Mexican Oil, Export-led Development and Agricultural Neglect

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Introduction

This paper is the outgrowth of a project to examine the role of oil in the development process and its effects upon food supplies and agriculture in Mexico. This conference has been taken as an opportunity to pursue a speculative line of analysis on the links between oil extraction, export-led development and agricultural neglect in the Mexican economy.¹

Mexico’s proven and probable oil and gas reserves are sufficient to meet domestic demand and generate a substantial export surplus for the critical next two decades of Mexican development. Mexico has access to virtually unlimited energy, and foreign exchange is limited only by the ability of the world market to absorb Mexican oil. The government is committed to extraction rates which prevent “financial digestion”, but the levels of extraction at which this occurs are themselves a function of the choice of development strategy.

The first section of this paper gives a brief history of Mexican oil. The second section discusses the links between trade and sustained growth and characterizes Mexico’s current strategy as an export-led “unbalanced” growth designed to shift Mexico’s comparative trade advantage toward manufactured exports while neglecting the agricultural sector as a source of domestic food or of domestic demand. The third section explores why the availability of oil based foreign exchange earnings biases the choice of development strategy toward export-led unbalanced growth and explores

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¹ For a different emphasis see Lanfranco (1980).
some of the problems this poses. The fourth section explores the implications of following an export-led development strategy which is heavily dependent upon imported food and concludes that, contrary to popular belief, the scope for external leverage based on Mexican food dependence is minor. Similar analysis comes to the same conclusion with respect to U.S. leverage based on illegal immigrant curbs. The paper concludes by drawing together some of the questions raised and policy implications suggested by analysis.

I. Mexico’s Oil

Oil has a long history in Mexico. In 1921 Mexico was the world’s third largest producer of oil. Production was controlled by British and U.S. companies who resorted to an endless list of tactics, including deception, intimidation, fraud and assassination, to consolidate their position over Mexican oil. Mexico benefited little, its oil products selling domestically at prices two to three times higher than they sold for outside the country. In 1938 a dispute over wages forced Cardenas to nationalize the oil companies. The depression and growing threat of World War II left the industrial countries in a weak position to retaliate. Oil equipment was no longer sold to Mexico and tanker fleets refused to ship Mexican oil which, when shipped, was occasionally confiscated in European ports. The U.S. imposed some economic sanctions but was restrained by U.S. mining interests not wishing to have their profitable Mexican interests threatened by a Mexican counter move. With the growing threat of World War II the U.S. anticipated the need for assured oil supplies and formally recognized the nationalization of oil. In the post-War period the western hemispheric search for exportable oil shifted to Venezuela.

The rapid rise in oil prices in the early 1970’s prompted Pemex, the Mexican State Oil Company, to accelerate exploration. In 1976 Mexico ranked 15th in the world as an oil producer, 18th in terms of proven reserves and was a minor export source. In 1980, four years later, Mexico ranked sixth in proven reserves and fifth in production. In addition to 50-60 billion barrels of proven reserves and 38 billion in probable reserves, Mexico has additional potential.

2 Rusell (1977) p. 43.
reserves of 250 billion barrels of oil and over 200 trillion cubic feet of natural gas.

In 1980 oil production of about 2.2 million barrels per day, or between .8 and .9 billion barrels a year, is a rate which gives Mexico proven reserves sufficient to meet domestic needs for 50 to 60 years. If Mexico were to grow at the 8% annual rate envisaged by the Secretariat of Planning and Budget in its 1980-82 Global Development Plan, which sees industry growing at 11% per year, Mexico would use current proven reserves in less than 25 years. In the unlikely event that oil exports were frozen at the 400 million barrel 1980 level, this figure would be extended by only several years.

There is strong reason to expect Mexican GDP to grow at less than the targeted 8% with its 10% and 13.5% figures for manufactures and capital goods. Even the modest 4% rate for agriculture is optimistic in light of the problems faced in that sector.

The effects of slower growth rates upon the rates of extraction of oil are difficult to predict for several reasons. First, to promote development and increase real income, and to curb inflation, oil and oil products are likely to be underpriced in the domestic market relative to world prices. This is the case at the moment. As a relatively cheap factor input oil will be used intensely in production, at the expense of labor and other factor inputs. Second, to the extent that growth rates do not achieve target levels, and as bottlenecks appear, oil exports will be used to finance imports to relieve the production bottlenecks and to satisfy consumer demand, especially in the area of food products. Third, unless objected to by Mexico's trading partners, there is always the temptation of deliberately underpricing oil inputs to export sectors as an indirect subsidy to promote exports. Of the developing countries poised on the edge of rapid industrial growth, only Mexico is a major oil producer.

Given the pressing needs of Mexico's poor, the Mexican government, either by commitment or from fear, is likely to find itself exploiting its oil resources at a much faster rate than it is considering at the moment. The risk of social unrest from failures in domestic

5 Calculated from current figures and compound growth rates.
policy, particularly in agriculture and the provision of basic consumer goods, can always be reduced by food and consumer goods imports financed from oil revenue. The effects of food imports may, as they did in Iran under the Shah, further retard progress in the agricultural sector.\(^6\)

As already suggested, the U.S. has a major interest in Mexican oil. There is little reason to expect the political difficulties in the middle-east and Persian/Arab Gulf to be settled quickly and Mexico is seen as a near and secure source of oil to bridge the period between the present and future increased energy self-sufficiency. Mexico has already experienced problems over oil and gas with the U.S. In 1977 the U.S. government blocked a natural gas agreement between Pemex and several U.S. natural gas companies. The U.S. argued that the motive was to increase domestic self-reliance. Evidence suggests that the move was the outcome of a U.S. domestic struggle over the regulated wellhead price of U.S. natural gas. Mexico’s proximity and level of reserves will necessarily cause Mexican oil and gas to be an element in U.S. domestic energy strategies and politics independent of Mexico’s wishes. Aware of this, and mindful of the need to secure outlets for its manufactures, Mexico has embarked upon a program of diversifying its customers for oil. This may provide Mexico with some oil leverage for securing trade concessions on manufactures, but it is unlikely to be a factor in regulating oil exports to the U.S. economy.

U.S. interest in Mexican production levels is already evident. In the latter half of the 1970’s Mexico set a target of 2.25 million barrels per day for 1983. By 1979 production was just under 2 million barrels per day. Early in 1980 President Lopez Portillo urged oil workers to aim at production of between 2.5 and 2.7 million barrels per day. By mid-1980 capacity bottlenecks in the Mexican economy and continued slack in the U.S. economy held production to 2.2 million barrels per day. Output was still targeted for 2.5 million barrels per day with a 10% flexibility margin.\(^7\) Exports ran at about 1.1 million barrels per day (400 million barrels per year). The U.S. has said that it would like to see Mexico move to 4 million barrels per day with the U.S. as its major export market. A still secret U.S. Central Intelligence Agency (CIA) report apparently

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concludes that Mexico could produce as much as 10 million barrels a day by the end of the 1980's, a rate which would deplete Mexico's proven reserves in less than two decades.  

Mexico, aware of what has happened in other countries when oil revenues expanded at rapid rates, has repeatedly stated that the problem is not how to get the oil out of the ground, but how to keep it in the ground. As with the OPEC countries, Mexico's role is more as a custodian of oil. The rate and terms of extraction are determined in part by external forces beyond Mexico's control and in part by Mexico's internal structure which presents obstacles to restricting oil production. President Lopez Portillow has repeatedly stated that oil production must be controlled to prevent "financial indigestion" in the Mexican economy. To declare this as a goal is one thing, to be free and able to achieve it is quite another.

One complex factor in this area is the relationship between the short run oil strategies of the industrial economies and their long run switch to alternative energy sources. In the face of uncertainties about the feasibility, cost and time periods associated with alternative energy sources, the OECD countries have a vested interest in husbanding their own oil reserves while depending upon foreign oil sources over the medium term. Already TNC petroleum interests in the European North Sea are exploring possibilities for reducing production in the short run to "maximize overall recovery" in the long run. Mexico, along with other less developed oil producing countries, is aware that oil is a finite source of revenues and that a viable economic base independent of oil must be established if Mexican development is to survive the eventual decline in the importance of oil revenue. In order to optimize overall recovery rates in the long run Mexico will have to install production capacity in excess of planned output levels. Production which protects overall recovery rates usually involves operation at less than full capacity. As well, Mexico would do well to have a backup capacity to temporarily offset supply interruptions which originate elsewhere. This would enhance Mexico's posture at the international bargaining table, but would also increase the temptation of turning to oil to "buy" its way out of difficult domestic development problems.

II. Trade and Growth

To give a perspective on the role of oil in Mexican development, a review of the links between trade and growth is useful. Mexico, with a per capita income of 1,290 dollars (1978), is a middle-income country by World Bank standards. The OECD designates it as one of the sixteen "newly industrializing" countries. It is the only one of the sixteen which also a major oil producer. An important issue for Mexican policy and subsequent development is the role that oil revenue plays in relaxing the foreign exchange constraint and changing Mexico's factor endowment, and the effects of this upon Mexico's trade pattern and prospects for sustained growth. The links between foreign exchange availability, foreign trade and sustained growth are crucial, although still poorly understood.

In its ongoing analysis of the relationship between economic growth and trade the World Bank research of Chenery et. al. has identified a general set of interactions between economic growth and exports. A review of those results, including results for a pre-oil Mexico, serves as a useful backdrop to Mexico's current situation. Concentrating on growth *per se* the World Bank has tended to refine the detail of the Little, Scitovsky and Scott OECD study conclusions of a decade ago. Namely that; (a) sustained growth requires a transformation of production compatible with both the evolution of domestic demand and the opportunities for international trade; (b) this normally involves a substantial rise in the share of industry; (c) success in manufactured exports is critical to the process; and (d) conversely, continued emphasis on import substitution will ultimately lead to a slowing down of growth.

Using an input-output technique designed to separate out increases in demand due to the expansion of domestic demand, the expansion of exports, import substitution and technological change, Chenery, et. al., made the following observations for Mexico. Within the newly industrializing group Mexico has a low level of manufactured exports. For the decade and a half prior to the mid-1970's Mexico's exports were a declining share of GNP.

Although industrial value-added as a share of GDP rose modestly (to 31%), the share of manufactured exports in 1975 was still only 3%, compared to an average of 21% for Korea, Taiwan, Israel, Norway and Yugoslavia, five relatively dynamic "newly industrialized" economics. As well, export expansion accounted for from one-third to two-thirds of growth in the manufacturing sector for these five countries whereas in Mexico it accounted for less than 8%. The effects of import substitution fell over the period, reflecting the limits to import substitution, in spite of the moderate import substitution strategy pursued and Mexico's level of effective protection.

When the World Bank looked at light industry (food, textiles, clothing, wood products, etc.); heavy industry (chemicals, petroleum, etc.) and machinery (capital goods) in terms of outward-looking and inward-looking sequences two patterns emerged. First, in those countries with dynamic and sustained growth, the general pattern was a shift from the light industry through heavy industry to machinery. Second, in the less dynamic countries, Mexico, Columbia and Turkey, exports formed a declining share of demand, domestic "derived" demand for machinery fell and the limits to import substitution restricted the scope for further domestic absorption of machinery.

The World Bank's current research on trade strategies suggests that import substitution and lack of support for export expansion in manufactures will lead to a subsequent decline in rates of growth. Chenery argues that manufactured exports appear:

...even more important as a source of foreign exchange than as a source of demand because (they) provide one of the principal means of exploiting comparative advantage and of avoiding balance-of-payments bottlenecks.  

As well, Chenery observed that successful export-led strategies link back to changes in comparative advantage.

By the time the Portillo regime took office, the prevailing wisdom of the World Bank research was reflected in Mexico's push for an outward-looking development strategy. By 1977 manufactures accounted for 29% of Mexico's exports, up from 12% in 1960. As far as the balance-of-payments constraint is concerned, Mexico

continues to have a balance of payments deficit on current account and external debt-to-GDP and external debt-to-export ratios. The trade deficit for 1979 was 3.2 billion dollars and its current account deficit over 4 billion dollars, this offset by a capital account surplus of 4.6 billion dollars. Mexico's external public debt-to-GNP ratio of 28.7% (1973) is twice that of the other "newly industrializing" countries in the Chenery study and for 1978 its external debt-to-export ratio was 59.6% as compared with only 8% for the six other countries in the study.\textsuperscript{16} Private foreign debt would raise these figures by 40% for Mexico.

Mexico's oil is important here since it can be used to ease the balance-of-payment bottleneck. For example, Mexico's first quarter trade deficit for 1980 was down 50% from 1979. Exports were up 70% with oil and gas increases of almost 200% accounting for two-thirds of new export earnings. With oil exports rising by one half, from 185 million barrels (1979) to 400 million barrels (1980) revenues are expected to triple to over 12 billion dollars in 1980.

History suggests that simply relaxing the balance-of-payments constraint will not necessarily promote sustained growth independent of how the constraint has been eased. The pattern of exports should link back to a structure of comparative advantage shifting in favor of manufactured exports. This link was understood as far back as the Corn Law debates in early 19th century England. Repeal of the Corn Laws was seen in part as a way of retarding Germany's rate of industrialization by promoting the German comparative advantage in grain exports. With respect to oil in recent times, Kader's study of Iraq, Iran, Libya, Kuwait, Saudi Arabia and Venezuela concludes that "the potential for industrialization is severely inhibited in these economies which are extremely dependent upon the pattern of oil exports. [17] Krueger observes that "...when export earnings have risen fortuitously...economic performance has not matched that attained when exports have grown rapidly..." as a result of new products and reduced production costs.\textsuperscript{18} This is consistent with earlier work by Chenery and Taylor which found that natural resource exports shift comparative advantage away from industry because of the relatively low cost of earning foreign exchange by exporting primary pro-

\textsuperscript{17} Kader (1980), pp. 46-51.
\textsuperscript{18} Krueger (1980), p. 289.
ducts. Clearly it is not just relaxing the foreign exchange bottleneck but how it is relaxed and how the exchange is used. Kindleberger is skeptical about the ability of government policy to shape those changes in comparative advantage necessary to move export shares in directions which support sustained growth but concurs in the view that such changes form the basis of sustained growth. In terms of these arguments Mexico’s oil is a primary product par excellence.

The meassage of this quite clear. Oil exports may serve to relax the foreign exchange bottleneck but that in itself will not promote sustained growth or development, and oil exports may actually hinder long run growth and frustrate development efforts. To more fully understand this dilemma in the Mexican context we must examine the role of Mexican oil at home, as a factor in domestic development strategy.

III. Oil and Agricultural “Neglect”

There are two major ways in which oil can distort short term policy and the pattern of growth at the expense of long term growth and development. One is to consistently price domestic oil below the world price as a policy of effective protection for Mexican industry and a subsidy to the export sector. The other is to use oil revenues to underwrite the cost of strategies which allow the government to avoid making difficult policy decisions necessary to transform the structure of the economy, and its pattern of international comparative advantage, compatible with long term development. The first temptation, though most obvious, is the least likely beyond the short run. Mexico has not joined GATT and could pursue protectionist policies. However, given its desire to export manufactures, it is unlikely that Mexico can use ‘cheap fuel’ export subsidies or maintain ‘cheap fuel’ effective protection barriers and still negotiate access to overseas markets for its goods.

Consider an extreme case of Mexican development policy in the absence of oil. R. E. Looney has simulated a Prais-Polack

19 Chenery and Taylor (1968).
20 Mexico may be able to underprice domestic energy to produce non-traded goods and for direct consumption as a real income subsidy. It may, of course, underprice imported food purchased with oil revenues.
monetarist model of income adjustment to forecast for the 1976-1990 period. The model is inappropriate for a Mexico with oil. Looney views Mexico within a two-gap growth model and concludes that an IMF-style “stabilization package” of long term demand management and an improved environment for foreign capital are the correct strategy. He locates the blame for Mexico’s inflation and stagnation in the early 1970’s on expansionary financing of development efforts in the absence of tax reform or demand management. Apparently accepting the difficulty of tax reform, Looney recommends a strategy based on sharp tax increases on food products and an end to Conasupo’s food subsidies to the poor, as a means of curbing consumption and freeing resources for growth.

The proposal is extreme and unworkable. The Mexican population is already undernourished. One-twelfth of Mexican children die by the age of five. One-third of rural pre-school children show signs of nutritional deficiency even though the basic maize and bean diet is nutritionally balanced. The problem is income. The poorest 40% of the Mexican population receives about 10% of household income. The poor have an inelastic to unitary elasticity of demand for food and would bear the brunt of a food tax. Looney’s scheme would not only place an extreme burden on the poor, it would precipitate major social unrest.

As one explores more likely scenarios for Mexican development, one issue stands out first, the problem of adequate food supplies. This revolves back to the issue of agriculture. Mexico’s best agricultural land, favored by geography and climate as well as international development assistance, is located in the states of Sonora and Sinaloa. This northwestern corner, the heartland of Mexico’s “green revolution” is, to a large extent integrated into the U.S. import market for food independent of the overall food needs

22 The export revenue expression depends solely on growth in the U.S. economy and the degree of overvaluation of the Mexican peso, possibly appropriate to a pre-oil Mexico, but inappropriate now.
24 Chavez (1975).
26 In March of 1980 The government launched what it calls a strategy for the Mexican Food System (Sistema Alimentacio Mexicano). It is too early to assess this effort on its merits although a comparison of its intentions with the analysis presented here should prove interesting.
of Mexico. Mexico has had no coherent domestic food policy in the past. In the absence of strong policy to the contrary, affluent U.S. consumers and U.S. firms will continue the area's further integration as an enclave for the U.S. food system.

Facing increased food imports and declining agricultural growth, Mexico can pursue one of two options. It can finance necessary food imports out of export revenues or it can redirect food crop production and processing to better serve domestic needs. The first path leads to increased food dependency and the second to increased food self-reliance. Both paths will influence the long term structure of the Mexican economy and its comparative advantage in the world market.

Consider the capabilities of Mexico's agricultural sector. The best land is either under cultivation or beyond the access of surplus rural labor. A major effort at modeling the overall Mexican agricultural sector was the CHAC analysis in Goreux and Manne. CHAC results identify the slow growth of demand (domestic and export) and a serious constraint on 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, contributes to inflation. Oil as a source of foreign exchange offers the option of subsidized imported food, as a non-, in fact, anti-inflationary option.

What is the scope for further exploiting foreign demand? Using 1967-69 data, CHAC model estimates suggest that Mexico has a comparative advantage in the export of strawberries, sesame, cantalope, peanuts, tomatoes, watermelon, potatoes, cotton fiber and cucumbers. Calculations suggest that exports of sugar, wheat, corn, rice, soybeans, grain sorghum, oats, safflower, and cottonseed are not profitable and, if exported, are so at a loss to the economy. The products which make up the bulk of the basic

27 We have argued below that increased food dependency may no expose Mexico to political leverage from supplier countries.
29 Conasupo is a state agency charged with aiding the marketing of rural products and supplying food at modest prices. It exercises almost exclusive right over Mexican food imports and is heavily involved in the distribution of subsidized foods in both the urban and rural areas.
diet of Mexico are not export competitive and those crops which are (strawberries, tomatoes, etc) are priced for income ranges beyond those of most Mexicans. In contrast to Canada, for example, where the major food export (wheat) is also a major item of domestic consumption, Mexico's major food exports are not.\footnote{For the role of wheat in Canada see Watkino (1963), pp. 141-158.}

In traditional trade as an engine of growth models, "vent for surplus" food trade combines exports with domestic consumption to generate economies of scale. These in turn reduce domestic food costs and enhance external competitiveness. In Mexico food trade and domestic consumption are competing uses for the same land, a competition in which the stronger U.S. storage and food processing facilities appropriate to reorient northern agricultural land use to domestic markets, as well as the weak domestic demand resulting from the Mexican income distribution.

The link between the agricultural sector and employment creation is crucial over the next twenty years. One-half of Mexico's population is of working age. One-third of it resides in the rural sector and as much as one-quarter of the current urban population is the result of rural out-migration over the past twenty years.\footnote{Several million rural out-migrants reside illegally in the U.S. CHAC estimates of rural underemployment range from 40\% to 50\% of the rural labor force. Within the limits imposed by non-irrigated agriculture and the existing pattern of land holdings, Duloy and Norton, using the CHAC results, conclude that the agricultural employment problem in Mexico is fairly intractable.} Several million rural out-migrants reside illegally in the U.S. CHAC estimates of rural underemployment range from 40\% to 50\% of the rural labor force. Within the limits imposed by non-irrigated agriculture and the existing pattern of land holdings, Duloy and Norton, using the CHAC results, conclude that the agricultural employment problem in Mexico is fairly intractable.\footnote{For the role of wheat in Canada see Watkino (1963), pp. 141-158.}

World Bank projections see Mexico's population growth rate declining from the current 3.3\% to an average 2.5\% over the next two decades. Given the age composition of the population, this translates into a 3.5\% rate of growth of the labor force. If agricultural labor input demand were to grow at 2\% per year, and underemployment reduced to 25\% of the agricultural labor force, all new entrants to the labor force between now and the year 2000 would have to be absorbed by non-agricultural employment, which would have to grow at 4.9\% per annum. Agricultural employment would not increase at all. If, under the same conditions, agriculture were to absorb labor at a 4\% annual rate, the agricultural labor force would increase by only 1 million workers.
by the year 2000.

The figures suggest rates of growth in the agricultural sector above those achieved historically and beyond those considered attainable. Given the high level of underemployment in the rural sector, development could be promoted and incomes raised by increasing employment at current levels of productivity, or even at the expense of productivity. An unemployed worker's product, and income, are zero. However, increasing employment in this fashion without redistributing land is problematic and in the interests of neither rural landholders nor urban industrialists. The landholders are interested in farm gate surpluses and favorable agricultural terms-of-trade. The urban industrialists are interested in low food prices to underpin cheap urban wage rates. The other alternative, rural nonfarm employment, is heavily dependent on rising agricultural incomes.34

An increased rural surplus is produced by increasing output while minimizing rural consumption of the product. This biases policy in favor of increased labor productivity through the use of complementary non-labor inputs on large scale commercial farms. Such a bias would reduce rural employment, heighten Mexico's unemployment problem and add to the U.S.'s illegal immigrant problem.

Food is the major wages good for urban labor and an important component of the competitive position of Mexican manufactures in export markets. Rural surpluses at low prices are required in the urban sector to keep urban wage rates low. The problem becomes how to extract an increased food surplus from the rural sector at minimum prices. We know, and the CHAC model confirms, that the agricultural supply response depends upon the agricultural terms-of-trade. For Mexico, Conasupo could, and does, buy output at subsidized prices and supply it to the urban market at less than cost. On a large scale the policy would be inflationary and threaten both Mexico's competitive position and the exchange rate.

Mexico's oil tempts the government to supply the urban market with imported foodstuffs, subsidized by oil revenues. In this form the subsidies are not inflationary and guarantee a cheap wages

good to the industrial sector independent of the successes or failures of policy in the agricultural sector. This does not mean that the agricultural sector will be ignored. Two policies, neither of which touch rural poverty, protect the interests of large landowners. First, the government can maintain a policy of support for the production of high cost food for export. The enclave nature of much of Mexico's current agricultural production would be consistent with overall policy. Second, if the government wants to promote some degree of food self-reliance, investments in infrastructure improvements (large scale water, transport and input facility development) designed to promote large scale farming can be undertaken. Such efforts would not only spread the benefits of Mexico's oil to the powerful landholding groups, but could rely heavily on imports to avoid contributing to inflation. Implicit subsidies (for water, transport, fertilizer, etc.) embedded in such efforts appear as apparent productivity increases in agriculture, both enhancing its export position and reducing its domestic cost as a wages good in the urban sector. To think of the agricultural sector in these terms is in marked contrast those proposed by the World Bank, which writes:

"... (An)... agricultural sector stimulates domestic demand for industrial goods, supplies cheap food for industrial workers and raw materials for agro-processing industries, earns foreign exchange to finance imports of capital and intermediate goods for industrialization and facilitates the development of labor-intensive small- and medium-scale industrial units in small towns and rural areas."

The difference between the World Bank scenario and the one sketched out above for Mexico does not stem from a different view of the role of the rural sector and agriculture in the development process. It stems from the effect of oil revenues upon the relative difficulty and political costs to the government of implementing rural sector strategies. This takes us beyond the issue of optimal development strategies and focuses on the key issue for Mexico. Oil revenues alter the forces and constraints which direct and limit government policy. During the last decade the agricultural sector has been less and less the source of cheap food for industrial workers. Oil financed food imports and Conasupo's marketing

subsides serve that function. There has been little real effort to
develop agro-processing industries for the domestic or export
markets, except in the area of high priced convenience foods. Oil
revenue and foreign capital attracted by abundant energy, cheap
labor and a stable investment climate provide the foreign exchange
necessary to keep Mexico liquid in the face of indebtedness and im-
port needs. Should liquidity problems arise, the oil tap can be
turned.

When confronted with the choice between raising domestic
taxes or increasing oil revenues to finance government programs,
be they developmental, anti-inflationary or welfare subsidies to
consumers, the politically expedient choice is oil exports. When
confronted with the need to assure adequate low cost food to the
urban workforce, the choice between major structural changes in
the agricultural sector, including either or both of land reform and
strengthen the position of corporate farming, the government is
likely to continue to finance food imports out of oil revenues.
Should food be short in the rural sector, Conasupo stands ready to
supply imported food.

The oil revenues place Mexico in a position to buy imported
food. There is adequate food in the world market for those with
the foreign exchange to buy it. Mexico need have little fear that
dependence upon food imports could be used against it in the in-
ternational arena. To the contrary, the U.S. agricultural sector, its
major supplier, would look with favor on long term supply con-
tracts between the U.S. and Mexico.

Taking a long term view of the scenario sketched out here, to
the year 2000, Mexico's major concern as between oil exports and
food imports is oil. Given the rapid changes of this last decade and
the present uncertainty about the pace of development of alter-
native energy sources, increased energy efficiency in production
and discovery of new reserves, a key issue is how long can Mexico
depend upon the world market to absorb the quantities of oil Mex-
ico must export to finance necessary imports. The U.S., Mexico's
major buyer, is committed to increased energy self-sufficiency and
will buy no more oil than it can use. The same goes for Europe.
Third world oil importers will continue to face exchange con-
straints on oil purchases. Supplying oil at concessional rates to
western hemispheric neighbors bolsters Mexico's regional status,
but generates little foreign exchange.
As unfortunate as failure to development the agricultural sector would be for rural Mexico, this should not cloud the fact that Mexico will remain in good position to meet domestic food needs from imports so long as it has the foreign exchange. Under reasonable World Bank assumptions the combined population of Canada, Mexico and the U.S. is expected to grow by 24% by the year 2000. The combined food supply capability of the three countries, or just the U.S., is more than enough to handle the increased population. Given the proximity of Mexico to the U.S. and the intractability of the illegal immigrant problem in the absence of forces to retain population in Mexico, the U.S. is likely to remain a ready supplier of food in good times and assure a line of supply in bad times. This line of thought is not meant to suggest that Mexico abandon the difficult task of rural and agricultural development. It is to underscore the fact that raising food shortages as a haunting spectre is likely to have little real effect on shaping development strategies. The case for pushing ahead with difficult agricultural reforms and rural development schemes against the temptation of oil financed food imports will have to be made on other grounds.

It is possible to explain Mexico's current development strategy as one which uses oil to serve the interests of the several powerful private sector groups within the Mexican economy. A strategy which consolidates their sectoral interests in the short run while transforming the structure of those sections to insure that Mexico has access to international markets for foreign exchange earnings to meet its import needs, including the need for imported foodstuffs.

The centers of private sector power in Mexico are in manufacturing, finance, large scale agricultural landholding and tourism. Primary resource extraction is reserved for the public sector. In manufacturing and tourism, and increasingly in agri-industries, Mexico is encouraging participation by foreign capital on a joint venture basis. This protects the position of the powerful private groups in these sectors while providing access to technology and, more important, powerful allies for pursuing export markets. In all three sectors, export demand is the key to future growth. The government of Mexico is pursuing an aggressive program of extractive industry development aimed at underpinning industrial sector demand, curbing resource imports and, eventually, penetrating overseas markets.
Thus far the scenario suggests that oil revenues impart a strong bias against a strategy which develops the rural sector in its own right and with an eye to increased food self-sufficiency. The bias in this direction is a combination of the difficulties inherent in rural and agricultural development efforts in Mexico and the ease with which oil revenues can solve the food supply problem. Whether the bias prevails depends upon the political will of the government. Those domestic interests with the greatest control over government policy stand to benefit from an imported food strategy.

Having taken the scenario this far it is time to ask what is wrong with a strategy of development, willingly or reluctantly pursued, which is export-led in the manufacturing, resource and tourism sectors, and involves substantial exports and imports of food products. One problem which confronted Brazil will likely not confront Mexico. Brazil's manufacturing sector exports demand high levels of imported inputs. Mexico's level of industrial development and resource base are likely to avoid that. Regardless of one's esthetic sense of what the balance between urban and rural development should be, that is not enough of a basis to criticize the path sketched out by the scenario. The problem with the scenario is simply that the pattern of sectoral growth will not likely generate the rate of employment creation necessary to absorb the additions to the labor force over the next fifteen years, all of whom are alive today.

The urban population will add 22 million workers to the labor force in the next 20 years. If rural sector underemployment falls, raising real incomes, there will have to be an extremely high rate of job creation in the rural sector to reduce rural out-migration to urban areas, or to the U.S. Given the existing structure of Mexico's industrial sector, its markets and the intended overseas markets, it is unlikely that urban employment will keep pace with output. Investment will tend to be large scale, and capital intensive. There is little room for small and medium scale urban industry in the current pattern of development. This is especially true if domestic market growth is slow as a result of low rural incomes, low urban wages, and Mexico's highly concentrated income distribution.

The World Bank quote sees increases in employment and real income in the agricultural sector set the stage for the emergence of small scale enterprise at the local level. One such activity is food

processing. Less than a decade ago food processing was Mexico’s largest industrial sector, accounting for over one-quarter of industrial output and employment. Transport and storage are two additional activities linked to agriculture and food processing which carry potential for significant urban and rural nonfarm job creation.

The structure of the food processing sector is as important as the structure of agriculture as far as employment and income are concerned. Just as small and modest scale farms contrast with large-scale agri-business enterprises the food processing sector is characterized by very small and very large operations. In 1976 over 75% of Mexican food processing firms had gross sales of less than 200 dollars per year and were little more than family operations. The three hundred largest firms, with average sales in excess of one million dollars per year, employed one-third of all workers. Small firms with five or fewer workers accounted for 96% of all firms, but employed fewer workers than the two and one-half percent of largest firms. Mexican food processing is for the Mexican market since the bulk of food exports leave the country in relatively unprocessed form. A policy of imported food products would locate the processing of much of Mexico’s food supply abroad and concentrate Mexico’s food processing in large scale urban facilities. The example of the food processing sector is just one of many that can be given to illustrate the effects of an imported food policy upon the patterns of employment and income creation in Mexico.

Several points emerge from this analysis. First, if Mexico follows a path of heavy food import dependency, the food is likely to be there at minimal political exposure so long as Mexico has the foreign exchange to purchase it. Second, such a posture is consistent with the export-led development strategy supported by the major power groups within Mexico. Third, there is no bias in the strategy, as there is with import-substitution, against the development of a comparative advantage in trade which promotes sustained growth. The strategy does not assure sustained growth, but doesn’t operate against it. It’s major, and likely crucial internal weakness is that the strategy is unlikely to generate employment at anything near the rate needed to absorb new entrants to the labor force and quite likely to precipitate even greater rural outmigration to urban areas and into the U.S. Its major external weakness is

37 Lanfranco (1980).
the problematic nature of a successful Mexican push for export markets in those industrial countries which have exhibited marked tendencies toward increased protectionism in recent years.

IV. Food Leverage and Food Imports

World Bank calculations project Mexico's current population of 70 million to grow to 116 million by the 2000. 38 Two-thirds of Mexico's population live in urban areas, one-third in Mexico City alone. To maintain the current inadequate level of food intake, Mexico will have to expand domestic food production and current food imports at 2.5% a year for the next 20 years. Mexico's agricultural production has grown only at 2.1% during the past decade, down from 3.8% during the previous "Green Revolution" decade. Food imports remained at about 6% of total imports from 1960 to the mid-1970's. Mexico is committed to 4% growth rate under its current Global Development Plan, but such a target is optimistic in light of past performance and current difficulties. Hence, Mexico as a major producer of oil is becoming increasingly dependent on imported food. The U.S., a major producer of oil, is also the world's and Mexico's major source of food imports.

Since the OPEC price increases in the early 1970's there has been increased discussion of the potential for food leverage as a political weapon. Those concerned with extracting more favorable prices for imported oil have suggested that food be withheld to that end. Lester Brown has suggested that a Canada-U.S. food cartel could be used to encourage agricultural reform and contraception use in developing countries. 39 The U.S. has withheld food exports on a number of occasions in recent years, especially since the deliberate run down of U.S. food stocks in the early 1970's. Some moves followed from domestic policy such as the attempt to keep U.S. food prices down after the large scale exports to Russia in 1973 and others were deliberate attempts to exercise food leverage, such as the limits on U.S. grain exports to the U.S.S.R. in protest over Russian activities in Afghanistan. 40

An assessment of the potential for the use of food as a political weapon must start from the current structure of international food

trade. Behind fuels and manufactures, food is the most rapidly growing component of world trade. As far as the apparent potential for food as a weapon is concerned, one product group, the grains, stands at center stage. Grains account for one-third of world trade in non-fuel primary products. The U.S. is the major supplier. The oil dependent OECD countries supply about 60% of all food exports and almost all of grain exports.

As important commodities in world trade, wheat and coarse grains are prime candidates for commodity agreements. Given the small margin between average world production and world demand, and the effects of climate upon annual and regional variation about those means, some form of international commodity agreement is compatible with the divergent but reconcilable interests of producer and importer countries. Wheat agreements existed for most of the previous decade and efforts are underway to conclude a new Wheat Trade Convention designed to stabilize wheat markets by means of nationally-held but internationally-coordinated buffer stocks and incorporating a Food Aid Convention. Similar work is less further along for coarse grains and other food commodities. Such arrangements will make it increasingly difficult for any one country to use food as a political weapon.

International commodity agreements would make the use of food as a weapon more difficult but not impossible. There will remain considerable scope for supply side strategies concentrating on cereal grains, oilseeds, and edible oils. International trade in these products takes place in a highly integrated market under the oligopolistic control of less than a half-dozen major grain trading companies. These products are highly fungible, grains from one source readily substituted for grains from other sources, and traded world wide. Given the highly private nature of the grain trade—all major trading companies are privately held companies—it is difficult to trace the movement of wheat. The scope for substitution and transshipment is extensive. This further hinders the potential for food as a weapon.

41 UNCTAD (1979).
42 UNCTAD (1979), Table 12, p. 37.
44 It is frequently overlooked that OPEC has the same effect upon the use of oil by any single oil exporting country. Attempting to do so jeopardizes the cartel and the existence of the cartel allows for an offsetting move by other members.
45 The major companies are Cargill, Continental, Louis Dreyfus, Bunge, and Andre.
Consider the effects of a supplier country’s prohibition against exports to a particular country. It will, on balance, have no effect unless the exports were supplied at concessional rates. The supplies will be placed in the undifferentiated world market and the importing country will make purchases from the same market. If direct transactions are prohibited, a less efficient indirect transaction is the most that will occur, at marginally greater costs distributed between parties as a function of supply and demand elasticities. If the use of food as a weapon is in the form of an embargo, the food “impounded” by the supplier country, both domestic and international effects will occur but other than those intended. The short run domestic effects of a larger domestic supply will be lower prices to consumers and lower incomes to producers, or buffer stock purchases by the government. A reduced supply on the world market will raise prices to the benefit of third country suppliers and grain merchants. The costs will be borne by importing countries as a function of their ability to pay for grain at higher prices. Just as OPEC oil price increases hit poor third world countries hardest, so would be the case with food embargos.

For example, the U.S. embargo on soybeans in the mid-1970’s resulted in Japanese and European demand for soybeans bidding land away from domestic production in Brazil, at the expense of the Brazilian peasant’s diet. A general embargo fails since it is an indiscriminate weapon which targets the poor. As generally understood, food as a weapon doesn’t work, distributes its effects according to market forces rather than by design, and, may exact a higher toll on the economy using it than on the intended target.46

There is one way in which food can be used to pursue policies of interest to the supplying economy. That is to insure that the target economy has access to secure supplies at stable prices so that its availability becomes a constant factor in the development process of the economy. In this “food as a factor” approach, characterized by U.S. food aid to post-war Korea and to Taiwan, the patterns of consumption, trade and agricultural development are all influenced by sustained and stable access to food.

What does all this imply for Mexico? Oil revenues place Mexico in a good position to secure food in the world market. Commodity agreements will make it more difficult to use food as a weapon. For

46 See Comment by Clay and Stevens (1980).
once, the Mexican saying "So close to the U.S., so far from God" may be a blessing rather than a curse. The U.S. would be reluctant to use an even partially effective food weapon to destabilize this important regime on its border. As well, food shortages would translate into even greater irresistible pressure for illegal migration into the U.S. by Mexican nationals. Since both the U.S. and Mexico know this, food has reduced leverage in this situation. Imported food as a factor, however, will play a strong role in influencing the pattern of Mexican development. Since oil places Mexico in a good position to buy food in the international market, the effects of food trade upon Mexican development will be more a function of the Mexican development policy than the food trade policies of Mexico's trading partners.

With regard to illegal migration of Mexican nationals into the U.S. economy, it has been suggested that they offer leverage in a U.S. bargaining strategy. The U.S. economy acts as a "vent for surplus" for redundant Mexican labor which earns foreign exchange for Mexico in amounts exceeding those from tourism. Not only do the immigrants relieve domestic pressure in Mexico, but their remittances, which go directly to poor rural peasants, achieve a pattern of distribution of benefits as far as peasant welfare and government interest in rural stability are concerned, more effectively than could be achieved by foreign exchange earned from oil exports and administered by the government. The U.S. itself derives benefits from this immigration. A significant part of small scale manufacturing and agriculture, particularly in the U.S. southwest, is dependent upon cheap labor from Mexican illegals to maintain its competitive position. Increased efforts to curb immigration and to apprehend illegals have met stiff opposition from Hispanic groups in the U.S. and from sectors adversely affected by such moves.

The use of curbs on illegal immigration, although they would put pressure on Mexico, would be a double edged sword. Against Mexico's loss of remittance revenue and rising potential for social unrest, the U.S. would face dislocations in manufacturing and agriculture. Any move which creates destabilizing social unrest in Mexico is not in the U.S. interest. It would appear on balance that illegal immigration by Mexican nationals to the U.S., although based on a Mexican problem, presents little leverage for a U.S. bargaining strategy and is probably an asset to Mexico in Mexican-U.S. relations.
The one area where Mexico is vulnerable to external leverage is her need for access to foreign markets for Mexican manufactures. The whole range of scenarios which cluster around Mexico's current development thrust all require progressively greater access to the manufactures' markets of those countries, developed and developing, which have a strong interest in Mexican oil. This is especially true in the medium run, the next ten to fifteen years. If the slowdown in the OECD countries ends, in the short run they will need oil. The large scale development of alternative energy sources requires time and will have advanced only modestly in the short run.

In the short and medium run the most promoting markets for Mexican manufactures are in the industrial countries. It is there where Mexico's bargaining position will be most difficult. It will have to bargain oil and investment opportunities for access to markets in a situation where the industrial countries know that manufactured exports are essential to Mexican development but not to short run Mexican survival since there is always the option of selling more oil. For the moment Mexico is exporting oil in formal exchange for "technology", which often comes in the company of foreign capital. At some point this technology will serve as an export base. To the extent that this capacity represents transnational production in Mexico, Mexico will have access to those markets which serve the interests of private transnational enterprise.

V. Conclusions

Mexico's oil and gas reserves present the government with several choices of development strategy. Two alternatives are an export-led "unbalanced" growth strategy and an export-led "balanced" growth strategy. Both are export-led and differ in their treatment of agricultural and rural sectors. The "unbalanced" strategy relies upon external markets to provide demand for industrial output and to supply the domestic market with necessary food products. The "balanced" strategy sees the agricultural sector playing an important role in stimulating domestic demand for industrial goods and supplying cheap food for industrial workers and raw materials for agroprocessing industries. The analysis suggests that the structure of power in Mexico today is such that the government is likely to take the path of export-led "unbalanced" growth
and that this will lead to insufficient employment creation and income distribution problems which threaten Mexican political and social stability.

There is little doubt that Mexico’s oil will strengthen the country’s regional role in Latin America and the Caribbean. It also places Mexico in a good position to play a leadership role in the emergence of a new international economic order.47

A strategy including heavy dependence upon imported food does not pose a serious problem as far as securing food is concerned. So long as Mexico has the exchange, food is likely to be available on the world market and the scope for external leverage (food as a weapon) based on this dependence is minor. In the short run, access to markets for Mexican exports of manufactures will pose more difficulties. The long run future for oil demand is so uncertain that Mexico should neither assume secure long term prospects nor that alternative energy sources will make oil redundant. Mexico will have to hedge against both possibilities by enhancing its exchange earning capabilities in other sectors while maintaining adequate oil reserves. As well, it should insure the growth of healthy domestic markets for industrial output.

Mexico appears to have the political will to use its temporary advantage from oil to transform its comparative advantage toward the export of manufactures. The “will” comes in part from the fact that oil is state owned whereas manufacturing and finance, the major beneficiaries, are controlled by powerful private sector interests. It is less clear if Mexico has the will to carry out development programs in the agricultural and rural sectors. A conflict between powerful landholding interests and the urban industrial sector over the price exports and supplying the urban sector with low priced (subsidized) food imports.

The export-led “unblanced” growth strategy has the capacity, in theory, to transform Mexico’s comparative advantage in favor of industrial goods exports. Making the questionable assumption of continued access to overseas markets, this could serve as the base for sustained growth. The strategy is unlikely to create sufficient employment for the growth of Mexico’s labor force over the next two decades. Rural sector development is likely to be large-scale agri-industrial production for export and contribute little if any to

employment creation or reduced poverty in rural areas. Throughout this the urban, and rural populations may become increasingly dependent upon subsidized food supplies. In the process Mexico will become a very "open" economy, highly sensitive to external economic disturbances, facing a growing unemployment problem. Whether the emergence of a welfare state sector, via Conasupo and similar agencies, capable of supplying subsidized consumer goods, will preserve social and political stability is doubtful.

An export-led "balanced" growth strategy would likely perform better on employment grounds and leave the Mexican economy more resilient in the face of external economic disturbances. The conflict between landholding interests and the industrial sector over the price of domestically supplied food could be managed.

It is in the North American interest to press for development strategies which generate more employment and improve the Mexican income distribution. The U.S. and Canada have an interest in strategies which promote increased agricultural production and a greater role for domestic Mexican demand. This suggests that in addition to negotiations across range of trade issues of mutual concern, future efforts between the three countries should pursue a "food as a factor" option which guarantees Mexico a secure supply of food imports with a reserve stock backup in exchange for Mexico pursuing a bolder and more difficult strategy in the rural sector, aimed at promoting farm and non-farm rural employment and incomes through, initially, small and medium scale production in agriculture and related agro-processing activities. This strategy is in the long run interests of all three countries and holds greater promise for Mexico to achieve sustained resilient growth while creating the jobs and income necessary for Mexico to enter the year 2000 celebrating poverty as a thing of the past.

References


