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Mexico: study on the financial crisis, the adjustment policies and agricultural development

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This article reviews the development of the Mexican economy in general and the agricultural sector in particular from the Second World War to the 1982 crisis.

It underlines the important economic recovery of 1978-1981 which resulted from the oil boom, but points out that the increasing dependence on earnings from oil exports increased the country's real and financial vulnerability. Furthermore, the investment needs for the development of this activity produced a marked bias in the use of resources. The result was a sharp deterioration in the non-oil trade balance and explosive growth of the external debt which, in conjunction with the difficulties of the world economy, led to the economic crisis of 1982.

Agriculture performed well in relative terms during the crisis, for despite growing at lower rates than in the past, it managed to isolate itself from the acute recession affecting the economy as a whole. In this it demonstrated great inelasticity to shifts in aggregate demand which meant that it grew faster than the rest of the economy in periods of recession and slower in periods of general expansion. When this moderate growth is examined in greater detail, it is found to have originated in the performance of soybeans, wheat, rice and sorghum, which were the most dynamic crops, but this masks the sluggishness of maize and the large drop in beans, which are essentially peasant crops.

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I
The situation up to the 1970s

1. *Overall economic development*

Since the Second World War Mexico's development has been characterized by high annual growth rates (6% to 7%) in conjunction with exchange-rate stability and low inflation, close to the international levels. This situation was made possible by a framework of political and institutional stability which allowed the successful implementation of development strategies based on imports substitution industry, supported in turn by industrial protection policies, financing from the State development banks, and fiscal incentives.

The situation began to deteriorate in the 1970s with the economic recession of 1971 and two-digit inflation which caused the progressive revaluation of the exchange rate. A new recession occurred in 1976-1977, together with an exchange crisis, as a result of the rapid deterioration in the trade balance and public finances and the increasing flight of capital. The economic situation forced the introduction, for the first time since 1954, of an orthodox stabilization and adjustment plan.

The origin of the crisis lay in the decline in agricultural production since the mid-1970s and the rise in oil prices at a time when Mexico was a net importer.

The slowdown in the industrial sector was caused by exhaustion of the imports substitution process, loss of competitiveness as a result of the revaluation of the real exchange rate, and the slower growth rate of world demand from the mid-1970s.

The stagnation in agriculture, together with the sharp rise in international prices, accelerated the inflation and steadily reduced the positive balances of agricultural trade, one of the main domestic sources of financing of the external imbalances generated by the industrial development.

Accordingly, the role formerly played by the agricultural sector was gradually transferred to external borrowing: in 1961-1965 the sector's trade balance surplus financed more than half of the foreign trade deficit of industry, but in 1974 it covered barely 3% thereof. Conversely, external resources, which covered barely 7% of the industrial trade deficit became the main source of financing in this period.

The increased foreign borrowing for this purpose ended by causing an equivalent deficit in the balance of net income paid abroad. This rose from under 30% of the current account deficit in 1960-1964 to over 50% in 1974-1977. The dynamics of the borrowing determined by the deficit encountered limits which appeared for the first time in acute form with the economic and exchange-rate crisis of 1976-1977.

An oil-based economic recovery occurred in 1978-1981. Oil production rose at a rate of 19.4% a year and oil exports at 52.7% a year. The gross domestic product increased in turn by between 8% and 9% and the real national income between 9% and 10% a year.

However, the abundance of oil resources was not used to lay the foundations for the sustained growth of the industrial and agricultural sectors for when the boom ended. On the contrary, the growing dependence on earnings from oil exports led to a considerable increase in the country's real and financial vulnerability.

The investment needs of this activity caused a marked bias in the use of resources and higher demands. The result was a dramatic deterioration in the non-oil trade balance and explosive growth of the foreign debt which, together with the increasing instability of the international economy, led to the economic crisis of 1982.

2. *The development of the agricultural sector*

The agricultural sector recorded high growth rates (5% a year) between 1940 and 1965. This long period of expansion was driven forward by the agrarian reform, the large public investments in irrigation, the expansion of the cultivated area, and technological change (high-yield varieties, irrigation and fertilizers).

There were big differences of growth rate by subsector and product, with a high correspondence between the strength of consumption and production. The production structure adapted itself to the consumption pattern that emerged.

The sector developed within an agrarian structure which was sharply polarized between a large peasant sector supplying a weak domestic market and a business sector supplying a very vigorous domestic market and the external market.

Agricultural activities weakened from the mid-1960s (the growth rate fell to levels close to those of the population growth); at the same time there was a large increase in the relative importance of livestock and a decline in the importance of items of the basic consumer diet (and of cotton for external reasons). The drops were closely related to the reductions in the cultivated area.

Peasants and businessmen behaved very differently in their production decisions in the period after 1965; while the peasant showed great stability in the composition of their crops, with a firm attachment to maize and beans, the businessmen diversified their interests and production decisions. This is part of the reason for the strength of the domestic supply of items such as sorghum, soybeans, safflower and livestock and for the concomitant weakening of basic products.

These trends moved in close step with the long-term development of relative prices (which was affected by international trends and the type of interrelations which developed between the agricultural and industrial sectors) and with the different profit levels between and within each of these sectors.

An economic recovery took place towards the end of the 1970s during the oil boom (it was also promoted in the agricultural sector by SAM (*Sistema Alimentario Mexicano* - Mexican Food System)). Not only was this recovery brief (especially in the agricultural sector) but it also completely disregarded a number of very acute problems and defects in Mexico's economic and social structure:

- The concentration of income at one extreme and its effects on the other extreme reflected in poor diet, housing, services, etc. Much of the poverty and inequality clearly stemmed from rural backwardness and the duality and polarization of the agrarian structure;
- The vulnerability of the production structure and foreign trade, which originated mainly in the non-oil sector. In the countryside it also included increasing dependence on food imports;
- The increasingly shaky finances, given dramatic illustration in the foreign debt.

II

The adjustment policies

The first reaction to the imbalances was to introduce a number of adjustment policies which were frequently inconsistent with each other. As the situation became more difficult and awareness of its seriousness increased, better defined and integrated sets of measures began to be formulated and implemented. The following stages can be distinguished:

1. *Chaotic adjustment*

This was carried out by the government of President López Portillo in early 1982 and was based on fiscal cutbacks, devaluation (80%), and higher public tariffs. A wage increase was agreed in April that year which ranged from 30% to 20% and 10% depending on the level of earnings. There was a further devaluation in August, a dual exchange-rate system was established, and payment of the debt was suspended for 90 days. The banks were nationalized in September and a comprehensive system of exchange controls was introduced.

The situation was extremely complex in October and November, and the government decided to prepare and negotiate an adjustment programme with the International Monetary Fund.

2. *The 1983-1985 adjustment programme*

In this period the next government, of President de la Madrid, carried out the adjustment programme, which envisaged two separate stages. Firstly, shock treatment to re-establish the main balances, followed by a so-called gradualist stage in which the product was to begin to grow. Briefly, these were the stages:

a) *The shock treatment (1983)*

This consisted basically of a drastic reduction of the fiscal deficit (which was roughly equal to 50% of the gross domestic product) and an equally drastic cut in inflation (from 100% to 55% in 1983), reductions of the current account deficit of the balance of payments (from about US$2 000 million), and suspension of growth in 1983. These measures were accompanied by a very restrictive wages policy.

b) *The gradualist stage (1984-1985)*

It was thought that there ought to be a recovery of economic growth (from 5% to 6% from 1985 on) in accordance with a model of long-term structural change which would lead to the expansion of non-oil exports and assign greater importance to the private sector and the market.

3. *Main features of the policies adopted*

The policies can be placed in the following order, in accordance with their purpose:

To modify the price ratio of tradeable to non-tradeable goods:

— Exchange-rate changes in 1982 and 1983;
— Replacement of import taxes by tariffs.

To reduce the fiscal deficit:

— Increase of public tariffs;
— Reduction of subsidies;
— Two per cent increase in indirect taxes net of subsidies;
— Rationalization of the public trade and production apparatus, which led to the sale of 236 small and medium-sized enterprises;
— Drastic reduction of real salaries and wages in the public sector;
— Cutback of 32% in public investment, especially by public enterprises;
— Increase of public oil earnings via PEMEX as a result of the devaluation.

To create a structure of factor prices to facilitate efficient allocation of resources:

— Reduction of subsidies;
— Increase of real interest rates;
— Reduction of State intervention and greater participation by the private sector and market mechanisms.

To stimulate the participation of the private sector:

— Fiscal incentives for private investment and high rates of accelerated depreciation.

4. *The effects of the measures*

The following were the effects of the main policies carried out in the period under study:

a) *Fiscal policy*

The fiscal deficit fell between 1982 and 1983 to very close to the planned levels (from 17.9% to 8.5% of GDP). Where fiscal revenue was concerned, on the one hand the surpluses of public enterprises increased, but on the other hand tax revenue fell as a result of the inflation and delays in collection.

b) *Exchange-rate policy*

Between February and December 1982 there was a nominal devaluation of 450% in the free exchange rate and 250% in the controlled exchange rate. In January 1983 the real controlled exchange rate stood at almost half the January 1982 level and was almost 30% lower than in mid-1978.

The dual exchange-rate system was introduced in September 1982, and the black market at the United States border emerged in October-November that year.

December saw the introduction of daily minidevaluations, which were subsequently adjusted in January 1983. It was hoped that this would produce rates of devaluation compatible with the targets for reduction of inflation.

The management of exchange-rate policy was inconsistent owing to the conflict between the short-term and the long-term goals (control of inflation against structural changes) which was resolved in favour of the short-term goals in view of the improvement in the balance of payments, the better performance of non-oil exports and, too, the difficulty of regulating other key economic prices.

Non-oil exports weakened again in the last quarter of 1984 and speculation increased in expectation of much higher inflation and devaluation than was planned. This attitude was based on the worsening of the balance of payments and the fall in oil prices. In March 1985 the government increased the daily devaluation rates, but this measure proved insufficient to cope with the situation.

That year saw a collapse of the exchange market. The official exchange rate was again devalued (20%), the free exchange rate was legalized and a new exchange-rate system was finally introduced.

c) *Wages policy*

This policy was the cornerstone of the strategy to control inflation and modify the structure of relative prices. Wages fell sharply as a result of its implementation. A tripartite commission of government, business and labour was used to adjust wages and alter the prices structure to the detriment of real wages. These measures resulted in a slower inflation rate and an *ex post* drop in real wages, with increase in the other relative prices. The severe wage cuts prevented the outbreak of galloping inflation which occurred in other countries of Latin America.

The wages policy was relaxed a little in 1984, and the adjustments resumed their normal values.

d) *Foreign trade policy*

Import controls were reintroduced in 1981. This policy was continued in 1982 and part of 1983, for the agreements with the IMF allowed temporary non-tariffs controls.

Imports controls were eased slightly in 1984 and the existing permits were replaced by tariffs of 15% to 20% of the value of the goods.

The restrictions were reduced sharply in 1985 and the tariff structure was rationalized in the direction of greater uniformity. A trade agreement was also signed with the United States which liberalized foreign purchases and eliminated exports subsidies. Tariffs were adjusted to offset the adverse effects, and official prices were set at levels higher than they should have been. Lastly, exporters were given an incentive in the form of import rights (DIMEX) which enabled them to import without prior permission and with a very low tariff of 10% as against a general level of at least 30%.

III

The manifestations of the crisis and the adjustment policies

1. *Levels of activity, aggregate demand and total employment*

Total output fell 0.5% and 5.3% in 1982 and 1983 respectively; public investment was cut by 14.2% and 32.5%, while private investment fell even further. This was caused, on the one hand, by the contraction of the market and public investment and, on the other, by the drop in current and future profits caused by the higher prices of imported capital goods and the external business debt, which was in turn due to the drop in the real value of assets in the market owing to the massive flight of capital. This flight of capital was connected with the higher profits expected from external activities in comparison with domestic ones. The most seriously affected sectors were capital goods, construction and consumer durables.

There was a recovery in 1984 and 1985: the GDP grew at rates of 3.7% and 2.7% respectively, industry at 4.8% and 5.8%, and private investment at 9% and 13%. Furthermore, non-oil exports increased 18.4% in 1984 as a result of the economic recovery in the United States and the new agreement signed with that country.

This phenomenon was due to the higher level of employment by the central government (despite the reduction of the fiscal deficit), the lower inflation, and the incentives for private investment (accelerated depreciation). Other factors were the medium-term effects of the 1982-1983 devaluation and the short-term effects of the 1984-1985 revaluation. Private consumption slowed in 1982 and fell sharply in 1983 (7.5%). This included a fall in the consumption of durable goods but not of non-durables, in particular foodstuffs, which were not affected at all.

The increased exports were offset by imports growth of 19.7% in 1984. This growth came to a stop in 1985 as foreign exchange ran out.

The 1984 recovery was characterized by industrial expansion concentrated in the automobile industry, which grew 26.6% in that year. This was because private businesses took advantage of the investment incentives, i.e., the high rates of accelerated depreciation, to renew their fleets of vehicles. Private investment increased for the same reason. There was also a slow recovery in industries with idle capacity such as cement and steel; a similar development took place in the basic foods industry. It can thus be seen that this was a strange economic recovery: growth in the automobile industry with a simultaneous reduction of investment in machinery, equipment and plant, especially in public enterprises.

Agriculture performed well in relative terms, for despite lower growth rates than in the past, it managed to isolate itself from the severe recession affecting the economy as a whole. The total GDP rose at a rate of 0.1% between 1982 and 1985, but agriculture and livestock expanded by 0.6% and 1.9% respectively, thus contributing to the adjustment.

In this performance agriculture demonstrated great inelasticity to variations in aggregate demand, and this meant that it grew faster than the rest of the economy in periods of recession and slower in periods of general expansion.

2. *Foreign trade and the balance of payments*

The large devaluations and the economic contraction produced big changes in the external accounts: the current account of the balance of payments moved from a deficit of US$12 000 million in 1981 to a surplus of over US$5 000 million in 1983. This change was due mainly to imports (which fell 37.1% in 1982 and a further 41.7% in 1983), with capital goods falling by large amounts (42% in 1982 and 62% in 1983). Non-oil exports also contributed to the big rise in the exchange rate and the fall in home demand (they increased 16.7% in 1983).

Nevertheless the adjustment proved short term, for following the recovery which began in 1984 the current account surplus had already disappeared by 1985. This was due to two factors: the end of the boom in exports of manufactures towards the beginning of 1985; and the rise in imports during the brief recovery in 1984 and 1985 (which owed much to the automobile industry with its high imported component).

The farming sector made a moderate contribution to the external adjustment, mostly in 1984 and 1985, for output fell sharply in 1982 and this was reflected in a large increase in imports in 1983 which subsequently declined and then disappeared in 1985.

Farm exports rose by US$200 million between 1983 and 1984 and imports fell by about US$500 million, but this positive development was offset by the decline in livestock.

The increased exports were due to the favourable movements in the production and relative prices of cotton and tomatoes. Oil crops performed well in the domestic market, together with other basic foods such as maize and wheat, and this helped to reduce imports.

It is thought that the stagnation or decline of apparent consumption and the good output associated with good relative prices were the most important factors in agriculture's recovery.

3. *Inflation and food prices*

Inflation held a relatively stable rate in 1980 and 1981 and there were no major changes in relative prices. It speeded up between 1982 and mid-1983 owing to the continual devaluations and the higher public tariffs and direct taxes. In the first two cases the adjustments were higher than past inflation, and this produced the *ex post* result of a higher inflation rate.

The high inflation was checked to some extent in 1983 by a drastic reduction of wages. This was a stage in which relative prices shifted (real wages fell 20%, the real exchange rate was devalued by about 40%, and public tariffs rose by 90% over 1981). As a result, the annual inflation rate of 25% to 30% rose to 100-120% in the first half of 1983. It fell 55-60% between mid-1983 and the end of 1984 as a result of: unprecedented control of wages; minidevaluations determined by the expected inflation rate; and less drastic increases in public tariffs.

As a result of these measures the prices structure continued to change: between mid-1983 and the end of 1984 wages fell a further 13%, the real exchange rate was revalued from 16% to 19%, and public tariffs rose 30%.

A new phase began in 1985 with a new spurt in inflation caused by the wage rises and the further devaluations. This trend became more pronounced in 1986 owing to the sharp drop in oil earnings. The final outcome was an inflation rate of 115%.

In short, the following happened between 1981 and 1985: real wages fell 30%; the exchange rate was devalued by 30%; public tariffs increased 2.5 times; and there was a considerable acceleration of inflation.

During the crisis and the adjustment in 1982-1985 food prices were not a source of inflationary pressure. Despite the elimination of subsidies and the modification of the structure of relative prices in favour of tradeable goods —which include some foodstuffs— the prices of agricultural products fell between 1982 and 1985 in the middle of a period of large devaluations, and they improved, paradoxically, in 1984 in a period of revaluations.

This apparent paradox came about as a result of the sharp fall in support prices in 1982 and 1983 which prevented increases in relative consumer prices and at the same time reduced the subsidies for food marketing. There was thus a sizeable cut in the subsidy to the producer implicit in the difference between the domestic price and the external price; this had its greatest impact on basic grains (maize, wheat) and beans.

The main focus of the elimination of the subsidies was therefore the reduction of the difference between internal and external prices, a mechanism which made an important contribution to the containment of the inflationary pressures generated by the devaluations. Another factor was the reduction in 1982 of the external prices in foreign currency of many farm goods (this was repeated in 1985).

This policy of low support prices could not be maintained indefinitely and it was changed in 1984, with consequences for producer food prices and also therefore for consumer prices, which rose faster than inflation.

Support prices were thus used in an anticyclical policy to moderate the inflationary impact of the devaluations on the prices of tradeable farm goods. Such a policy was possible in a context of growth in agricultural output, for this prevented inflationary pressures on the domestic supply side.

4. *Income distribution, standards of living and food consumption*

The main features of Mexican society are its inequality and poverty. According to the available information, these features were more pronounced after the adjustment. The following were the main changes:

— Redistribution of wealth from the public sector —as it was a net debtor in foreign currency— to the external sector and the local private sector, for this latter sector had become a net creditor of the public sector through the intermediation of international banks. This was the reason for the increase of the external sector's share in GDP from 3.5% to 8.3% between 1981 and 1984.

— Transfer of resources from the private to the public sector since transfers abroad were made through the public sector as it was a net debtor. In 1983, the year of the main adjustments, the private sector's contribution to GDP fell more than five percentage points in relation to 1981.

— Redistribution of wage incomes in favour of non-wage incomes within the private and personal sectors. Between 1981 and 1984 the contribution of wages to GDP fell by about 10 percentage points to the lowest level since 1968.

Living standards deteriorated considerably owing to the sharp drop in formal employment which led to an increase of 3.4% in informal employment.

Peasant living standards were affected very differently by the adjustment. With good support prices in 1984 and 1985, for example, output was very high, suggesting an improvement in the property component in peasant family incomes. This is borne out by the large increase in maize production in the poorest peasant regions.

In contrast, the wages component in peasant incomes was affected very adversely; it is estimated that total farm wages fell by 32% between 1982 and 1984. This sharp reduction was a result of the large drop in average farm pay which was not made good by the slight increase in employment. This had a serious impact on a large number of poor peasants who depended mainly on their wage incomes.

The crisis and the adjustment also affected food and nutritional standards. Nevertheless, the available information does not indicate a problem of food supply nor any clear deterioration in the average diet. There was however a large drop in the consumption of maize, beans, beef and milk between 1978-1981 and 1982-1985. This was due to the fall in real incomes and was unconnected with output, which did not decline except in a few years owing to the weather, as we saw earlier.

According to surveys carried out in March and June 1983, most of the families in the poorest population groups in the capital saw their consumption of all foods decline, with the exception of maize tortillas, and there was a clear substitution of animal proteins by vegetable.

Another survey carried out between January and August 1985 produced similar results but with a lower percentage of families with lower food consumption. The sharp increase in the per capita cost of the minimum diet as a percentage of the minimum wage was one of the main causes of this situation.

IV

The adjustment policies and the agricultural sector

1. *Economic and farming policies up to 1981*

As a general rule, the traditional model of economic policy tended to favour urban-industrial development through its policies on foreign trade, exchange rate and public spending, and to discriminate against agriculture, at least in constant terms.

a) *Foreign trade policy*

The effective protection was much less for agriculture and in some cases negative (although Mexico was not the most serious case among the majority of developing countries). The foreign trade policy pushed farm prices below international prices (with exports quotas) and the sector's profits were cut by the relatively higher prices of inputs and industrial capital goods.

b) *Exchange-rate policy*

The revaluation of the exchange rate hurt agriculture by cutting the relative prices of its tradeable goods. This policy, together with industrial protection, accentuated the drop in farm profits by raising wages.

c) *Public expenditure policy*

Although considerable investment was made in irrigation infrastructure, most investment went into basic industries, urban infrastructure and external purchases for industrialization.

In short, rural producers subsidized urban consumers and farm exporters subsidized industrial importers of capital goods. But this situation was alleviated by specific compensatory policies.

Most of the support for the agricultural sector was provided by two instruments.

i) *Support prices.* This policy tended to push domestic prices above the international prices of the main imported goods but it had the opposite effect on certain export crops and on foodstuffs for the home market. But in general terms it did not sufficiently offset the effects of the overall economic policy: on average (25 products) domestic prices were lower than international prices in the 25 years between 1960 and 1985.

As part of this policy there was an important State presence in (internal and external) trade through the National Basic Commodity Corporation (CONASUPO).

ii) *Input subsidies.* The most important of these subsidies were the financial ones (such as foreign credit and insurance) and the subsidies for physical inputs (fertilizers, seeds, water and fuel). The government's action was important in both cases, but the result was increased support for the business sector (except for the great importance of subsidized lending for maize in 1973-1981).

Overall economic policy tended to discriminate increasingly against agriculture in the 1970s. However, the compensatory policies had the reverse bias of offsetting the previous effect, sometimes totally, with a high point in 1980 and 1981 during the implementation of the Mexican Food System (SAM), which fully corrected the deterioration in its terms of trade which agriculture had suffered since the 1960s, improving them almost to international levels.

2. *Economic and farming policies in 1982-1985*

The trends were reversed in this period (of adjustment): the anti-farming bias of overall economic policy was reduced (especially trade and exchange-rate policies) together with the compensatory role of the specific agricultural support policies.

a) *Foreign trade policy*

This policy changed with the liberalization of July 1985. There was extensive derestriction of imports for manufacturing and, indeed, of final goods competing with manufactures, but the liberalization was much less in the case of agriculture.

b) *Exchange-rate policy*

It was not to be that the enormous devaluation of the real exchange rate should be passed on to the benefit of agriculture's relative prices, for economic policy was used to reduce the ratio of domestic to external prices (and moreover the relative international prices of the main products of Mexican agriculture fell between 1981 and 1985). But this did not mean lower profits for the agricultural sector despite the worsening of its terms of trade in the period, because the large drop in real salaries offset that effect, and there was an increase in the proportion of operating surplus in agricultural output (although it is clear that this increase was limited to the agribusiness sector).

c) *Public spending policy*

The policy of reducing the public deficit and public spending had a greater impact on expenditure on the agricultural sector than on total public expenditure. The same is true of public investment in the sector in relation to the average decline in total public investment. This was certainly one of the reasons for the stagnation of the area sown between 1981 and 1985 and for the slow growth of the irrigated area.

The effects of the compensatory support policies were reversed at the same time. The most important change was the partial abandonment of the SAM farming and food policies.

d) *Prices and marketing policies*

The ratio of internal to external prices worsened considerably in 1982 and 1983 following the large devaluations, a deterioration determined by changes in support prices; the decline was reversed only partially in 1984 and 1985. This prices policy was used to contain inflationary pressures, but it is probable that the effects were also due to underestimation of future inflation. In any event, it altered the price ratios between crops: against peasant crops (maize and beans) and in favour of oil crops, cotton and sorghum in the first years after 1981; a relative price structure similar to that of 1980-1981 was restored towards 1985.

The participation of CONASUPO in the marketing of basic products was sharply reduced in the crisis period: in 1982 33 products were marketed, but in 1986 only eight.

e) *Policies on credit and production subsidies*

The fiscal adjustment policy reduced subsidies in general, including the financial ones. The subsidies for the farming sector depended on the *level of the preferential rates* and the *volume* of lending to the sector. Interest rates for farm credit increased steadily from 1982 in nominal terms, as did the ratio of interest rates to the average percentage cost of attracting the resources, to the point that the financial subsidy implicit in the difference between these two rates disappeared in early 1986.

The volume of lending to the sector fell sharply in 1982 and 1983; it then recovered but by 1985 had not returned to the 1981 levels. The cutback was more severe than in the other production sectors, and seasonal agriculture was hit hardest. The most seriously affected crops were maize, beans and rice; wheat, sorghum and oil crops suffered much less and recorded real increases in their borrowing from Banrural in 1982-1985.

Only approximate trends can be indicated in the case of input subsidies for agricultural production: the overall index of the relative prices of these inputs showed a large rise between 1981 and 1985 (changing the 1970-1981 trend) and this contributed to the worsening of the sector's terms of trade. But input prices in particular moved very differently: it seems clear that the adverse effects on the profitability of farm production were concentrated in the most technologically advanced segment.

3. *The global impact of the policies on agriculture*

Two periods must be distinguished in the development of economic policy and its probable effects on agriculture. The impact of the real devaluations of the exchange rate in 1982-1983 was offset by the prices policies and there were also sharp cuts in public investment and real lending to the sector, and the main adjustments were the main in the prices of agricultural inputs. The slippage in relative farm prices was partly corrected in 1984-1985, the volume of credit improved (especially from Banrural in 1985) and public investment and expenditure were not subject to any further major reductions.

What were the probable effects of these developments in economic policy? In the first two years of the adjustment, both in the production slowdown in 1982 and in the recovery in 1983, the decisive factor was the performance of seasonal peasant crops (maize and beans), which were hit hard by the weather. Sorghum and rice were also seriously affected in 1982. Wheat (one of the main irrigated crops) and export crops, in contrast, performed anticyclically.

Farm output recovered with the good weather in 1984 and 1985, although it did not grow at the rates of 1983 or of 1980 and 1981. Wheat, soybeans, rice and sorghum (agribusiness crops) performed very strongly in this period, while maize and beans played a smaller part in the recovery.

The moderate growth of total farm output throughout the period 1982-1985 was due to the combined effect of the strength of the four crops mentioned above, the stagnation of maize and the decline of beans and export crops, except tomatoes.

The most dynamic output in the period thus belonged to agribusiness crops, profits from which were enhanced by the drop in real wages and, in the case of sorghum and rice, by the relative prices policy. The cutback in lending affected these crops less. Peasant crops did not benefit from the fall in real wages, and the effects of the devaluation were offset by the prices policy. In addition, they received very little financial support. Export crops (mainly agribusiness) were in an intermediate position. The positive effects of the devaluation and the drop in real wages were partially offset by the domestic prices policy or international price trends, depending on the case. The only exception was tomatoes, which clearly performed strongly in the period.

What was the sum of these effects of economic policy on agricultural output? It has already been pointed out that with respect to agriculture general economic policy moved, with the adjustment, into a transitional period characterized by a weakening of the anti-farming bias of overall economic policy and by a reduction of the compensatory role of the specific support policies for agriculture. Up to the present the results of this transition (and with the sole possible exception of what happened in 1985) have been clearly negative for maize and beans production, the peasant crops of greatest importance in total output and domestic food consumption; whereas the few "benefits" of the adjustment process —resulting from the drop in real wages and its effect on profits— were heavily concentrated in agribusiness producing wheat, oils and animal feeds.

The good performance of total agricultural output compared with the rest of the economy during the adjustment period was therefore determined by its great inelasticity to changes in aggregate demand, a feature which distinguished it from most other production sectors and meant that agricultural growth should be comparatively high in periods of recession and relatively low in periods of general economic expansion.

On the other hand, the changes in economic policy do not seem to have had positive effects on the recent performance of agriculture as a whole, for two reasons. Firstly, because the transition to a new model of economic policy was immediately preceded not by the traditional anti-farming scenario but nevertheless by a traditional scenario in which —owing to the predominance of the goals of food self-sufficiency— compensatory action and support for peasant agriculture perhaps reached their all-time highs in 1980 and 1981. The second reason was the priority given to the goals and methods of orthodox macroeconomic stabilization during the recent period. The subordination of support policies for the farming sector to those goals —exemplified in the management of the policies on price support, credit and public investment— had the result of offsetting the positive effect of the reduction of the anti-farming bias in overall economic policy.

V

Restrictions and determinants in agricultural development

The agricultural sector showed an improvement in late 1985 with the recovery of lending to agriculture by commercial and development banks and the rise in relative prices which encouraged maize and beans production, for all of this had the effect of improving the terms of trade.

Unlike other countries, in Mexico the structure of land ownership has not imposed restrictions on the sector's growth; the same is true of the potential usable area. The main problems lay elsewhere: for example, the limited introduction of technical inputs to increase output, for use of these inputs was concentrated in agribusiness. A new problem emerged with the economic crisis: the contraction of domestic demand which affected mainly industrial products. It is unlikely that any major change took place in export products, for the world market was determined by international prices and by the protectionist policies of the developed countries.

In view of the concentration of wealth, the contraction of domestic demand as a result of the drop in real wages, the links between agriculture and industry, and the consumption trends described above, the conclusion is that agriculture will possibly grow below its potential in the future as a result of the greater increase of livestock and therefore the increased use of farming land for livestock inputs.

VI

Agriculture in the context of global future economic developments

1. *Prospects*

At the beginning of 1986 the Mexican economy was hit hard by the fall in the prices of oil, its main export product, which exacerbated the recession which had begun in the second half of 1985. This development, combined with higher prices and public tariffs, lower subsidies and steady devaluation, led to faster inflation, to a level of about 100% as against the 60% of 1985.

This situation imposed very difficult conditions of recovery in the short term, for absorption of the impact of the oil crisis, in the absence of additional external financing or reduction of interest payments on the foreign debt, entailed very high economic and social costs.

Studies of this situation show, according to various assumptions about economic policy, that the production capacity, the per capita product and real wages will reach in 1990 levels similar to those of 1985. With a low investment rate and rapid growth of the labour force, the unemployment rate will tend to rise for the rest of the decade.

2. *Contributions of agriculture to economic recovery*

The role which agriculture might play in overall economic development is in the generation of foreign exchange and increase of rural incomes, on the basis of the following assumptions and projections:

— A cultivated area of 29.2 million ha by 1995, of which nine million are irrigated and 20.2 million seasonal;

— Average annual improvement of 1.9% in per hectare yields;

— Domestic consumption of farm products based on the following assumptions:

a) The GDP and real national income grow at an annual rate of 3% between 1986 and 1990 and 4% between 1990 and 1995;

b) Population growth of 1.8% between 1985 and 1990 and 1.6% between 1990 and 1995;

c) The elasticity of the per capita consumption of farm products with respect to per capita income is 0.68 (average elasticity in the period 1966-1979);

— Relative prices, both internal and external, of farm products remain constant at the 1985 level.

On these assumptions, a favourable farm trade balance of US$1 200 million at 1985 prices is projected for 1990 and almost double this amount for 1995. The growth rate of per capita rural incomes might be between 5% and 6% during the decade, improving the living standards of the rural population.

Mention must be made of the important role that the agro-industrial sector can play in determining the standard of living of the rural sector, in improving the diet of the whole population and in easing the external restrictions, both through increased production and, above all, through the local integration of the agro-industrial production chain.