controls are fully re-established and there is semestral indexation of wages; also public spending accomodates to the goal of a roughly balanced current account.

Under this scenario, recession is avoided, inflation does not accelerate and the real wages are maintained. Under these conditions the growth rate of GDP averages 4-5 per cent over the 1986-90 period. Such a growth rate also sustains employment, though the unemployment rate remains above the 1985 level. (Table 17).

The accumulated cost to foreign banks resulting from no interest payments (under the worst assumptions about oil prices) is around $34 billion at 1985 prices. This magnitude makes the possibility of an amicable agreement unlikely to say the least. But this amount is smaller than the additional interest payments Mexico was forced to pay in 1981-85 due to the rise in the real rate of interest.

FOOTNOTES

1. The 1954 agreement with the IMF involved a six-month stand-by arrangement initiated in April of that year and was extended in October for twelve months (see Horsefield, 1969).

2. From 1973 to 1976, capital flight for the whole period was of the order of $6 billion (including in this figure the errors and omissions item of balance of payments statistics). However, due to private indebtedness abroad and other capital flows, the private capital account balance (including errors and omissions) only was in deficit in 1976 ($2.4 billion).

3. Both the 1976-78 and the 1983-85 agreements with the IMF involved a three-year Extended Fund Facility Programme.

4. There are, of course, also mixed situations: wheat is a capitalist crop for domestic consumption, while sugar and tobacco are exportables with a significant presence of peasant and small capitalist farm producers.

5. According to Rodríguez (1979), more than 50 per cent of agricultural output closely follows the behaviour of foreign prices. This reflects both the direct influence of international prices on exportables and its indirect influence through the determination of 'guaranteed' prices for basic foodstuffs. However, over short periods of time price policies can, and do, effectively isolate domestic crop prices from their external levels.

6. As pointed out thirty years ago by the late ECLA economist, Juan Noyola, this freedom to manoeuver has to do with 'the history of the Mexican working class movement, the composition of some of its leaders, and the sui generis relations with the state starting in the 1920s -- (thus) Mexican trade unions have been weak at their base; their general orientation has been influenced to a larger or lesser degree by official paternalism and, a number of cases of corruption among their leaders have not been absent', Noyola (1956). (Authors' translation).

7. In addition to the studies already mentioned on price formation in manufacturing, see Ize y Salas (1985), and the section on the price equations of the survey on the main econometric models on the Mexican economy in Aceituno and Mattar (1984).

8. Investment will, therefore, have a (lagged) effect on economic activity from the supply side in addition to its influence on effective demand; in fact, the latter is substantially reduced by the high import component of investment (Casar and Ros, 1984).

9. In mid-1986, mex-dollar assets in the form of a government bond (PAGAFE) indexed to the exchange rate were reintroduced as a deterrent to capital flight.

10. Depending on the state of public sector accounts and of devaluation expectations, these narrow limits may disappear, giving rise to an exchange rate crisis followed by a period of normalization of exchange rate expectations. An episode featuring this phenomenon took place in mid-1985.

11. See Kaldor (1970).

12. The 90 per cent devaluation of the controlled rate was followed by pre-announced daily mini-devaluations of 13 cents; the latter implied a declining percentage rate of mini-devaluations starting from an annualized rate of around 60 per cent.

13. The agreed programme included monetary ceilings on domestic credit expansion, although the latter do not seem to have played a major role, largely because the banking system's excess reserves increased continuously during 1983 and 1984 as the private sectors' demand for bank loans collapsed with the decline in investment and economic activity. Additionally, the Bank of Mexico (the central bank) became increasingly concerned with the unexpectedly large increase in its foreign reserves resulting from the adjustment in the current account of the balance of payments. interest rates, although high when compared to foreign interest rates plus the announced rate of mini-devaluations, remained at relatively low export levels in real terms as the rate of mini-devaluations remained below actual inflation.

14. See Secretaría de Programación y Presupuesto (1938);
    Secretaría de Comercio y Fomento Industrial (1984).

15. See Secretaría de Programación y Presupuesto (1983);
    Secretaría de hacienda y Crédito Público (1984).

16. The financial breakdown of the country's largest
    industrial conglomerate (Grupo Alfa) is the most
    representative and well known example of the financial
    difficulties affecting, in early 1982, several large
    private firms with substantial dollar denominated
    debts. These financial troubles had started before
    February as a consequence of rising interest rates
    abroad, and were aggravated by the devaluation.

17. The fall in private consumption may appear rather small
    in the face of the large decline of real wages in 1983
    (over 25 per cent). However, on the one hand, wages
    represent about a third of total national income and,
    on the other, devaluations have positive wealth effects
    on the consumption of wealth holders with substantial
    dollar assets. If we make the simplifying assumption
    that wage earners have a marginal propensity to consume
    equal to unity, non-wage earners' consumption must have
    increased around 4 per cent in 1983.

18. The sharp acceleration of inflation over 1982 may
    appear at first sight as mainly determined by excess
    demand, as a consequence of the large increase in the
    fiscal deficit in that year. However, the enlarged
    public deficit over 1982 was itself a consequence of
    the acceleration of inflation and of the effects of
    exchange rate adjustments on external interest
    payments. When corrected for inflation the public
    sector deficit (as percentage of GDP) actually fell in
    1982.

19. Direct taxes, on the contrary, declined as a percentage
    of GDP - as they had also done in 1982 - probably as a
    result of the joint effects of the acceleration of
    inflation and fiscal lags in tax collection (Tanzi's
    effect).

20. Here, the nominal deficit has been corrected only for
    the interest bearing component of public debt. In this
    comparison we do not make the correction on all public

debt, for then the inverse relationship between the real deficit and inflation would follow naturally from the effects of inflation on the real deficit and non vice versa.

21. Contractionary effects are present in orthodox literature mainly through real balance effects. It is argued, however, that expansionary effects will outweigh the former, especially in the long run (see Khan and Knight, 1985).

22. The net contribution of the external sector to GDP growth was, however, substantially reduced by the resumption of the growth of imports of goods at the high rate of 31.6 per cent (in current dollars).

23. Non-oil exports declined over 1985 by 2.9 per cent at current dollars and manufacturing exports by 3.4 per cent.

24. When corrected for seasonal factors related to the crunching of the adjustments of public prices in the first half of each year and to the fact that the January wage adjustment is higher than that occurring at mid-year.

25. The prevalence of short-term criteria and objectives implied the abandonment of the original criteria - published in the government's main economic policy document (Plan Nacional de Desarrollo, mid-1983) - where the exchange rate was considered a major policy instrument in the strategy of 'structural change'; according to the latter, 'realism' in the management of the exchange rate was considered an essential element in the long term. This shift exemplifies the increasing tensions in policy management resulting from the trade-off between the short-term, inflation-related objectives of the programme, and the maintenance of a structure of relative prices appropriate to the achievement of the long-term goals of structural change.

26. The discussion presented here abstracts from the possibility that the 'appropriate real exchange rate' may simply not exist, being too costly to achieve or

incompatible with social goals, or that the speed of the induced long-term adjustments may be too slow.

27.   The troubles leading to the collapse of the exchange market in mid-1985 are attributed officially to the maintenance of direct import controls and the failure to achieve the inflation target. But protection played no significant role in the end of export growth; maquiladora exports, which are subject to a free trade regime, also slowed down in the second half of 1984, and fell in the first quarter of 1985.

28.   The Gini coefficient has been around .5 since the 1950s, for example (Altimir, 1982; Bergsman, 1982; Díez Canedo y Vera, 1981).

29.   The public sector share has been corrected for the effects of inflation on interest payments on public internal debt. For simplicity we have assumed that the real interest rate has been equal to zero throughout the period. This is not entirely true for every month but it is a good approximation for the period as a whole.

30.   For example, Roitman shows that under 'normal' conditions in terms of employment coefficients and participation rates, the expected unemployment rate would be much higher than that officially recorded, even under much more optimistic assumptions about the growth of the economy (Roitman, 1984).

31.   One should also consider the role of migration across the Mexico-US border as a safety valve. On the one hand, the US immigration service data show a large increase over the last four years in the number of illegal migrants arrested and deported. On the other hand, research at the Centro de Estudios de la Frontera Norte de México claims that this phenomenon is largely due to the increase in border surveillance by US authorities and not to a significant shift in migration. The latter has been deterred, according to these studies, by the sharp increases in the costs of migration from the end of 1981 to the present. The estimated rise in these costs is 12.7 times in nominal terms, that is, around 30 per cent in terms of the minimum wage.

32. Corn and beans are peasant crops in two senses: they are 'peasant-intensive' crops (in the sense that the largest proportion of their output is produced by peasants) and they constitute the main crops cultivated by peasants.

33. Unfortunately this is not easy to measure since the publication of the investment figure by type changes the classification in 1983, and no before-after comparison can be made.

34. The general rate was raised from 10 per cent to 15 per cent. There are items with 0 per cent, 6 per cent and 20 per cent as well. The last two were equal to 0 per cent and 15 per cent before the change in 1983. The only downward change was for medicines from 10 per cent to 6 per cent.

35. CONASUPO, 1985, unpublished internal document.

36. This was assumed by Easterly, for example, who is the author of the original financial accounting matrix from which the pre-devaluation asset flows presented in Table 12 were obtained (see Easterly 1985).

37. The mathematical specification of the model, the values of the projected exogenous variables as well as the estimated coefficients are in the Appendix.

38. A proper simulation of an alternative course of events before December 1982 is probably an impossible task, in particular, because of the close interaction between internal and external developments during that period. This makes the assumption of taking the international environment as given very unrealistic. One wonders if, had there not been the massive capital flight ($20 to $25 billion), and the related foreign indebtedness of the Mexican public sector, over the 1981-82 period, the internal crisis and the international debt crisis could have been avoided, or at least could have been of a much milder nature.

39. In addition, the assumptions common to all experiments discussed in this section are that US GNP grows at

around 2.5 per cent per year on average for 1986-90, decelerating in 1987 and accelerating in 1989-90; US inflation is around 4 per cent per year on average, starting from lower levels in 1986 and accelerating in 1988; and foreign nominal interest rate is approximately one percentage point below the 1985 mean.

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TABLE 1

PERFORMANCE OF THE MEXICAN ECONOMY 1960-1984

	1961-1970	1971-1975	1976-1977	1978-1981	1982-1985
Real national income (annual growth %)	7.1	6.6	3.0	9.5	- 1.5
Ratio of investment to GDP (%)	17.5	20.3	19.9	22.6	17.6
Urban unemployment rate	n.a.	7.2[2]/	7.7[3]/	5.3	5.5
Real public sector surplus (% GDP)	n.a.	n.a.	- 2.2[3]/	- 3.6	3.8[1]/
External current account (billions of dollars)	- 0.5	- 2.2	- 2.6	- 6.7	1.3
Total foreign debt end of period (billions of dollars)	7.0	20.2	29.0	75.0	99.4
Total GDP (annual growth rates)	7.0	7.2	3.4	8.5	0.3
Agriculture	3.8	3.0	4.2	4.2	1.7
Oil industry	8.3	8.5	9.2	18.9	3.0
Non-oil industry	8.5	7.0	1.8	9.1	- 0.6
Commerce and services	7.1	7.3	3.7	8.3	0.0
Domestic expenditures, exports and imports (annual growth rates)					
Private consumption	6.4	5.9	3.2	7.8	- 0.5
Public consumption	8.8	10.9	2.6	9.8	2.3
Private investment (total)	8.1	5.5	- 0.5	13.4	- 6.2
Private investment in dwellings	n.a.	8.8	3.0	3.8	n.a.
Other private investment	n.a.	3.5	- 3.1	20.0	n.a.
Public investment	13.0	13.4	- 7.1	20.1	-13.3
Exports (goods and services)	5.2	4.7	15.6	9.0	8.0
Oil and natural gas	n.a.	19.3	40.0	56.1	2.5
Non-oil exports	n.a.	2.4	7.3	3.1	16.4
Services	n.a.	5.9	19.9	5.1	5.1
Imports	6.4	8.2	- 4.8	25.9	-16.3
Prices, wages and exchange rates					
Consumer prices (annual growth)	2.4	12.0	22.2	22.4	70.1
Average real wages (annual growth)	6.3[4]	4.7	4.1	2.4	- 9.1[1]/
Free real exchange rate (1978 = 100)	99.6	94.7	101.6	91.1	150.4
Controlled real exchange rate (1978 = 100)	-	-	-	-	122.8

Source: Banco de México. Producto interno bruto y gasto. 1960-1977.
      Banco de México. Informes anuales, several years.
      Secretaría de Programación y Presupuesto. Cuentas Nacionales 1970-1984.
      Secretaría de Programación y Presupuesto. Cuadernos de Información Oportuna. Several years.

1/ 1982-1984.
2/ 1975.
3/ 1977.
4/ Minimum real wage.

n.a., not available.

TABLE 2

THE ECONOMY IN THREE STABILIZATION PERIODS

	1953	1954	1955	1976	1977	1978	1981	1982	1983	1984	1985^E
Gross domestic product[1/] (growth %)	0.0	10.0	8.5	4.2	3.4	8.1	7.9	- 0.5	- 5.3	3.7	2.7
Total consumption	1.8	7.8	5.0	4.7	1.7	7.2	7.7	1.2	- 6.8	3.0	2.0
Private consumption	n.a.	n.a.	n.a.	4.5	2.0	6.9	7.3	1.1	- 7.5	2.5	2.1
Public consumption	n.a.	n.a.	n.a.	6.4	- 1.1	9.7	10.1	2.3	- 1.3	6.8	1.3
Total investment	- 3.6	3.8	12.8	0.4	- 6.7	15.4	14.7	- 15.9	- 27.9	5.1	6.7
Private investment	- 0.4	- 1.8	24.3	6.1	- 6.7	4.7	13.9	- 17.3	- 24.2	9.0	13.1
Public investment	- 9.2	14.3	- 6.0	- 7.6	- 6.7	33.0	15.8	- 14.2	- 32.5	0.6	-3.1
Exports	- 11.9	21.0	27.9	16.6	14.7	17.4	6.2	13.7	11.5	10.5	-3.0
Imports	- 2.9	- 0.6	6.5	1.0	- 10.2	18.6	20.3	- 37.1	- 41.7	19.7	11.8
Inflation (%)[2/]	- 1.9	9.6	13.4	15.8	28.9	17.5	28.0	58.9	10̇.9	65.5	57.7
Nominal exchange rate (controlled) (pesos per dollar)	-	-		-	-	-	-	57.0	121.2	169.6	257.0
Nominal exchange rate (free) (pesos per dollar)	8.7	11.3	12.5	15.4	22.6	22.8	23.8	92.7	150.8	187.2	310.2
Nominal minimum wages (growth %)	0.0	18.6	0.0	29.2	27.9	6.6	31.3	40.7	66.3	39.7	37.05
Nominal average wages (growth %)	n.a.	n.a.	n.a.	29.7	24.7	18.7	33.4	55.1	48.5	57.4	n.a.
Real exchange rate (controlled)178=100	-	-		-	-	-	-	128.4	130.1	112.2	116.2
Real exchange rate (free) 1978=100	98.0	117.6	116.7	96.8	106.4	100.0	79.8	208.8	161.8	123.7	140.03
Real minimum wages (growth %)	1.9	8.2	- 11.8	11.6	- 8.1	- 1.2	2.6	- 11.5	- 16.9	- 6.7	- 1.2
Real average wages (growth %)	n.a.	n.a.	n.a.	12.0	- 3.3	1.0	4.2	- 2.4	- 26.5	- 4.9	n.a.
Trade balance (billion dollars)	- 0.2	- 0.5	- 0.1	- 2.0	0.0	- 0.5	- 5.3	5.4	14.4	13.8	8.8
Current account balance (billion dollars)	- 0.2	- 0.2	0.0	- 3.7	- 1.6	- 2.7	-12.5	- 4.9	5.3	4.2	0.5

Source: Banco de México, Producto interno bruto y gasto.
Banco de México, Informe anual (several years)
Secretaría de Programación y Presupuesto, Cuentas nacionales (several years)

1/   For 1953-55, at constant 1960 prices; for 1976 onwards, at constant 1970 prices.
2/   Yearly averages: for 1953-55, wholesale prices; for 1976 onwards, consumer prices.

TABLE 3

MAIN TARGETS OF THE ADJUSTMENT PROGRAMME 1983-1985

	1982	1983	1984	1985	1986
Inflation (Dec.-Dec. consumer prices)(%)					
Original IMF projections 1/		55.0	30.0	18.0	45.0
Revised targets (government) 2/			40.0	35.0	50.0
Actual performance	98.8	80.8	59.2	63.7	
PSBR* (% of GDP)					
Original IMF projections 1/		8.5	5.5	3.5	
Revised target (government) 2/		8.5	5.5/ 6.5	5.1/ 5.6 3/	4.9
Actual performance	17.9	8.9	8.7	9.9	
Current account balance					
Original IMF projections (% of GDP)1/		- 2.2	- 1.8	- 1.2	
Actual performance (% GDP)	- 2.7	5.7	3.4		
Revised targets (government) (billion dollars)2/			0.0/ 0.5	1.0/ 2.0	0.0/ 0.5
Actual performance (billion dollars)	- 4.9	5.3	4.2	0.5	
Real GDP growth (%)					
Original IMF projections 1/		0.0	3.0	6.0	
Revised targets (government) 2/			0.0/ 1.0	3.0/ 4.0	-1.0/ 1.0
Actual performance	- 0.5	- 5.3	3.7	2.7	

* PSBR = Public Sector Borrowing Requirement

1/ Original macroeconomic projections by the IMF (late 1982)

2/ Annual targets, which are revised in the light of the results obtained, contained in the document: Presidencia de la Republica, "Criterios generales de politica economica". This document is sent to Congress in November-December of each year and presents the main objectives of economic policy for the coming year.

3/ In the letter of intent to the IMF (March 1985) this target was modified to 4.7% of GDP. However, none of the other targets was revised to ensure internal consistency.

TABLE 4

GDP BY CATEGORIES OF EXPENDITURE AND BY SECTOR
(1970 prices)
===

	GROWTH RATES (%)				
	1981	1982	1983	1984	1985
Private consumption	7.3	1.1	- 7.5	2.5	2.1
Total private investment	13.9	-17.3	-24.2	9.0	13.1
- Dwellings	6.9	2.6	- 6.2	4.9	n.a.
- Other private investment	17.2	-25.8	-34.9	12.5	n.a.
Public consumption	10.1	2.4	- 1.3	6.8	1.3
Public investment	15.8	-14.2	-32.5	0.6	- 3.1
Oil exports	28.4	26.8	15.3	9.9	- 7.9
Non-oil exports (goods and services)	2.2	10.7	10.5	10.7	- 1.7
Imports (goods and services)	20.3	-36.8	-41.7	19.7	11.8
Total GDP	8.0	- 0.5	- 5.3	3.5	2.7
Agriculture	6.1	- 0.6	2.9	2.5	2.2
Mining	10.1	0.3	- 5.1	2.7	4.2
Oil	16.5	8.8	1.6	2.7	- 0.8
Manufacturing	6.6	- 3.0	- 8.1	4.8	6.3
- Consumer durables	9.6	-11.2	-20.6	3.4	11.7
- Consumer non durables	6.0	1.0	- 3.6	2.5	3.4
- Capital goods	12.7	-14.3	-25.3	8.9	14.8
- Intermediate goods	7.2	- 3.0	- 6.8	7.2	5.6
Construction	11.7	- 5.0	-18.0	3.4	2.5
Electricity	8.4	6.6	0.7	7.4	6.9
Commerce and services	7.9	0.2	- 4.6	3.5	1.4

TABLE 5

TRADE AND THE BALANCE OF PAYMENTS 1981-1985
(Billions of dollars)

	1981	1982	1983	1984	1985
Exports (goods and services)	29.1	27.3	27.2	30.1	27.7
Oil	14.1	16.5	16.0	16.6	14.8
Other primary products	2.2	1.7	1.7	2.0	1.8
Manufacturing	3.1	3.0	4.6	5.6	5.3
Services	9.7	6.0	4.9	5.9	5.8
"Maquiladora" exports	1.0	0.9	0.8	1.2	1.3
Tourism	1.8	1.4	1.6	2.0	1.7
Border transactions	4.8	2.3	1.1	1.3	1.2
Other services	2.2	1.5	1.3	1.5	1.6
Imports (goods and services)	34.4	21.8	12.8	16.2	18.8
Consumer goods	2.9	1.5	0.6	0.8	1.1
Intermediate goods	13.7	8.4	5.7	7.8	9.2
Capital goods	7.4	4.5	2.2	2.6	3.2
Services	10.4	7.4	4.2	5.0	5.3
Tourism	1.6	0.8	0.4	0.6	0.7
Border transactions	4.9	2.4	1.1	1.5	1.6
Other services	4.3	4.2	2.6	2.8	3.1
Trade balance	- 5.3	5.4	14.4	13.9	8.9
Interests on foreign debt	8.4	11.3	10.2	11.7	9.9
Other income from abroad	1.1	0.9	1.1	2.1	1.6
Current account balance	-12.5	- 4.9	5.3	4.2	0.5
Long term capital (balance)	11.7	10.4	7.3	3.6	0.3
Short term capital (balance)	10.2	- 1.7	- 8.4	- 3.6	- 1.6
Errors and omissions	- 8.4	- 8.4	- 0.9	- 0.9	- 1.7
Bank of Mexico	1.0	- 4.7	3.3	3.4	- 2.4

Source: Banco de México, Informe Anual, (Several Issues)

TABLE 6

INFLATION AND RELATIVE PRICES 1981-1985, SEMESTRAL BEHAVIOUR

	1981	1982		1983		1984		1985	
	II	I	II	I	II	I	II	I	II
Growth rates over previous semester									
Consumer prices	11.9	24.0	42.7	49.6	29.1	31.8	22.7	29.0	23.7
Nominal wages	8.7	22.3	37.0	28.2	16.8	28.2	21.6	28.6	18.1
Adjustment to past inflation 1/	-	1.9	1.5	0.7	0.3	1.0	0.7	1.3	0.6
Foreign prices in domestic currency 2/	6.1	94.6	54.8	60.3	23.9	20.5	17.6	18.7	47.7
Adjustment to past inflation	-	7.1	2.3	1.4	0.5	0.7	0.6	0.8	1.6
Public rates 3/	10.7	52.8	80.8	83.8	46.1	45.7	26.2	21.4	25.0
Adjustment to past inflation	-	4.4	3.4	2.0	0.9	1.6	0.8	0.9	0.9
Relative prices Index, 1981 (II) = 100.0									
Real wages	100.0	98.6	94.7	81.0	73.3	71.2	70.6	70.3	67.1
Real exchange rates	100.0	148.8	161.2	172.9	165.9	151.2	145.0	133.3	159.2
Real public rates	100.0	123.3	156.1	191.6	216.8	239.7	246.6	234.0	236.5

Source: Ros (1985): Table 15.

1/ Wage increases are assumed to follow minimum wage settlements according to the following pattern: a third of the labour force (minimum wage earners) receive the increase at the time of the minimum wage settlement, another third receives it during the first quarter after the settlement and the remaining third receives it during the second quarter. The high coefficients of wage adjustments in 1982 (I) and (II) are partly illusory. They are due to the following: 1) we are comparing 1982 (I) with the inflation rate of 1981 (II) -when minimum wage settlements were still annual, 2) most of the settlements took place in the first semester of 1982 (I) and 3) the transition in 1982 from annual to semestral settlements.

2/ US prices multiplied by the nominal controlled exchange rate.

3/ Fuel and energy prices.

TABLE 7

PUBLIC SECTOR ACCOUNTS (% OF GDP) 1980-1985[1]

	1980	1981	1982	1983	1984	1985
1. Revenues	19.4	18.6	21.0	25.2	23.4	22.5
Net indirect taxes	8.3	8.1	8.6	10.3	9.2	9.3
Direct taxes	6.0	6.0	5.2	4.4	4.4	4.5
Social security and other general government 2/	2.7	3.1	3.5	3.6	2.8	3.1
Gross surplus of public enterprises 3/	2.4	1.4	3.7	6.9	7.0	5.6
2. Expenditures (excluding interest)	23.5	27.8	29.8	20.9	19.8	20.2
Current consumption	10.8	11.7	11.4	9.3	9.2	9.2
General government investment	4.4	4.6	4.5	3.4	3.9	3.9
Public enterprise investment	6.4	7.2	5.9	4.2	3.8	3.4
Other expenditures 4/	1.9	4.3	8.0	4.0	2.9	3.7
(1) - (2) = 3. Nominal surplus excluding interest	- 4.1	- 9.2	- 8.8	4.3	3.6	2.3
4. Interest payments	3.5	5.3	9.1	13.2	12.3	12.2
Internal	1.9	3.3	5.6	9.1	7.6	8.3
External	1.6	2.0	3.5	4.1	4.7	3.9
(3) - (4) = 5. Nominal financial surplus	- 7.6	-14.5	-17.9	- 8.9	- 8.7	- 9.9

Source: Ros (1985): Table 7; Economía Aplicada (1985).

1/ The public sector here includes the federal government, public enterprises (subject or not to budgetary control) and the Federal District.

2/ Net of transfers to the private sector.

3/ Gross of interest payments on public enterprise debt.

4/ Residual, including the deficit of public enterprises not subject to budgetary control, the deficit for financial intermediation and "déficit en cuentas ajenas".

TABLE 8

SHARES IN NET DOMESTIC PRODUCT AT CONSTANT 1981

PRICES BY INSTITUTIONAL SECTOR

(percentages)

	1981	1982	1983	1984 p/
Private sector	81.3	80.3	76.0	75.9
Public Sector	15.2	15.2	17.9	15.8
Foreign Sector	3.5	4.5	6.1	8.3
Total	100.0	100.0	100.0	100.0
Wage share	42.6	41.8	33.7	32.5
Non wage income share	57.4	58.2	66.3	67.5

p/ Preliminary.

TABLE 9

URBAN UNEMPLOYMENT AND THE STRUCTURE OF EMPLOYMENT: 1981-1985

(in percentages)

	1981	1982	1983	1984	1985[p/]
Unemployment rate	4.2	4.1	6.9	6.1	4.8
Wage earners	-	81.2	-	-	76.5
Employers	-	2.8	-	-	3.7
Self-employed	-	13.3	-	-	14.8
Without remuneration	-	2.7	-	-	5.0
Total employed	-	100.0	-	-	100.0
Hidden unemployment rate	2.2	1.7	1.2	3.0	-
Adjusted unemployment rate	6.2	5.8	7.7	8.9	-

Source: INEGI/SPP, Encuesta Nacional de Empleo Urbano.

p/ Prelimiary.

TABLE 10

OUTPUT AND GUARANTEE PRICES FOR MAJOR CROPS: 1982-1986

(in percentages)

	Average Annual Growth of Output (1982-1986)	Average Annual Growth of Real[1] Guarantee Prices (1982-1985)	
		F-W[2]	S-S[2]
Beans	3.5	2.7	13.9
Corn	7.1	9.7	6.6
Cotton	0.9	-	0.2
Rice	4.8	-	4.8
Sorghum	5.6	14.0	7.4
Wheat	-0.7	3.4	-1.2

Source: Secretaría de Agricultura y Recursos Hidráulicos,
          "Indicadores del Sector Agropecuario y Forestal",
          April 1986.

1/   In 1970 prices.

2/   F-W: Fall-Winter crops.

     S-S: Spring-Summer crops.

TABLE 11

REAL PER CAPITA GROWTH RATES IN PUBLIC OUTLAYS ON
SOCIAL DEVELOPMENT: 1982-1984

(in 1970 pesos)

Growth Rate	1982	1983	1984
Social Development[1]	1.0	-29.6	0.4
Public Education	1.2	-37.6	5.6
Health Care[2]	5.4	-31.9	3.1
Social Security[3]	-5.3	-20.6	-5.5

Source: Lustig, 1986: Table 15.a.

[1] Includes the following three categories, plus other items categorized as social development.

[2] Does not include ISSSTE and IMSS (Social Security Systems).

[3] ISSSTE and IMSS.

TABLE 12

WEALTH REDISTRIBUTION EFFECTS ON FINANCIAL ASSETS BY ECONOMIC AGENT
(billions of pesos)

	Rentiers	Proprietors	Corporations	Public sector	External sector	Banks	Bank of Mexico
Net financial assets before devaluation in 1981 1/							
Pesos	1,121.2	- 219.2	- 182.5	- 801.5	1.3	202.8	-122.1
Mexdollars	283.7	- 47.6	- 143.1	- 729.9	26.9	609.8	0.2
Dollars	553.1	-	- 375.2	- 793.9	1,252.5	- 768.6	132.1
Total	1,958.0	- 266.8	- 700.8	- 2,325.3	1,280.7	44.0	10.2
Net financial assets after devaluation 2/							
Pesos	1,121.2	- 219.2	- 182.5	- 801.5	1.3	202.8	- 122.1
Mexdollars	663.9	- 111.4	- 334.8	- 1,707.9	63.0	1,426.8	0.4
Dollars	2,765.5	-	1,376.0	- 3,969.5	6,262.5	-3,843.0	660.5
Total	4,550.6	- 330.6	- 2,393.3	- 6,478.9	6,326.8	-2,214.2	538.8

1/ Source: Easterly (1985): Table 3.d.

2/ This exercise consists in applying the 1982 devaluations to the net financial position by economic agent at the end of 1981. Dollar assets were revalued by a factor of 5 (from near 30 to 150 pesos per dollar), and mexdollars by a factor of 2.3 (from near 30 to 70 pesos per dollar).

TABLE   13

TWO COUNTERFACTUAL EXPERIMENTS FOR THE 1983-1985 PERIOD·

	Units	Historical			Counterfactual I			Counterfactual II		
		1983	1984	1985	1983	1984	1985	1983	1984	1985
GDP	g	- 5.3	3.7	2.7	2.7	4.2	2.4	3.7	5.4	3.0
Private consumption	g	- 7.5	2.5	2.1	- 1.1	3.2	1.9	- 0.6	4.0	2.4
Investment	g	-27.9	5.5	6.7	-11.1	7.1	3.0	- 8.1	10.3	2.9
Non-oil exports	g	10.5	10.7	- 1.7	10.5	23.9	6.4	10.5	27.8	12.8
Imports	g	-41.7	19.7	11.8	-19.8	9.0	4.3	-17.2	12.8	5.4
Current account balance	b.d.	5.3	4.2	0.5	0.3	- 0.3	- 1.5	- 0.3	- 1.8	- 3.1
Inflation [1]/	%	93.8	64.6	57.7	68.5	63.3	64.8	68.6	65.3	68.5
Real wages	g	-23.4	- 4.4	3.8	- 5.8	3.1	1.8	- 5.0	4.2	2.7
Unemployment	%	6.7	6.2	4.9	4.1	4.1	3.9	3.9	3.5	3.1
Capital stock	g	1.9	2.0	2.1	2.7	2.5	2.2	2.9	3.2	3.2

Notes:

g   = growth rate in %.

b.d. = US billion dollars.

1/ Private consumption deflator (National Accounts).

TABLE   14

COUNTERFACTUAL SIMULATIONS: DIFFERENCES WITH

RESPECT TO HISTORICAL VALUES IN 1985
(in percentages)

	Counterfactual I	Counterfactual II
GDP [1]/	+ 8.6	+ 11.7
Private consumption [1]/	+ 7.4	+ 9.4
Investment [1]/	+ 20.9	+ 28.5
Non oil exports [1]/	+ 21.1	+ 32.5
Imports [1]/	+ 16.7	+ 26.2
Inflation [2]/	+ 7.1	+ 10.8
Real wages [1]/	+ 30.1	+ 33.8
Unemployment [2]/	- 1.0	- 1.5
Capital stock [1]/	+ 1.4	+ 3.4

Notes:

1/ Difference as a percentage of 1985 historical value.

2/ Absolute difference in percentage points.

TABLE 15

DOMESTIC ABSORPTION OF THE 1986 OIL SHOCK UNDER DIFFERENT ADJUSTMENT POLICIES

	Units	1985 (Historical)	Fiscal adjustment			50% real devaluation			30% real devaluation plus import controls		
			1986	1987	1988-1990	1986	1987	1988-1990	1986	1987	1988-1990
GDP	g	2.7	-10.0	- 0.4	0.7	- 5.7	4.7	2.0	- 3.4	5.3	3.2
Private con-sumption	g	2.1	- 5.4	0.3	1.5	- 6.9	1.8	2.1	- 4.3	2.4	2.6
Investment	g	6.7	-36.5	-34.1	- 6.9	-27.1	8.0	2.9	-19.9	9.3	3.9
Non-oil exports	g	- 1.7	6.8	1.4	1.6	32.3	18.9	3.2	19.5	10.8	2.6
Imports	g	11.8	-34.6	2.5	3.1	-36.4	20.0	4.4	-35.8	11.9	4.0
Inflation [1]	%	57.7	67.3	65.6	70.1[1]	143.1	144.9	150.2[2]	94.4	93.2	94.1[2]
Real wages	g	3.8	-11.2	- 1.9	- 0.5	-15.0	- 0.4	0.2	-10.3	0.5	0.8
Unemployment	%	4.9	9.2	11.2	14.1[2]	8.3	9.0	10.6[2]	7.8	8.2	8.9[2]
Capital stock	g	2.1	0.4	- 0.6	- 0.8	0.8	0.6	0.6	1.1	1.1	1.5

Notes:

g = growth rate (annual)

1/ Private consumption deflator (National Accounts)

2/ End of period

TABLE 16

SHARED ABSORPTION OF OIL SHOCK THROUO. LARGER INDEBTEDNESS

	Units	1985 (Historical)	Depressed oil prices			Oil price recovery from 1987		
			1986	1987	1988-1990	1986	1987	1988-1990
GDP	g	2.7	- 3.0	2.8	- 1.6	- 3.0	5.3	2.9
Private con-sumpticn	g	2.1	- 5.0	1.o	0.5	- 5.0	2.6	2.5
Investment	g	6.7	- 7.1	- 1.7	-20.8	- 7.1	9.6	6.7
Non-oil exports	g	- 1.7	13.2	6.4	2.1	13.2	6.4	2.3
Imports	g	11.8	-20.1	10.6	- 6.9	-20.1	20.0	4.6
Current account	b.d.	0.5	- 3.5	- 5.0	- 1.0[3]	- 3.5	- 5.0	- 3.0[3]
Inflation [1]	%	57.7	81.5	81.8	89.7[2]	81.5	80.2	80.3[2]
Real wages	g	3.8	-11.8	- 0.6	- 1.9	-11.8	0.9	0.7
Unemployment	%	4.9	7.8	8.6	13.1[2]	7.8	8.1	9.1[2]
Capital stock	g	2.1	1.7	1.5	- 0.3	1.7	2.0	2.0

Notes:

g   = growth rates (annual)

b.d. = US billion dollars.

1/ Private consumption deflator (National Accounts).
2/ End of period.
3/ For the three year period 1988-1990.

TABLE 17

ISOLATING THE ECONOMY FROM THE OIL SHOCK

	Units	1985 (Historical)	1986	1987	1988	1989	1990
CDP	g	2.7	5.6	4.2	4.0	4.3	4.5
Private consumption	g	2.1	1.0	3.1	2.9	3.0	3.2
Investment	g	6.7	21.1	10.7	8.0	7.9	8.0
Non-oil exports	g	- 1.7	6.8	1.6	- 0.6	1.7	5.1
Imports	g	11.8	3.8	0.4	- 0.5	0.4	2.8
Inflation	%	57.7	58.7	59.5	59.8	59.7	59.8
Real wages	g	3.8	- 1.6	1.5	1.2	1.5	1.7
Unemployment	%	4.9	6.1	6.0	6.0	6.0	5.9
Capital stock	g	2.1	2.9	3.3	3.6	3.8	4.1

Note:

g = growth rate (annual)

APPENDIX

(i) **Analytical description of the model: assumptions, adjustment mechanisms and alternative closure rules**

The model presented below attempts to capute - in a simplified way - some of the features of the Mexican economy that were discussed in section I. The purpose of this model is to establish in a consistent framework the basic interactions among the size of the current account, the level of output, employment, inflation, the exchange rate and wages. It can be viewed as a self-contained sub-model of a larger one whose description appears in Serie Temática No. 2 (CIDE, 1984). In what follows we shall describe its essential features.

In the external sector of this model imports are assumed to increase with output due to the prevalence of complementarity and capacity bottlenecks (which are lower the higher full capacity output is), and to decrease with the use of direct controls (because superfluous imports are avoided) and depreciation of the exchange rate. The value and size of oil exports is taken as given and non-oil exports depend positively on US output, the real exchange rate, and on capacity build-up (indicated by the size of the capital stock). The price of non-oil exports is not solely given by the external market. As we discussed in section I the 'law of one price' applies only to some (especially agricultural) exports. In other cases, services (tourism) in particular, the domestic price may be quite different from its international level. The other components of the current account (that is, net factor payments) are taken as given on the basis of projection of foreign indebtedness and interest rates on external debt.

The price of non-oil exports, as was discussed in section I, are endogenously determined and do not follow the 'law of one price' mainly because of the non-price elements

that intervene in the determination of the volume of exports. Thus, the domestic price level has an important role in determining the price of non-oil exports.

Depending on the closure rule current output can be determined (a) by aggregate demand with total investment and public consumption given exogenously, or (2) by the level of imports which are compatible with a given size of the current account balance. In the latter case, current output is assumed to be constrained by the availability of foreign exchange. Thus, given a value for B* in equation (1) (see below) determined, let us say, by the creditors willingness to provide funds, and given the determination of exports (see equation (3) below) and the other variables entering the current account balance, imports are obtained residually. The size of imports, in turn, determines the level of output that is consistent with them (from equation (2) below). This closure was used to do all the simulations presented in section IV. In either closure current output will depend on past investment through its effect on the size of capital stock and, thus, on potential output (see equations 10 and 11). Since the latter enters into the determination of imports and exports (equations 2 and 3), it is affecting the size of output in the current period. This mechanism tries to capture, very succinctly, what we called the phenomenon of hysteresis in the text: i.e., depressed investment levels will eventually eat up on the productive capacity of the economy and, thus, will undermine its versatility to undergo 'structural change' in the area of external dependency, in particular.

When the model is simulated under the current account constraint, investment (total) is determined residually by subtracting from output all the other components of aggregate demand (equation 7), which with the exception of private consumption and change in stocks (equations 5 and 6 respectively) are exogenous. The rationale behind this is to find the level of investment which is consistent with the external constraint. Indirectly this constraint also imposes

a boundary on fiscal policy since public expenditure can only reach a level which is consistent with this constraint. That is, in the extreme case public expenditure could not exceed the sum of the given government consumption plus the (total) investment obtained residually after output has been determined by imports.

Private consumption is assumed to be a function of the wage bill. The simplicity of this function is perhaps one of the weakest aspects of the model; however, this simplicity responds to the need of avoiding the incorporation of more complex interaction among the fiscal, financial and real sectors.

Employment of the labour force is mainly a function of output, current and previous, and of the size of the labour force (equation 8), reflecting the fact that if employment in the modern sector does not absorb the newcomers, they will turn to the informal sector to make a living.

The domestic price level is essentially cost-determined (equation 12). However, the effect of demand on prices enters in the determination of prices through the effect of the latter on the nominal wage, an essential component of costs (equation 13). The mechanics assumed are the following: when demand rises, so will output; this means that employment will rise or, that unemployment will fall. Now, since unemployment is inversely related to the level of nominal wages (equation 14), the latter will rise with the fall in unemployment, and through its effect on costs, so will the price level. Nominal wages, in turn, are also determined by the behaviour of minimum wages (equation 14) and the latter are the result of the institutional agreement with respect to the frequency of wage revisions and the size of the adjustment coefficient (equation 15).

In addition, unit costs reflect policy decisions with respect to public prices and the exchange rate, and, of course, international prices (equation 13). The nominal

public prices and the nominal (controlled) exchange rate are
assumed to be policy determined given the targets fixed by
the government in real terms (equation 18 and 19). (However,
one could well reverse the assumptions and suppose that the
government fixes the variables in nominal terms and their
real value becomes endogenous.)

Perhaps one should mention the fact that in the model
we have assumed that the free exchange rate remains close to
the controlled rate and that the former is not subject to
speculative attacks of the dimension of those occurring in
1982 and 1985. Capital outflow does not shoot-up to levels
that may jeopardize the balance of payments or lead to large
fluctuations of the free exchange rate.

In principle, the model is consistent with any shape of
the IS and LM curves if one wishes to place it within this
framework. This is so because under the chosen closure, for
example, we have assumed, in a way, that fiscal policy will
adapt itself to the boundaries set up by the external
constraint.

In what follows we shall present the model in its
mathematical form. As the reader may observe there are 18
equations and 19 endogenous variables. This presentation
just points to the fact that the model is open to
alternative closure rules. The one that was chosen, as was
mentioned above, assumes that the balance of the current
account is given (and, thus, we are left with 18 equations
and 18 endogenous variables).

(ii) **The model***
    Exogenous variables and parameters

tr   =   indirect net tax rate

P*   =   foreign price level in dollars (index)

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*   NB: Lance Taylor - please check.

b   = coefficient to convert employment per unit of output to index form

a_w = adjustment coefficient of minimum wages to past inflation (assumed equal to unity in the simulations)

f_w = parameter indicating frequency of wage adjustments coefficient (assumed equal to .5 in the simulations).

P_{gr} = real public rates

er   = controlled real exchange rate

X_o = oil exports at constant prices

D_f = US output level (proxy for external demand)

era   = average of controlled and free exchange rates (in real terms)

M_c = percentage of imports subject to direct controls

P^*_{xo} = external price of oil in dollars (index)

ir   = interest rate on external public debt

D^*_f = stock of foreign public debt at mid-year (billions of US dollars)

OP^*_f = other net payments abroad (billions of US dollars)

d   = depreciation rate (assumed to be equal to 0.025)

s_{nr} = share of non-residential investment in total investment (assumed to be equal to 0.70)

LF = labour force

t = time trend

C_g = public consumption

Vmax = (incremental) capital-output ratio at full capacity utilization (assumed to be equal to)

Endogenous variables (nineteen)

P = domestic price level (private consumption deflator)

uc = unit prime costs

w = average nominal wage rate (index)

w_m = minimum nominal wage

w_r = average real wage

P_g = nominal public rates

e = controlled nominal exchange rate (pesos per dollar, index)

C_p = private consumption at constant prices

I = total investment (public plus private) at constant prices

ΔS = change in stocks at constant prices

X_{no} =   non-oil exports at constant prices (goods and services)

P_{xno} =   price index of non-oil exports

M   =   imports of goods and services at constant prices

b^* =   current account balance in billions of US current dollars

Y   =   output level at constant prices

$\hat{Y}$ =   full capacity output

K   =   capital stock at constant prices

E   =   total employment

u   =   unemployment rate

Equations*

A. External sector block

1. Current account (in current dollars) (definition)

$$B^* = \overline{X}_o \cdot \overline{P}_{xo}^* + X_{no} \cdot \frac{P_{xno}}{e} - M \cdot \overline{P}^* - i_f^* \cdot \overline{D}_f^* - \overline{OP}_f^*$$

Given a value of B^* the model can be solved for output and the rest of the endogenous variables. This closure rule was used in the simulations presented in section 4 where we assumed that $B^* = 0$; there are, however, other interesting combinations of closing the model as discussed above.

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* The asterisk means that the variable is expressed in dollars and the bar means that the variable is given exogenously.

2.   **Imports (behavioural)**

$$\ln M = 2.26 + 1.01 \ \ln Y + 2.28 \ \ln Y/\hat{Y} - 0.18 \ \ln \overline{M}_c - 0.56$$
$$\ln \overline{er}$$

3.   **Non-oil exports (behavioural)**

$$\ln X_{no} = -16.11 - 0.063 \ t + 2.73 \ \ln \overline{D}_f + 1.05 \ \ln (0.6 \ \overline{era}$$
$$+ 0.4 \ \overline{era}_{-1} + 0.10 \ \ln K_{-1} + 0.13 \ \ln X_{no_{-1}}$$

4.   **Price of non-oil exports (in domestic currency) (behavioural)**

$$\ln P_{xno} = -2.47 - .007 \ t + 0.78 \ \ln P + 0.22 \ \ln \overline{p}^* . e$$

B.   **Aggregate demand and employment block**

5.   **Private consumption (behavioural)**

$$\ln C_p = 3.50 + 0.01 \ t + 0.47 \ \ln (w_r \ . \ E)$$

6.   **Change in stocks (behavioural)**

$$\Delta S = 11.48 + 0.23 \ \Delta Y + 0.44 \ \Delta Y_{-1}$$

7.   **Total investment (definition)**

$$I = Y \ -C_p - \overline{C}_g - \Delta S - \overline{X}_o - X_{no} + M$$

8.   **Employment (behavioural)**

$$\ln E = -1.39 - .007 \ t + .30 \ \ln (.7 \ Y + .3 \ Y_{-1}) + .80 \ \ln \overline{LF}$$

9.   **Unemployment rate (definition)**

$$U = (\overline{LF} - E) / \overline{LF}$$

C.   Capital accumulation and potential output block

10.   Full capacity output (definition)

$$\hat{Y} = V_{max} \cdot K_{-1}$$

11.   Capital stock (definition)

$$K = (1 - \overline{d}) K_{-1} + \overline{S}_{nr}I$$

D.   Price level, wage rate and exchange rate block

12.   Domestic price level (behavioural)

$$1 \, P = .01 + 1 \, (0.7 \, uc + 0.3 \, uc_{-1}) + 1 \, (1 + tr)$$

13.   Unit costs (definition)

$$uc = 0.63 \, w.\overline{b}.E/Y + 0.13 \, Pg + 0.24 \, \overline{P}* \, e$$

14.   Average nominal wages (behavioural)

$$\ln w = -.44 + .014 \, t \, \ln w_m - .19 \, \ln u$$

15.   Minimum nominal wages (constructed)

$$w_m = \overline{a}_w \, (\overline{f}_w \, P/P_{-1} + (1 - \overline{f}_w) \, P_{-1}/P_{-2}) \, w_{m-1}$$

16.   Average real wages (definition)

$$w_r = w/P$$

17.   Nominal public rates (definition)

$$Pg = \overline{Pg}r.P$$

18.   Nominal exchange rate (definition)

$$e = \overline{e}r.P/\overline{P}*$$