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The Mexican oil syndrome: current vulnerability and longer-term viability

Dr Robert E. Looney

MEXICO'S OIL discoveries in the mid-1970s, together with expanded production levels of hydrocarbons, have and will continue to have several important impacts on the country. First, they have provided the Mexican authorities with the means of fundamentally changing the status quo between itself and the United States. Secondly, although Mexico's economic power was suddenly increased, its vulnerability was similarly increased as the government failed to develop any type of contingency plan in anticipation of oil revenue shortfalls. And thirdly, the interdependence between the government, the private sector and various groups within the country grew as the government developed an accelerated growth strategy in collaboration with the private sector.

A purview of the main guidelines for oil policy before 1978 reveals them to be reasonable, if imprecise. Broadly speaking,¹ oil was considered a key to development — an element that would make dynamic economic growth possible. It was thought that oil's main contribution would be to eliminate, or at least reduce, the effects of two factors that had restricted the economy's growth capacity in the past. The first was the balance of payments in which Mexico had traditionally experienced a current account deficit, while the second was public sector savings and spending constraints. Income obtained from production and exports was to be properly used in accordance with national development priorities. This placed implicit, yet clear, restrictions on oil exports — that the volume of generated exports should not outstrip the country's capacity to absorb foreign currency earnings from the sector.²

In order to improve living standards and generate employment for the growing population, this strategy was dramatically altered in 1978 with expansionary policies which relied on rapidly rising oil revenues, high public and private expenditures and an accumulation of external debt. Unfortunately, these measures, while succeeding in increasing the real per capita income by almost 25 per cent from 1978 to 1981 and substantially reducing employment in the economy, were, as recent events have shown, highly vulnerable to any drop in oil revenues.

Dr Looney is Associate Professor at the Naval Postgraduate School, Monterey, California, US.

The strategy adopted after 1978 eventually led to the so-called "oil syndrome",³ characterized in part by: (1) rapid but unbalanced growth, led by the OCC sector and accompanied by the development of several bottlenecks; (2) accelerated inflation, generated by excess demand liquidity in the presence of deficient supply; (3) rapid capital-intensive investment in the industrial sector; (4) the enlargement of the role of government, mainly via infrastructural investment and an expanded welfare and subsidy system; and (5), an over-valued exchange rate leading to the stagnation of non-oil exports.

More precisely, while the country's ambitious growth policy resulted in average real income growth of 8.2 per cent between 1978 and 1981, the long-term growth capacity of the economy was only approximately six per cent. The result, as expected, was increased inflation. With an apparent unwillingness to reform the tax system, budget deficits had reached 16 per cent of gross domestic product (up from the historical average of 4–5 per cent) by 1982. In addition, the authorities maintained a fixed exchange rate for most of the 1977–81 period, in spite of inflation rates of 20–30 per cent. As a result of the over-valued exchange rate, non-oil exports stagnated.⁴

The country's 1982 economic crisis can also be traced to external factors. Primary among the most recent external causes was a weakening of the world market for oil and higher international interest rates. Oil exports amounted to only \$14 billion in 1981, instead of the \$20 billion anticipated by the government. Furthermore, increasing world interest rates, combined with rising debt, drove the interest burden from \$5.4 billion in 1980 to \$8.2 billion in 1981.

After three major devaluations (the peso fell from around 26 per dollar in early 1982 to 160/\$ by the end of the year) and several half-hearted self-imposed stabilization efforts, the government finally agreed in late 1982 to a fairly severe International Monetary Fund Stabilization Programme for 1983–85, over which time the country committed itself to reducing government deficits from 16 per cent of GNP to around 3.5 per cent.⁵

In early 1983, lacking the financial resources needed to make interest payments let alone principal payments on the debt, the Mexican government negotiated a rescheduling of debt service, in order to avoid defaulting. Mexico was thus able to avoid a financial crisis in the short term, but whether or not that crisis can be resolved in the long term depends upon one's perception of its sources.

In one view, the financial crisis reflects worldwide recession and a deterioration in the world market for petroleum. According to this view, the crisis is seen as a temporary aberration in an otherwise healthy economy, and the resolution of the crisis requires modifications to Mexico's energy policy.

Once world petroleum markets recover, the assumption is that Mexico will be able to generate the revenues needed to finance the external debt.⁶

A different view contends that the 1981/82 financial crisis under Lopez Portillo was the sequel to a similar crisis in 1976 during the last year of the Echevarria administration. According to this view, these financial crises are not temporary aberrations, but rather the culmination of monetary and fiscal policies pursued by both of these administrations over many years — policies that will continue to dictate the options open to the Mexican government in the foreseeable future. The resolution of the financial crises in the long term will come not from modifications in energy policies or recovery in world petroleum markets, but rather from monetary and fiscal policies designed to achieve stable growth in the Mexican economy.⁷

While not disagreeing with this latter position, this study takes a different view of Mexico's current economic problems and future prospects. It is argued below that a number of longer-run structural problems inherent in the government's oil-based development strategy may be more instrumental in affecting its overall success than likely future monetary/fiscal policies.

The purpose of this article is, therefore, to look somewhat beyond the present crisis,⁸ in order to assess the validity, and the likelihood of success, of the country's oil-based development strategy.

Alternative development strategies

Several possible alternative strategies were both logical and feasible for the government to implement in 1978:

1. A rapid increase in the production of crude oil.
2. Expanded crude oil production, but based largely on domestic needs.
3. A policy of diversified industrialization.
4. A policy mix consisting of moderate industrialization and the development of service sectors — government employment.
5. A high growth strategy of petroleum-based industrialization, combined with high and steady levels of oil exports.

Each of these strategies had certain advantages and disadvantages.² Clearly, the strategy of expanding the production and export of crude would have increased revenues, but at the same time it would also have increased

the country's external vulnerability and risked increasing internal friction between the government and various conservationist-nationalistic groups. Likewise, a stabilization of output levels for domestic needs and supplemental foreign exchange earnings would have minimized dislocations and inflationary pressures, but would not have permitted the government to address the country's growing unemployment problem.

Ultimately, the country adopted a strategy embodied in the Industrial Development Plan with its orientation towards some sort of viable interdependence between the US and Mexico, together with its implicit compromise between nationalistic and high growth-oriented domestic groups — viable interdependence, whereby the domestic investment of oil revenues in heavy industries (made possible by high levels of exports) was seen as the best means of achieving some sort of balance between efficiency and vulnerability. Through government investment of oil revenues, the authorities sought structural change capable of:

- (1) Increasing the ability of the country to utilize more of its oil and gas resources domestically (so that the country's dependence on hydrocarbon exports could be curtailed).
- (2) Increasing the country's ability to produce and trade products derived from hydrocarbons.
- (3) Enabling the country to trade and bargain on relatively equal technological and economic grounds.
- (4) Making the country less vulnerable to the effects of severe market fluctuations or sudden changes in the politics and trade policies of the US and other developed countries.

The arguments advanced by the government for placing hydrocarbon exports at the centre of its development strategy were many and varied:⁹

1. There was a large increase in proven hydrocarbon reserves disclosed from the early months of the Lopez Portillo administration onward.
2. Petroleos Mexicanos (PEMEX) employed the largest workforce in Mexico, and expansion of the company would generate further jobs, both in the oil industry itself and in other branches of the economy.

3. The apparent absence of near-term close hydrocarbon substitutes might lead to a drop in oil consumption on the international market (inelastic demand). For this reason, it was thought in Mexico that there was nothing to stop the national oil company from becoming an important world market supplier. The only obstacles with which PEMEX might have to contend (technology and finance) were overcome through long experience as an independent enterprise and the company's easy access to loans, since it possessed long-term resources with which to make repayments.
4. There was security inherent in the knowledge that hydrocarbon resources were controlled by Mexican personnel and know-how (PEMEX was the first oil industry of the Third World to be nationalized). Therefore, it seemed feasible to rationally plan the exploitation and disposition of oil, in keeping with the overall objectives of national development, and it was possible to prevent the situation arising, as it did in the case of durable consumer goods, whereby expansion of the industry was undertaken in accordance with the interests of foreign firms or investors.
5. It was possible to keep the price elasticity of demand for hydrocarbons low over a prolonged period, thereby ensuring relatively broader profit margins in international sales than other products exported by Mexico.
6. The short-term viability of oil contributed to the solution of the long-standing problems to which the Mexican economy had been subject and reduced the social pressures to which these gave rise.

It was furthermore agreed that higher income and employment levels of the labour force should be made basic objectives of economic development in Mexico. Theoretically, these objectives are complementary: a national increase in income implies an increase in levels of employment. The strategy implemented to achieve this end was an attempt to influence national expenditure decisions in certain areas, such as personal consumption, private investment, government expenditure and foreign trade.

Oil, therefore, initially offered the possibility of attacking existing economic problems on the dual fronts of foreign indebtedness and public

expenditure. The major state expenditures required to strengthen the productive capacity of PEMEX had the advantage of producing ample returns, giving results in a relatively short time through hydrocarbon exports. Subsequently, the multiplier effect of government expenditure and the security of having available plentiful supplies of resources of high international value, together with certain major measures of economic policy, among them the freezing of domestic energy prices, allowed the two remaining components, namely personal consumption and private investment, to be given new momentum.¹⁰ Unfortunately, the overall increase in the components of total gross expenditure produced the demand pressures leading up to the 1981/82 crisis.

Two characteristics¹¹ of the oil industry in Mexico are important in understanding its role during the years of expansion (1978–81), the crisis (1982) and the subsequent adjustment period (1983+). Since oil in Mexico is state-owned, the increases in both internal and external sales of oil-related products constituted an increasingly important source of revenue to the government. Also, the transfers of such revenues to the rest of the economy had to be undertaken through budgetary measures. On the other hand, since oil is an export good, the transformation of oil into other goods or assets had to take place through the importation of goods and securities.

One would expect that the additional resources that accrued to the government would have resulted in a relative increase in the size of the public sector commensurate with the growing importance of the petroleum sector in the economy. Also, greater oil exports imply an opening of the economy (measured by the relative increase of the foreign sector). But, in an attempt to speed up economic growth and modernize the economy, the government embarked upon vast expansions not only of the oil sector but also of other key areas of the industrial sector where private investment was considered insufficient. As a result, the government's role in the economy, as measured by the magnitude of public expenditure, was expanded far beyond the relative increase of the petroleum sector.

Potential development problems

As a result of the high-growth, oil-based development strategy pursued after 1977, it was apparent by as early as 1981 that:

1. The country was becoming increasingly dependent upon oil exports and upon the impact of these oil revenues on the domestic economy.
2. The strategy was largely a resource-based, capital-intensive process of industrialization, with agriculture playing a largely

passive role in maintaining a structural balance, and the non-economic one of ensuring some level of food self-reliance.

3. The strategy required careful pre-planning and identification of profitable investments (particularly since the break with past patterns of growth had been so radical).
4. The strategy had been deficient in assessing realistically the manpower and education requirements of such industries.
5. Little attention had been given to the identification of operational means of shifting from essentially an import substitution development strategy to one more viable in terms of the country's comparative advantage.

These difficulties were identified by the authorities and to a certain extent addressed in the "National Development Plan 1983–88" which was released in mid-1983. The plan emphasizes the need to substantially increase non-petroleum exports and to correct financial disequilibria, especially the difficult financial situation of private firms and the fiscal deficit of the public sector, and cites the first of these as a prime obstacle to economic recovery and the second as an instrument for establishing price stability. The plan also stresses the need to increase domestic savings (due to limitations on securing additional external financial resources). Finally, as regards the increasing problems of unemployment and underemployment, the plan recognizes that they can only be solved through a shift to more labour-intensive activities. Thus the agricultural sector, in particular, is to be favoured by integrated rural development programmes and improvements in the terms of trade of that sector with the rest of the Mexican economy.

In addition, the de la Madrid administration has shown¹² that it is capable of restricting spending, imports and foreign currency sales. The fiscal deficit dropped from 17.6 per cent of GDP to 8.6 per cent between 1982 and 1983. It fell further in 1984, although not to the 5.5 per cent target set in the agreement with the IMF, or even to the modified goal that the Mexican government allowed itself in the 1984 budget. According to official figures, worked out with the IMF using a new accounting method, the 1984 deficit was 6.2 per cent of GDP. If the oil accounting method is used, a figure of well above seven per cent may be estimated. Imports and foreign currency sales were also severely restricted, in order to conserve the foreign exchange needed for restoring depleted central bank reserves and for maintaining debt service payments. In addition, the value added tax was increased for revenue purposes.

Mexico bore a 5.8 per cent drop in real GDP equivalent to about 11 per cent in per capita terms, during 1982 and 1983. Inflation peaked at 98.8 per cent in 1982 and slid back to 80 per cent in 1983. The trade deficit of \$4.5 billion in 1981 became a surplus of \$6.8 billion in 1982 — a surplus which grew to \$13.7 billion in 1983.

By mid-1984, an innovative debt-restructuring package had been finalized and an agreement with the foreign bank steering committee achieved in August. This arrangement spread the renegotiated portion of the public sector's debt — \$48.7 billion — over 14 years, and reduced the capital amortization payments on the whole government debt by over \$35 billion for the rest of the de la Madrid presidency (1983 — 88).

From the outset, 1984 was viewed as the year when the transition from emergency measures to stable growth policies would have to occur. After demonstrating in 1983 that it could apply with clarity and efficiency the difficult policies over which it had no choice, the government in 1984 had to show its ability to make choices about the shape of the post-crisis period. It had to decide where and how much to spend, rather than what to cut.

The 1981 — 82 crisis and aftermath demonstrated that sustainable long-term recovery and a pattern of steady growth can no longer be sustained on the basis of foreign borrowing and oil income. As the presidential announcements of the first quarter of 1985 stressed, a recovery that simultaneously allows for the improvement of the foreign payments position and for adequate employment growth must be based on exports, related investment and improved consumer demand, the latter only feasible if inflation is reduced and purchasing power improved.

Unfortunately, the policies of the last quarter of 1984 involved high government expenditure and money supply growth, which, if continued, could keep inflation high and irregular, thereby discouraging investment and making necessary a continuous slippage of the peso at a quick pace. Exports might still prosper in response to a competitive exchange rate, but, as in Brazil, a scenario of healthy exports and raging inflation could develop.

The government has shown in three ways that it does not wish this to happen:

1. It has announced a new package of cutbacks in spending and the intention of improving its accounts by selling some para-state enterprises.
2. Measures have been introduced to combat excess monetary liquidity. In addition, a new Banco de Mexico law placing a fixed upper limit on the government's credit from it was put into place.

3. A new set of export promotion policies was announced in April 1985.

All of these measures, if successfully implemented, could work together to move the structure of the economy in the right direction:

1. Exports could become a greater part of productive activity.
2. The government's spending could be more tightly controlled and consistent with inflation goals.
3. Inefficient public sector enterprises could be eliminated or improved.

The latest IMF accord, the third and last required under the original three-year extended fund facility negotiated in 1982, introduces new elements in recognition of the vital necessity of fundamentally improving Mexico's trade situation. Instead of just dealing with financial and final policy targets, this year's letter of intent specifies that the protection of the Mexican economy from foreign competition is to be reduced, and the "anti-export bias" to be diminished:

1. The replacement of the current import permit regime with one of tariffs is to be the main instrument of trade policy.
2. The placement of tariffs on 35 — 45 per cent of imported goods, goods which previously required permits, is foreseen at the end of 1985.
3. The liberalization of imports is intended to involve product categories which are domestically produced, as well as those which are not available in the domestic market.

The clear goal of this set of policies is to force domestic producers into improving their production methods enough to be able to compete on the world market. The previous system of import permits often had the same effect as that of extremely high tariffs — it prevented any foreign goods from entering the country, thus allowing the domestic producers of similar goods to have a form of monopoly on the local market. These local manufacturers often produced inefficiently, charged high prices and still maintained a profitable business. Under such protective policies, they would never have

learned to export because their production methods would have tended to fall, with the passage of time, further and further behind world standards.

There are several additional structural problems that are potentially serious enough to warrant government action. It is difficult to prioritize these problems in terms of their relative importance for concern. A tentative list, however, includes: (1) US-Mexican frictions; (2) a worsening of the world food situation; and (3), a deterioration of income distribution.

Deterioration in these areas will most likely create problems which, if left unattended, could undermine the country's whole development effort.

US-Mexican frictions

US energy difficulties have more or less coincided with: (1) the large oil discoveries in Mexico; (2) sharply rising Mexican exports of other products, e.g. agricultural items to the US; and (3), an awareness that approximately six million Mexicans are living in the US, many of them illegally.

It is clear, in the light of (2) and (3) above, that the scope for Mexican discretionary action in oil production and export rates is rather limited, particularly in terms of the recent fall in oil prices. Estimates are that it will take increases in crude oil production rates of at least ten per cent per annum through the 1980s and into the 1990s if Mexico is to create a sufficient number of jobs to reduce and eventually eliminate the need for Mexicans to migrate to the US in search of work.

Mutual interest over the long term is thus likely to bring an increase in pragmatism in Mexican/US relations, with an eventual reduction in dogmatism on the Mexican side, though this will presumably be provided by the politicians as long as their domestic audiences require it.

Present Mexican policy appears committed to maintaining existing Mexican markets in the US and opening up new ones. Faced with the benefits of this increased exchange in terms of industrial and agricultural employment, any future Mexican government would have to consider carefully the implications of embarking on policies which might prove damaging to US interests.

As oil wealth brings average Mexican income levels closer to those of the US, pressures to migrate from Mexico to the US should lessen. By that time, the Mexican-American community in the US will have become a much larger, wealthier, more respected and more permanent feature of US life. These tendencies cannot but more closely link the two countries and increase their mutual interests.

But, despite movements towards a closer identity of interests, it would be erroneous for Americans to believe that increased wealth will make the

Mexicans more "reasonable". They will continue to wish to preserve and develop their own very distinct traditions and institutions, many of which they consider superior to those of the US.

Worsening of the world food situation

The world food situation is likely to continue to deteriorate over the next 20 years as population pressures begin to make themselves felt and the amount of usable land per capita declines.¹³ While existing technology should be able to offset this trend, the inability of many developing countries to implement productivity increases (largely because of political reasons) will mean lagging output. The result will be increases in scarcity whereby food, even if available, will sell for much higher prices, causing Mexico's balance of payments to deteriorate drastically.

Agriculture is surely the weak link in any chain of integrated development policies in Mexico. The Industrial Development Plan itself pointed out that a doubling of public investment in the sector between 1977 and 1982 will barely arrest the decline in agricultural output, and if that output grew no faster than the three per cent minimum rate projected in the plan, food imports would require 21 per cent of petroleum export revenues in 1983 and 54 per cent in 1990.¹⁴

The problem is not that Mexican agriculture has stopped growing, but that the rate of growth has moderated. From the mid-1940s through the mid-1950s, production grew at a phenomenal rate as new land was brought under cultivation, more terrain irrigated and improved technologies adopted. Since 1965, output has barely been able to keep up with the growth of population.

Demand has been growing at an even faster pace than the population. Real income growth and the shift from a rural to an urban society also contributed to the growth in food consumption per capita.

Between 1930 and 1960, the population of Mexico doubled. It took only 20 years for it to double again, reaching almost 70 million people in 1980. Projections for the year 2000 place the population at a minimum of 105 million people. This means that, between 1980 and 2000, agricultural output must grow by over two per cent yearly just to maintain per capita income.¹⁵

While real per capita income has grown, however, food prices have been held down artificially. The minimum wage has grown faster than the cost of food. Between 1960 and 1980, overall food costs grew only half as fast as the minimum wage. In other words, the income effect on top of depressed food prices pushed up demand even faster than would normally have been expected. Since 1982, however, the fall in real per capita income and a slowdown in the growth of subsidies has resulted in a deterioration in the quality of food consumption.

Moderate production, in the face of dynamic growth demand, has meant that increasingly Mexico, as noted above, has had to purchase key items of food on the world market to satisfy its needs.

It can be argued that Mexico, up until the Mexican Food System (Sistema Alimentario Mexicano or SAM) was announced in 1980, did not have a coherent food or agriculture policy. Public debate has historically centred around land tenure and reform, not food production.

SAM was an attempt to link food consumption and production within a broad conceptual policy framework. It proposed to correct past mistakes by redirecting investment and expenditure back to the countryside. Consumption was to be subsidized and reoriented, while production was to be redirected towards national self-sufficiency and basic goods through higher prices and extensive subsidies.

Although food output did grow, in terms of its stated goal, SAM was less than a complete success (including the question of whether or not the goals — especially that of self-sufficiency — were realistic). Among the more important reasons for the lack of success was the fact that SAM did not take shape until practically the end of the Lopez Portillo administration. Agricultural change is a long-term phenomenon. To expect important structural changes to take place in less than two years is wishful thinking. Also, the implementation which deviated from the original programme was based on massive subsidies. With the economic crisis of 1982, SAM, as well as many other programmes, was dropped for fiscal reasons.

The deadline for the major Mexican goal — food self-sufficiency by 1985 (set by former President Jose Lopez Portillo under the SAM programme) — will not be met, nor even closely approached. The food industry is seriously affected by problems: scarcity of products, the irregular rise of prices and subsidies, and questions of how to advertise nutritional value and how to finance development.

Given the present situation, the state has proposed, as its goal of a minimum food industry, growth through 1988 parallel to that of the population. This would mean an average annual growth level of 2.5 per cent, which thus would sustain the present per capita consumption. Achievement of this goal is not easy, however, because of the series of problems which hinder overall development in this sector:

1. Lack of stimuli for private investment.
2. High interest rates and credit restrictions.
3. Little capital goods importation due to lack of foreign currency.

4. Landholding irregularities.

5. Untimely price revision policies.

As such, the issues facing the food industry consist of problems which have no easy solution, will take time, and unfortunately are very much affected by Mexico's current economic crisis and its burgeoning population. The agriculture industry's problems of food production, price controls, industrial development, land holdings and financing are all challenges from which the Mexican government cannot turn away and which it will have to continually address.

The dilemma facing policy-makers is that, with over 60 per cent of the population in the cities, the government is and must be concerned about the availability and costs of food for the urban dweller. The National Food Programme (PRONAL) is basically a consumption-oriented plan. Among its objectives is the pursuit of "food and nutritional sovereignty" so as to permit the "full development of the abilities and potential of every Mexican". Within the overall framework of reduced subsidies, the government nevertheless maintains that selective food subsidies are imperative. Additionally, it projects a greater role for CONASUPO (the Federal Consumer Goods Agency) in processed food production and the continuation of imports by this organization, in order to guarantee the supply of food to the Mexican people.

More than any other factor, the policy towards agriculture has been shaped by the general budgetary restrictions that have characterized the first years of the de la Madrid administration. While agriculture-related expenditure increased as a proportion of total spending in real terms, it fell in 1983 and was expected to grow in 1984. Subsidies have been reduced and, although prices have increased, they are still depressed relative to the costs of agricultural inputs. There has been a slowdown in infrastructural growth, with an accompanying emphasis on small-scale irrigation schemes in place of larger projects.

The current emphasis is on integrated rural development. Increases in output alone are not seen as sufficient to solve the problem of rural poverty or to slow the stream of migrants to the cities. A large proportion of the budget going to the countryside is directed towards programmes designed to improve rural living standards, in such areas as health, housing, education and employment generation.

Despite the encouraging directions of these changes, considerable organizational difficulties are developing, not the least of which is corruption at the local level and a mistrust of administrators of the programmes by the

traditional farming community. Despite these reservations, a significant increase in the resources reaching the farmers is to be expected and, with this, corresponding increases in output and productivity should come, if not by the target dates, at least by 1990.

Deterioration in income distribution

There is evidence that, in Mexico (as in many other developing countries), rapid growth is resulting in a worsening of the already highly unequal distribution of income.¹⁶ Unless action is taken soon, the deterioration may become even more severe in the 1980s.

In a major study of income distribution in Mexico, Nugent and Tarawenh¹⁷ found that, between 1950 and 1970, poverty was halved. Whereas, in 1950, it would have taken 14.6 per cent of the income of the non-poor to eliminate poverty, by 1970 it would have only required 7.1 per cent of their income.

Clearly, however, since the population has grown by about three per cent per year and the size of the non-poor's per capita income has increased substantially, the magnitude of the problem has certainly not diminished. Indeed, Nugent and Tarawenh's findings indicate that poverty could have been reduced much more had it not been for an unfortunate and rather general tendency for inequality in the distribution of income to increase. By their calculations, the overall Gini coefficient of income inequality among Mexico's economically active population increased by 0.174.

While a portion of this increase may be attributed to the typical pattern of growing income differentials between agriculture and non-agriculture and between the poorest and the richest states, the bulk of the increase would seem to be attributable to increases in inequality within individual states and sectors, and especially within agriculture.

In view of the considerable emphasis that is given to inter-sectoral adjustment programmes in achieving reduced income inequality, the rather massive extent to which rural-urban migration has taken place in Mexico, and the considerable amount of land that has been transferred from large private landholders to ejidal tenure, a process that would be presumed to decrease inequality in the size of distribution of landholdings over time, Nugent's and Tarawenh's findings are quite startling.

Furthermore, while changes in relative income shares between 1950 and 1970 tended to reduce both overall inequality and poverty, Nugent and Tarawenh found that population shares by themselves tended to increase income inequality and to reduce poverty much less than would have been expected (given the traditional view that migrants would be the marginal people who would bring with them their marginal products and thereby help

to reduce existing dualism and inequality). Thus, rural-urban migration may not on balance be the equilibrium mechanism that the economics literature has deemed it. Rather, migrants may be the infra-marginal persons who are among the more educated and healthier members of the rural population, whose departure leaves the rural sector less capitalized and more marginal than it was before and the urban sector even better endowed than it would have been without them.

Finally, Nugent and Tarawenh's results suggest that, despite massive rural/urban migration in Mexico, poverty is increasingly a rural phenomenon and inequality has grown the most in agriculture, and especially in the lower income states. Therefore, clues to the resilience of poverty and increasing income inequality in the face of rapid economic growth and considerable land reform must be sought within the agricultural sector itself and especially in the poorest states of the country.

In sum, the main problems preventing a better distribution of wealth appear to be the inability of the rural sector to generate sufficient wealth for its population. The excessive concentration of the population in the largest cities, making it difficult to provide adequate levels of services and to satisfy aspirations, particularly of the lowest-earning categories, may also be a major factor contributing to the country's income distributional problems.

Whether these shortcomings are likely to be solved by the implementation of the government's policy in relation to urban and industrial development (which aims at spreading growth more evenly around the country) is certainly problematical. Other moves, such as the Mexican Food System and the intention to provide a higher proportion of agricultural workers with regular wages appear more promising, at least in the near term.

There is no reason why a conflict between equity and efficiency¹⁸ has to arise in Mexico, even though, in its eagerness to promote growth, the government has, until recently, tended to allocate oil revenues to capital-intensive industrial development capable of creating (at least directly) only a limited number of jobs. These investments have prevailed at the expense of more potentially labour-intensive investments located in the more populous areas. While it is clear that it is highly inefficient to completely counter the forces of economic efficiency solely on the basis of social efficiency criteria, it is clear in the light of the Iranian experience that a balance must soon be struck on both human and political grounds so as to prevent a disruption of Mexico's social fabric.

Income distributional considerations translate themselves into the setting of targets to minimize the urban/rural income gap and the achievement of better inter-regional balances. Investments along these lines can be easily justified, given the potential social strains associated with the country's

present strategy. This conclusion holds, even though the resulting investment pattern might reduce the country's overall economic growth potential.

Despite the fact that the government has long been concerned with the country's income distributional patterns, the authorities have never undertaken a comprehensive income distributional set of policies. The Mexican government made many economic policy statements during the spring and summer of 1984¹⁹ that provided clues as to the current administration's policy towards income distribution. The three documents that proposed to clarify or set the government's economic policy and measures relating to income distribution are: the National Development Financing Programme, or PRONAFIDE, issued on 4 June 1984; the National Industrial Promotion and Foreign Trade Programme, or PRONAFICE, released on 30 July 1984; and the president's Informe. PRONAFIDE is intended to outline financial policy while the stated aim of PRONAFICE is "a more egalitarian society", which the government hopes to achieve through a strategy of self-sufficient and sustainable economic growth.

PRONAFICE identifies industrial sectors that have not contributed strongly to exports in the past, or that have had negative trade balances, and posits a design for an industrial structure that would be more efficient, better able to compete in international markets, and less dependent on imported inputs and products.

Other aspects of industrial development dealt with by PRONAFICE are technological development, territorial decentralization, national entrepreneurship and employment promotion. In each case, business decisions in accordance with the design of the programme will receive encouragement typically through tax breaks and similar fiscal measures, but possibly through selective financing and trade permits as well.

With direct regard to income distribution, a large section of PRONAFICE deals with price policy and foreign investment. According to the programme, the former is intended to protect the purchasing power of wages, stimulate the prosecution of basic goods and generate adequate profit ratios, while avoiding inflation and speculative practices (such as hoarding).

PRONAFICE requires a set of industrial incentives for its implementation. Such incentives will most likely fall into two categories — preferential financing and fiscal benefits. The selective granting of credit will be handled by the banking system through adherence to a government-set proportional division of loan portfolios. The total amount of credit available, though, will continue to respond to interest rate policy, economic growth and other macro-economic variables, not to industrial policy. While fiscal incentives can also be designed for specific purposes, their total value is limited by budgetary considerations. As long as the Mexican government adheres to a

policy of fiscal austerity (due both to agreements with the IMF and foreign bankers, and to a desire to reduce inflation as well as the public sector's demands on domestic credit availability), the total reduction in tax revenue allowable for incentive purposes will be strictly limited.

Apart from the constraints on the absolute amount of resources that may be used for incentive purposes, there is also a problem of too many objectives for two policy tools to accomplish. Location, research, employment training and exports cannot all be directed with only the preferential granting of credit and tax savings. Also, as the PRONAFICE document itself points out, the government will not prohibit companies from making independent choices of action in these matters — it can only offer “rewards” for those which fit in with a policy aim.

In sum, the overall ability of the current administration to deal with the country's income distribution problem suffers not from a conceptual identification of the main sources of income inequality, but rather from the fiscal limitations on implementing a broad-based attack on inequality. The same conclusion applies to the government's distributional programmes geared directly towards agriculture and the rural sector.

Goreoux and Manne²⁰ have identified the slow growth of demand (domestic and export) as a serious constraint to agricultural growth contributing to low rural incomes and adverse changes in the agricultural terms of trade. Rural incomes could be increased by higher support prices, administered by Conasupo, at the cost of the welfare of the consumers and growing food stockpiles, unless Conasupo also subsidized domestic sales, which it does. Such funding, if not offset by tax revenues, would, however, contribute to inflation. Oil as a source of foreign exchange offers the option of subsidized imported food as a non-inflationary option, at the cost of increased income inequality.

Despite the serious problem of inequality in Mexico and the government's existing income and wealth patterns, the country is still somewhat fortunate in that, by developing at a later point in time, it can avoid many of the mistakes made by Iran.²¹ There is no question that a major lesson to be learned from Iran's development strategy is that, even though the level of income for most of the population may be increasing fairly rapidly, discontent is likely to arise if the gap between regions or urban/rural or even particular groups continues to widen. Adverse income distributional patterns of this sort ordinarily will not cause a problem if corrected fairly early. Increasing income disparity can, however, cause mass alienation, as in the case of Iran. This is most likely to occur during periods such as 1978–81, when expectations of future living standards were accelerating (because of the knowledge of, and the accumulation of, wealth in relatively few hands).

Given lower expectations as to future incomes on the part of most lower-income individuals, together with increased concern on the part of the government for equality, Mexico, while not dramatically improving its income distributional pattern, may still be able to avoid the civil stand-off that overcame Iran. As noted above, however, at least in the near term, the government will be greatly constrained by fiscal considerations in implementing a major attack on income inequality.

Conclusions

Based on the above considerations, recent trends in the economy, and the taking into account of the experience of other oil-exporting countries, it is likely therefore that:

1. Despite recent political difficulties with the US, Mexico will increase its crude oil and natural gas exports to this country as the most readily accessible market. The ease of making delivery and the high costs of processing gas and shipping oil to other markets will make contractual agreements mutually attractive, and balance of payments considerations will also encourage exports to the US. The Mexican government's desire to eliminate the vestiges of the 1982 crisis and the evident expansionist leadership of PEMEX reinforces a tendency to accelerate petroleum production, despite lingering efforts by some groups to return to a conservationist policy.
2. The basic challenge for the de la Madrid government is how to plan for the expansion and development necessary to relieve the other structural problems outlined above — the food situation and income distribution — while practising the austerity dictated by conventional monetary and fiscal policy. Further on down the road, these structural factors will increasingly hinder stable growth, unless they are directly addressed. As a corollary, the nation will also have to choose soon between a protectionist policy of maintaining high-cost industry and limiting imports or promoting more efficient enterprises that can effectively compete on world markets.
3. Unlike many other developing countries, Mexico is fortunate that it has exceptional resources with which to make these choices, provided that they can be marshalled with greater care.²²

As Guillermo Ortiz²³ notes: "The future task of the adjustment for the Mexican economy will be more related to micro-economic strategies — deciding on the most efficient allocation of public resources — than to macro-economic considerations. Even if the adjustment programme is successful from a macro-economic viewpoint, that is if inflation is controlled and balance of payments problems are avoided, this will not automatically produce economic growth. A stable macro-economic environment is a necessary but not sufficient condition for development."

Footnotes

1. As outlined in Gerardo M. Bueno, "Oil and development plans of the late seventies" in Miguel Wionczek and Ragaei Mallakh, eds., *Mexico's Energy Resources* (Boulder, CO: Westview Press, 1985), pp. 123–144.
2. *Ibid*, p. 123.
3. As first characterized and identified by Abel Beltran Del Rio in his "The Mexican oil syndrome: early symptoms, preventive efforts and prognosis", *The Quarterly Review of Economics and Business* (Summer 1981), pp. 115–130. The concept of viable interdependence in the context of international oil markets was first developed in Elias Toma, "Strategic resources and viable interdependence: the case of Middle Eastern oil", *Middle East Journal* (Summer 1979), pp. 269–289.
4. See, for example, Robert E. Looney and P.C. Frederiksen, "Prospects for economic stability in Mexico during the de la Madrid presidency", *Texas Business Review* (May-June 1983); William R. Cline, "Mexico's crisis, the world's peril", *Foreign Policy* (Winter/Spring 1983), pp. 107–119; and Basil Caplan, "Mexico, the world's new biggest borrower", *The Banker* (July 1982), pp. 33–44.
5. As outlined in IMF Survey (28 January 1983), pp. 1–2.
6. See, for example, A. Robinson, "The end of the illusion in Latin America", *Euromoney* (September 1982), p. 77; V. Asheshov, "The Mexican petrotrauma", *Institutional Investor* (November 1981), p. 72; *World Business*, "A vulnerable one-gap borrower", *The Banker* (July 1982), pp. 34–35.
7. Barry W. Poulson, "The Mexican financial crisis: an historical perspective", in Edgar Ortiz, ed., *Current Economic and Financial Issues of the North American and Caribbean Countries, 1983* (Mexico City: North American Economics and Finance Association, 1984).
8. Different perceptions of Mexico's economic prospects for the future are given in Chandra Hardy, "Mexico's development strategy for the 1980s", *World Development* (June 1982), pp. 501–512; Julio Lopez, "The Mexican economy: present situation, perspectives and alternatives", *World Development* (May 1983), pp. 455–465; and Roberto Gutierrez, "Mexican economic and oil policies of the 1970s and strategies for the 1980s", in Miguel Wionczek and Ragaei El Mallakh, op. cit., pp. 7–38.
9. Roberto Gutierrez, op. cit., pp. 13–14.

10. *Ibid.*, p. 15.
11. As outlined in Guillermo Ortiz, "Economic expansion, crisis and adjustment in Mexico (1977-83)", in Michael Connolly and John McDermott (eds.), *The Economies of the Caribbean Basin* (New York: Praeger Publishers), pp. 73-74.
12. Cf. *Business Mexico*, "Analyzing the 1955 Federal Budget - guidelines for a cautious year" (February 1985), pp. 32-49; *Business Mexico*, "Mexico's economy: a turning point in 1985?" (May 1985), pp. 5-31.
13. Radha Sinha, "The world food problem: consensus and conflict", *World Development* (May-June 1977), pp. 371-382.
14. Arthur Silvers and Pierre Crossin, "Rural development and urban-bound migration in Mexico" (Washington: Resources for the Future), pp. 53-54.
15. *Business Mexico*, "The challenge to Mexican agriculture and agribusiness" (August 1984), pp. 60-79.
16. As documented at length by the papers contained in Pedro Aspe and Paul Sigmund, "The political economy of income distribution in Mexico" (New York: Holmes and Meier Publishers, Inc., 1984). See in particular Pedro Aspe and Javier Beristain, "Toward a first estimate of the evolution of inequality in Mexico", pp. 31-58 in this volume.
17. Jeffrey Nugent and Faye Tarawneh, "The anatomy of changes in income distribution and poverty among Mexico's economically active population between 1950 and 1970", *The Journal of Developing Areas* (January 1983), pp. 197-226.
18. See Montek Ahluwalia and Hollis B. Chenery, "A model of distribution and growth", in H. Chenery, *Redistribution with Growth* (London: Oxford University Press, 1974), pp. 209-235, for a proof of this proposition.
19. Cf. *Business Mexico*, "The direction of Mexico's economic policy" (November 1984), pp. 58-67.
20. J.H. Duloy and R.D. Norton, "CHAC results: economic alternative for Mexican agriculture", in L.M. Gorcux and A.S. Manne, *Multilevel Planning: Case Studies in Mexico* (New York: North Holland, 1973).
21. Robert Looney, "Economic origins of the Iranian Revolution" (New York: Pergamon Press, 1982), Ch. 14.
22. Cf. James Street, "Prospect for Mexico's industrial development plan in the 1980s", *Texas Business Review* (May-June 1980), p. 129.
23. Guillermo Ortiz, *op. cit.*, p. 97.