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Chapter Author: Abel Beltran del Rio

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The Mexican Oil Syndrome: Early Symptoms, Preventive Efforts, and Prognosis

Abel Beltran del Rio

This paper was structured with four principal questions in mind: (1) What are the symptoms of macroeconomic problems in an oil-rich economy? (2) To what extent can these symptoms be detected now in the Mexican economy? (3) Have decision-makers anticipated the problem, and have steps been taken to moderate any undesirable side effects of oil? (4) What are Mexico's economic prospects during the 1980s under the impact of oil? The four sections of this paper try to provide answers to these questions.

THE OIL SYNDROME

OPEC countries, especially the Persian Gulf members, do not seem to fit well within the standard development taxonomy. According to the basic LDC and MDC classification, LDC economies can be recognized by the following characteristics:

(1) Low productivity generally, and undiversified supply, originating in lack of capital and overall low savings rate; (2) Surplus labor, low labor productivity, and large pockets of unemployment and underemployment; (3) Presence of sectoral imbalances, and dualities in production and distribution; (4) Chronic deficits in the external balance, requiring large foreign borrowing; and (5) Chronically high inflation.

MDC economies, in contrast, are defined by the absence of the first three of these features, and relatively milder problems of external imbalance and inflation. The oil-rich countries appear as hybrids. By their inflation and their sectoral imbalances, they qualify as LDCs. However, their external surpluses, abundance of financial capital, high savings rate, and labor shortages place them in the MDC category. They are in fact economies in transition, having been catapulted in 1973-74 from one category toward the other. Their eco-

Table 1

PRIMARY OIL INDICATORS: OPEC MEMBERS IN 1978

	Proven crude oil reserves per capita (thousand barrels)	Crude oil production per capita (barrels)	Share of crude in merchandise exports (%)	Share of petroleum in GDP (%)
Algeria	0.37	19.7	86.5	
Ecuador	0.26	9.6	33.9	
Gabon	1.87	143.0	78.6 ^a	
Indonesia	0.10	4.1	60.2	
Iran	1.70	53.9	92.5	
Iraq	2.92	74.6	98.6	
Kuwait	59.17	567.3 ^a	75.0	70.0 ^b
Libya	7.81	225.3	99.9	
Nigeria	0.28	10.2	90.2	
Qatar	70.0	1,752.0	98.9	
Saudi Arabia	16.10	300.1 ^a	93.2	64.0 ^a
United Arab Emirates	46.2	907.5	94.9	
Venezuela	1.07	60.2	60.8	

Sources: Proven and probable reserves: *International Energy Biweekly Statistical Review* (Washington: National Foreign Assessment Center, 11 December 1978), p. 4; Population: *International Financial Statistics Yearbook 1979*, Vol. 32 (Washington: IMF), p. 1; Share of crudes and gas in GDP: For Kuwait, M. W. Khouta and P. G. Sadler, *The Economy of Kuwait, Development and Role in International Finance* (London: Macmillan, 1979), p. 87. For Saudi Arabia, *Annual Report 1978*, Saudi Arabia Monetary Agency, Kingdom of Saudi Arabia, p. 166.

^aData for 1977.

^bData for 1976.

conomic, political, and social opportunities, and problems seem to stem from this fact.¹

In trying to define the "oil syndrome," the smallest and richest members of OPEC provide ideal "clinical cases." In particular, four of the Persian Gulf states, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates, permit the observation of the effects of massive oil wealth in its extreme form. Table 1 contains four basic oil ratios for all the OPEC members in 1978. The indicators are proven reserves and crude output (both in per capita terms), the crude oil share in merchandise exports, and the crude and gas share in GDP. I denominate them primarily oil indicators.

These Persian Gulf countries provide one polar basis for examining the oil symptoms. Indonesia and Ecuador, on the other hand, with smaller production relative to population, could provide the basis for defining a milder variety of the "oil syndrome."

In any case, indicators of heavy oil dependence in the range of Table 1 (or movement towards them) can be taken as a prima facie evidence of the "oil syndrome." They, along with a few others, can be called direct or primary symptoms, to distinguish them from the secondary or policy-induced effects.

From the experience of 1973-78 of the countries selected, other primary symptoms (of the polar variety) are the following: (1) Expanding surpluses in the external accounts; (2) Rapid but unbalanced growth lead by the oil

sector accompanied by development of severe bottlenecks; and (3) Accelerated inflation, generated by excess demand and liquidity in the presence of deficient supply.

The four Persian Gulf countries exhibit these primary symptoms in their most extreme form. However, I have selected, for the sake of brevity, the case of Saudi Arabia to provide the statistical illustration of these traits. Table 2 contains indicators of growth, balance of trade, inflation, and a few other supporting time-series for 1970-77 for this country (averages for 1965-69 are provided also). In analyzing the Saudi data, or that of any other petroleum exporter, it should be remembered that oil export prices began their climb in 1971, when OPEC's aim of restoring real oil prices to their mid-1950 levels finally began to bear fruit. The price explosion of October 1973 occurred on a trend that began two years earlier. Notice also that Saudi Arabia's syndrome originates not only from price increases; volume has also expanded, although at a slower pace.²

Confronted with massive oil wealth, the governments of the oil nations have reacted with similar policies. Among them, the following are typical: (1) Efforts to diversify, with stress on rapid capital formation in the industrial sector and promotion of the financial system; (2) Enlargement of the role of the government, mainly via infrastructure investment and expanded welfare and subsidy systems; (3) Opening of the borders to imports of goods and factors, including much needed skilled labor; and (4) Efforts to control inflation, partly through the redirection of part of the petrodollars toward foreign assets; another, a stop-and-go growth policy, accompanied by exchange rate revaluation vis-à-vis the dollar.

These responses, which we classify as secondary symptoms, are interrelated.³ In trying to diversify the economy, the government has sought to enlarge and

Table 2

SAUDI ARABIA MAIN ECONOMIC INDICATOR, 1970-77

	Averages									
	1965-69	1970	1971	1972	1973	1974	1975	1976	1977	1978
Output growth (Rates of real GDP, %)	8.9	9.4	14.2	15.4	19.7	15.1	2.3	8.6	17.0	5.6
Inflation (Rates of CPI, %)	1.8	0.2	4.4	4.4	16.6	21.4	34.6	31.6	11.3	-1.6
External sector (Goods and services Balance, FOB, billion \$)	0.935	1.260	2.640	3.053	5.428	26.379	21.152	25.070	25.730	-
Money supply growth (Rates of M1, %)	9.9	3.44	10.23	42.5	39.9	41.4	89.6	71.2	58.3	28.1
Foreign reserves (Total revenues minus gold, billion \$)	0.611	0.543	1.327	2.383	3.747	14.153	23.193	26.900	29.903	19.200
Crude oil price (\$/bbl. at Ras Tanura)	1.31	1.30	1.65	1.90	2.70	9.76	10.72	11.51	12.42	12.42
Crude oil output (daily average in million bbl.)		3.79	4.76	6.01	7.59	8.47	7.07	8.57	9.20	-

Source: *International Financial Statistics Yearbook, 1979*, Vol. 32 (Washington, IMF), p. 359; Crude oil output: *Annual Report 1978*, Kingdom of Saudi Arabia, Saudi Arabia Monetary Agency, p. 140.

modernize the infrastructure. Imports, foreign skills, and technology are required for this purpose. The opening of the economy is also intended to ameliorate some of the bottlenecks and the resulting inflationary pressures. Subsidies and transfers (or tax cuts) have been established for distributive purposes and to shield the population from inflation.

The initial export expansion, plus the combination of the policies just cited, has led to significant changes in the composition of GDP. Diversification, sought both via incentives to the private sector, plus the rapid enlargement of the infrastructure, has resulted in large increases in capital formation. The opening of the economy has increased the import share. Public consumption has also expanded, owing to the larger role taken by the government as both employer and consumer. The main balancing change has been the decrease in the share of private consumption. Table 3 shows these compositional changes for Saudi Arabia, Iran, and Venezuela in 1970-77.

The symptoms described, observable in their extreme form in the small Persian Gulf countries, are found in somewhat milder forms in the larger oil exporters, where reserves and production per capita are much lower. There, the initial expansion of external surpluses gave rise to a contraction or stabilization of the external deficit. However, the policy-induced opening of the economy and the fast growth can lead, in a later phase, to expanding deficits, as was the case of Venezuela in 1978. Similarly, the secondary symptom of financial capital outflows can become one of reduced rate of foreign borrowing. The exchange rate policy can be one of stabilization, instead of revaluation. The expanding role of the government can be less marked, if the economy is less centralized and more oriented to the private sector. The rate of inflation can accelerate more rapidly, if protectionism is well entrenched, so that opening up of the economy can proceed only haltingly.

It should be noted that the manifestations of some of these general symptoms are often marked, and specific to certain economic sections. Thus, for example, the problem of sectoral imbalances tends to appear early in the form of transport, port, and communications congestion. Construction and real estate booms are another typical result. If price controls are employed to cope with inflation, then shortages occur, together with widespread speculation and black markets. The increased role of the public sector has ramifications in the form of rapid proliferation of governmental agencies and concomitant growth in number of government employees. Diversification tends to appear sooner in the financial sector, due to the relative ease, vis-à-vis that of the real sector, at which it can expand. Nonfinancial diversification is then pursued, as can be expected, in oil refining, its overseas transport, and in photochemicals. Following the previous nomenclature, these can be called derived symptoms.

Efforts to stabilize the exchange rate in the face of high domestic inflation are typical responses of oil exporters. The ensuing overvaluation of the local cur-

Table 3

SECONDARY OIL INDICATORS: CHANGES IN GDP COMPOSITION FOR THREE OPEC MEMBERS, 1970-77

	1970	1977	Change
<u>Iran</u>			
Exports	18.3	33.7	15.4
Gov't. consumption	16.8	19.9	3.1
Gross fixed investment	19.9	34.0	14.1
Increase stocks	N.A.	N.A.	N.A.
Private consumption	63.9	40.1	-23.8
Imports	-18.8	-27.6	-8.8
GDP	100.0	100.0	0.0
<u>Saudi Arabia</u>			
Exports	59.2	70.0	10.8
Gov't. consumption	19.7	24.9	5.2
Gross fixed investment	14.9	30.3	15.4
Increase stocks	1.2	-1.5	-2.7
Private consumption	33.7	12.6	-21.1
Imports	28.7	36.2	-7.5
GDP	100.0	100.0	0.0
<u>Venezuela</u>			
Exports	25.2	29.4	4.2
Gov't. consumption	12.7	15.0	2.3
Gross fixed investment	21.8	36.4	14.6
Increase stocks	5.9	3.2	-2.7
Private consumption	53.6	50.9	-2.7
Imports	-19.3	34.9	-15.6
GDP	100.0	100.0	0.0

Source: *International Financial Statistics Yearbook 1979*, Vol. 32, (Washington, IMF).

rency eventually leads to stagnation of nonoil exports and the import-substituting industries. A dramatic devaluation usually marks the end of the overvaluation period. In the literature the effects of this policy, in their extreme form, are known as the "Kuwait Effect," or, in their milder form, the "Dutch Disease." See [2, p. 8].

THE EARLY OIL SYMPTOMS IN MEXICO, 1978-79

The early signs of the oil syndrome in Mexico can be detected in 1978 and more clearly in 1979. Their presence can be ascertained in the movements of the petroleum indicators and especially by comparing the actual and the planned behavior of the economy. Since Mexico is in the early stages of an

Table 4

PRIMARY OIL INDICATORS: MEXICO, 1974, 1978-79

Year	Proven crude oil reserves per capita (thousand barrels)	Crude oil production per capita (barrels)	Share of crude in merchandise exports (%)	Share of petroleum in GDP (%)
1974	0.06	4.0	4.3	4.5
1978	0.42	7.3	31.0	6.0
1979	0.48	8.7	45.2	6.5

Source: DIEMEX Data Bank, Based on Banco de Mexico Reports.

oil boom that began only in 1978 and 1979, and since Mexico is already a large and semiindustrialized economy, the primary and some secondary symptoms have so far taken milder forms than in the Persian Gulf countries.

The indicators for those years and for 1974 are shown in Table 4. Although these ratios are well below those of the richer Persian Gulf countries (Table 1), their increase has been substantial in recent years, especially in the oil export share. Moreover, in the oil wealth per capita Mexico outranked several OPEC members in 1978. The relative smallness of the three other lower ratios can be explained by Mexican population (67 million in 1978) and its already advanced output and export product diversification.

The presence of the other primary symptoms, though faint in some cases, can be clearly detected. The most obvious is the external balance effect. Without crude oil exports, the contractions of the deficit in current account below the US \$3.0 billion mark of 1976 could not have occurred. This is evident from Table 5 which presents Mexico's main macro indicators for 1971-79. The wide liberalization of imports of 1978-79 could not have occurred either and the deficit would have doubled in 1979 in the absence of oil.

The unbalanced growth and inflation symptoms can be detected by contrasting the economic plan of President Lopez Portillo for 1977-79, the first half of his term, with the actual behavior of the economy. When the new government assumed office in 1977, inflation was abnormally high. The fundamental aim of the government's plan was to bring inflation down to the external inflation rate by the end of 1979.⁴ Accordingly, the six-year policy of the new government was divided into three periods: the deflationary phase (1977-78), the consolidation phase (1979-80), and the expansionary phase (1981-82). The whole purpose behind this plan was, first, the elimination of the inflationary gap and, second, the moderation of growth to ensure that the gap did not widen again before the economy could utilize the new oil resources, in 1981-82, to fuel faster growth. The basic element in the strategy was that of restraining the oil boom until inflation was completely eradicated or back under control.

Lopez Portillo's program was formulated with an important geo-economic fact in mind. Mexico, in contrast with Argentina, Brazil, or Chile, cannot afford excessive inflation for long. Its extended and difficult-to-control border

Table 5

MAIN MACROECONOMIC INDICATORS OF THE ECHEVERRIA TERM, 1971-76, AND
THE FIRST HALF, 1977-79, OF THE LOPEZ PORTILLO ADMINISTRATION

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Output growth (Rates of real GDP)	3.4	7.3	7.6	5.9	4.1	2.1	3.3	7.3	8.0
Inflation (Rates of GDP price deflator)	4.5	5.6	12.4	24.0	16.7	21.7	32.1	18.1	20.7
External sector (Current account balance in \$ billion)	-0.726	-0.761	-1.175	-2.558	-3.694	-3.068	-1.623	-2.693	-4.864
Crude oil exports (\$ billion)	0.031	0.021	0.025	0.123	0.460	0.557	1.029	1.774	3.789
Employment (Rates of growth)	1.4	3.8	4.1	2.3	1.7	0.3	0.3	3.6	3.8
Public expenditure (Real rates of growth)	-8.3	23.6	21.2	8.0	20.7	-0.8	-1.8	12.7	15.2
Gross fixed private investment (Real rates of growth)	8.4	2.9	6.5	12.5	-3.9	1.6	-15.7	12.3	18.6
Rate of exchange (pesos/\$ at year end)	12.50	12.50	12.50	12.50	12.50	19.95	22.74	22.72	22.80
Foreign long-term public debt (\$ billion)	4.520	4.842	5.958	8.102	11.612	15.923	20.185	25.028	28.315
Short-term external capital movements (\$ billion)	0.218	0.233	-0.378	-0.136	-0.460	-1.093	-2.252	-1.524	1.028

Source: DIEMEX Data Bank, based on Banco de Mexico Annual Reports.

with the US makes Mexico a semiopen economy. Customs and controls are relatively easy to evade, especially in border towns which now form a part (the poor one) of one single larger urban unit with the US counterpart (Ciudad Juarez and El Paso, for example). Capital or exchange controls, in this context, would be totally ineffective and therefore have never been tried.

The strict deflationary effort in 1977, the first year of Lopez Portillo, produced the desired effects, as shown in Table 5. In 1978 the inflation rate was halved from the 32 percent annual rate in 1977, which followed the maxidevaluation of the previous government late in 1976.

In 1978, the second year of the deflationary program, 5 percent real GDP growth was expected. In the event, real growth was 7 percent. It is clear that one of the principal reasons for the higher rate was growing oil investment, production, and exports, and, more important, the expectations as to an oil-fueled boom.

As a consequence of this unplanned, high internal demand, overall growth was far in excess of norms set by the government for the deflationary phase and the first year of consolidation. The main objective of the whole plan, to bring down domestic inflation to the external rate by the end of 1979, was thwarted by appearance of early symptoms of the oil syndrome. The GDP deflator for 1979 rose by a rate of 18.6 percent, almost 10 percent higher than the US GDP deflator.⁵

The presence of the secondary or policy-induced symptoms of oil can also be documented in 1978-79. The National Plan for Industrial Development, published in 1978, places heavy stress on the use of oil resources to achieve economic diversification. One of the main incentives offered in the plan is a 30 percent discount on energy prices to new exporting industries established in predetermined areas, mainly coastal and border locations. Also, the exchange rate has been kept stable, in spite of three years of high inflation.

The beginning of the enlargement of the government role and the opening of the economy (plus the contraction of private consumption) can be observed in Table 6. It indicates changes in the composition of Mexican GDP in 1978 and 1979. Even during the short two-year period, changes similar to those that have occurred over the past seven years in the Persian Gulf countries (compare Table 3 and Table 6), the very same patterns are already detectable in Mexico. It should be noted, however, that the liberalization of imports, in the form of substantial elimination of the widespread licensing system (which has been the hallmark of Mexican protectionism since World War II) started since 1977, before the oil potential was clearly sized. Oil, however, has helped to reinforce the wider liberalization effort. The initiation of preliminary negotiations to join GATT (inconclusive by mid-1980) would probably not have occurred in Mexico without oil surpluses.

The secondary symptoms are present as well. Monumental congestion in the ports of Tampico and Pajaritos in the Gulf of Mexico has been visible since

Table 6

SECONDARY OIL INDICATORS: CHANGES IN GDP COMPOSITION OF MEXICO, 1977 and 1979 (percentages)

	1977	1979	Change
Exports	9.6%	11.3%	1.7%
Government consumption	10.5	10.7	0.2
Gross fixed investment	19.1	22.9	3.8
Gov't. investment	8.3	10.1	
Private investment	10.8	12.8	
Increase stocks	3.0	2.7	-0.3
Private consumption	67.8	66.3	-1.5
Imports	-10.0	-13.9	-3.9
GDP	100.0	100.0	0.0
Government expenditure	18.8	20.8	2.0

Source: DIEMEX Data Bank, based on Banco de Mexico Reports.

early 1979. Another case is the railroad clutter in the border town of Nuevo Laredo, where thousands of freight cars rented from the US are idly waiting to be moved down to deliver cargo. The construction boom of 1978-79 has created further transport bottlenecks and shortages (cement and steel are prominent examples). A real estate boom is under way and land speculation has intensified, especially in 1979. A steady influx of foreign investment is also evident.

To recapitulate up to this point, we may observe that developments in the oil sector during the first half of the Lopez Portillo administration, 1977-79, were fundamental in keeping the external deficit in check, in accelerating growth beyond that initially planned, in creating the productive imbalances noted, and, more important, in frustrating the effort of closing the inflationary gap by the end of the period. The earlier start of the oil boom, however, had a salutary effect: it helped Lopez Portillo in his very successful effort to bring confidence back to the country, which was badly shaken by the devaluation and other developments in 1976.

PREVENTIVE EFFORTS: THE PRESENT OIL POLICY FOR 1980-82 AND BEYOND

The oil policy of the present administration through 1979 and early 1980 has been cautious. The original (March 1977) plan for the six years was to reach a production ceiling of 2.25 million barrels per day by 1982, with half earmarked for exports. The natural gas export goal was 2.2 billion cubic feet per day at the end of 1982. The disagreement with the US over gas pricing led to a protracted period of renegotiation, which culminated in the gas agreement of late 1979. This agreement calls for a substantially reduced rate of

exports relative to that initially contemplated: 0.3 to 0.5 billion cubic feet per day in 1980 at a starting price of \$3.625 dollars per thousand cubic feet, subject to quarterly revisions.

In March 1978 PEMEX announced an upward revision of its policy, based on additional reserve findings. The production ceiling of 2.25 million bbls/day was moved from 1982 to 1980. The 1.1 million bbls/day export target was upgraded accordingly. This was the position prevailing at the beginning of 1980. It is, however, known that a new upward revision is now under study, based again on higher reserve estimates, with a 4.0 million bbls/day production target by 1982. In the event of presidential approval, this new target would be announced in March of 1981, on the anniversary of the oil nationalization. As will be shown later, it is not likely that this ambitious goal will be ultimately approved; rather an intermediate target of perhaps just below 3.0 million bbls/day seems more probable.

Present oil policy is very conservative. With 33.4 billion barrels of proven crude oil reserves and a 2.25 bbls/day production target, the ratio of reserves to annual production is 41 years whereas Saudi Arabia's ratio is around 33 years, Venezuela's ratio is 17 years, and that of the US is 27 years.

This conservatism is based on several factors. One is the traditional nationalism of Mexico, grounded in bad colonial memories of fast exploitation of nonrenewable, mineral resources for export. The other, more important, is the awareness of the negative symptoms of fast oil exploitation.⁶ Lopez Portillo has repeatedly expressed the view that immoderate pumping of oil can create undesirable effects or "financial indigestion" and serious inflation. He is also on record against the use of oil to make Mexico a net exporter of capital. Other Mexican officials have also confirmed this mistrust of sudden oil riches, by linking the Iranian revolution and the 1978 balance of payments problems of Venezuela to the excesses generated by too rapid exploitation of the oil sector.

As seen in the previous section, these misgivings appear to be well founded. The early signs of the oil syndrome are already clearly visible in Mexico, in spite of the deflationary efforts of phase one. This is why 1980 will be a crossroads year. With oil and the antiinflationary aim having come to a head in 1979, the administration will have to make the crucial decision between inducing a moderate slowdown or letting the oil boom carry the acceleration of 1978-79 still higher, and risk a further widening of the inflationary gap.

PROGNOSIS: PROSPECTIVE MACROECONOMIC EFFECTS OF OIL IN 1980-82 AND BEYOND

In this final section, I proceed first by describing the economic policy (oil and nonoil) assumed, and then by presenting the resulting projections or prognosis for the last half of the Lopez Portillo administration, 1980-82, and for the rest of the decade.

Table 7

CONTINUATION OF THE ANTIINFLATIONARY PLAN, MODERATE DECELERATION IN 1980, HIGHER CRUDE OIL EXPORT PRICES

Hydrocarbons sector	1980	1981	1982	1983	1984	1985
Pemex production						
Crude oil, condens. & liqs. (Billions bbls/day)						
Total production	1,977	2,353	2,793	3,000	3,276	3,594
Change (%)	20.8	19.0	18.7	7.4	9.2	9.7
Exports	0.775	1.025	1.332	1,457	1,605	1,769
Change (%)	45.1	32.3	30.0	9.4	10.2	10.2
Domestic consumption	1,104	1,210	1,322	1,393	1,507	1,645
Change (%)	8.0	9.7	9.2	5.4	8.2	9.1
Gas (billions cu.ft./day)						
Total production	3,780	4,748	5,679	6,336	6,990	7,658
Change (%)	28.9	25.6	19.6	11.6	10.3	9.5
Exports	0,350	0,750	1,100	1,270	1,350	1,420
Change (%)		114.3	46.7	15.5	6.3	5.2
Domestic consumption	3,241	3,760	4,295	4,749	5,291	5,855
Change (%)	16.4	16.0	14.2	10.6	11.4	10.7
Export prices (annual average)						
Avg. price of Mex. oil exports (\$/bbl)	32.50	37.05	41.00	44.89	48.71	52.36
Change (%)	62.5	14.0	10.7	9.5	8.5	7.5
Avg. price of Mex. gas exports (\$/TCF)	4.50	4.98	5.49	6.01	6.53	7.02
Change (%)	24.1	10.2	10.8	9.5	8.5	7.5
Total value of hydrocarbon exports (\$ billions)						
Crude oil	9,768	15,219	22,139	26,663	31,752	37,447
Gas	9,193	13,861	19,933	23,875	28,536	33,811
Ratio: hydroc. exp./exp. gds. svcs. & facs.	0.446	0.521	0.583	0.603	0.620	0.635
Public investments in pet. & gas (billion pesos)						
Nominal	91.81	103.82	115.28	125.61	177.11	212.27
Change (%)	27.1	13.1	11.0	9.0	41.0	19.9
Real (1960 pesos)	13.28	12.44	11.50	10.70	12.99	13.44
Change (%)	4.2	-6.3	-7.6	-7.0	21.4	3.5

Based on the current (March 1978) oil plan for the remainder of the present administration (1980-82) and the assumption of a moderate policy of doubling the volume of crude oil exports of 1982 by 1989-90, I have forecast the likely export policy of the next administration, 1983-88. For crude export prices I incorporate the 62.5 percent increase already effected from December 1978 to January 1980. From 1981 onwards, I have assumed that Mexican prices will follow US inflation, with the addition of a declining premium which becomes zero in 1986. Table 7 contains these estimates, plus those pertaining to natural gas exports and prices. Both crude and gas export volumes for 1980-82 appear realistic in light of the 1977-79 experience of PEMEX in reaching its policy targets. As for the longer run, 1983-88, there is little basis at present for forecasting any major deviations from the stated assumptions. A much more expansive export program may generate external surpluses of higher order, if growth has to be restrained to avoid excessive inflation, essential if Mexico's highly open financial system is to remain healthy.

Regarding the other elements of economic policy, I expect in the main projection (control) that the administration will manage them so as to induce a moderate deceleration in 1980 in order to avoid compounding its failure to close the external inflationary gap in 1979. This will, however, be difficult to accomplish. Two traditional instruments are now unavailable. Austerity government expenditure, used effectively in 1977-78, is difficult to implement midway through a political term, and almost impossible with the growing oil

resources. Wage restraint, as applied during 1977-79, is also unavailable: minimum wages were adjusted by 21.5 percent on 1 January 1980, almost double the rate of the three previous years, and they cannot be restrained again. The burden, then, of the slowdown, if it is decided, will have to fall mostly on monetary policy and a further opening up of the economy. These are the main assumptions built into the Control Projection, "Continuation of the Anti-Inflationary Consolidation Plan," whose main results are shown in Tables 8 and 9.

Other policy assumptions are the following. To protect nonoil exports (and the diversification effort) against the accumulated effects of the inflationary gap, a "midi" adjustment to the peso is anticipated in 1981. See Table 8. Real public expenditure maintains its recent pace, as shown in Table 8. Wage policy

Table 8

CONTINUATION OF THE ANTIINFLATIONARY PLAN, MODERATE DECELERATIONS
IN 1980, HIGHER CRUDE OIL EXPORT PRICES

Main economic indicators	1980	1981	1982	1983	1984	1985
Gross domestic product (billion pesos 1960)	508.02	551.42	595.85	623.13	667.36	718.30
Change (%)	7.1	8.5	8.1	4.6	7.1	7.6
Gross domestic product (billion pesos)	3,512.32	4,601.93	5,973.16	7,315.24	9,098.81	11,342.35
Change (%)	30.7	31.0	29.8	22.5	24.4	24.7
Sectoral output						
Primary sector (billion pesos 1960)	43.00	44.38	45.84	47.40	49.06	50.83
Change (%)	3.5	3.2	3.3	3.4	3.5	3.6
Secondary sector (billion pesos 1960)	200.91	222.88	245.94	260.62	284.51	310.60
Change (%)	9.1	10.9	10.3	6.0	9.2	9.2
Tertiary sector (billion pesos 1960)	264.11	284.17	304.06	315.11	333.79	356.88
Change (%)	6.2	7.6	7.0	3.6	5.9	6.9
Prices and wages						
Implicit price deflator - GDP (1960=1.0)	6,914	8,346	10,025	11,740.	13,634	15,790
Change (%)	22.0	20.7	20.1	17.1	16.1	15.8
Consumers' price index - National (1960=1.0)	5,979	7,282	8,796	10,342	12,035	13,958
Change (%)	23.1	21.8	20.8	17.6	16.4	16.0
Wholesale price index (1960=1.0)	6,024	7,227	8,613	10,029	11,567	13,309
Change (%)	20.5	20.0	19.2	16.4	15.3	15.1
Average annual wage rate (thousands pesos)	49,901	63,162	78,563	93,407	113,301	135,977
Change (%)	22.9	26.6	24.4	18.9	21.3	20.0
Average annual wage rate (thousand pesos 1960)	7,218	7,568	7,837	7,957	8,310	8,611
Change (%)	0.7	4.9	3.5	1.5	4.4	3.6
Exchange rate (pesos per dollar)						
Average for the year	22.87	24.86	26.85	26.85	26.85	26.85
Change (%)	0.2	8.7	8.0	0.0	0.0	0.0
Value at the end of the year	22.87	26.85	26.85	26.85	26.85	26.85
Change (%)	0.0	17.4	0.0	0.0	0.0	0.0
Balance on current account (billion dollars)	-3.197	-1.377	1.233	1.612	1.388	0.205
Exports (\$ billion)	21.920	29,232	37,956	44,250	51,218	58,999
Imports (\$ billion)	25.117	30,609	36,723	42,638	49,830	58,794
Long-term capital account (\$ billion)						
Long-term capital inflows	5.019	4,781	2,043	1,199	2,096	3,736
Public sector	3,736	3,418	1,403	0,473	1,024	2,333
Private sector and others	1,284	1,362	0,641	0,727	1,072	1,404
Total long-term public external debt (\$ billion)	31,080	34,499	35,901	36,374	37,398	39,731
Public external debt/GDP ratio	0.20	0.20	0.16	0.13	0.11	0.09
Money supply - M1 (billion pesos)	458.90	606.76	799.82	993.61	1,261.19	1,608.70
Change (%)	32.5	32.2	31.8	24.2	26.9	27.6
Govt. total expenditures (billion pesos 1960)	110.60	123.64	137.39	145.23	162.34	180.76
Change (%)	12.1	11.8	11.1	5.7	11.8	11.3
Total gross fixed investment (billion pesos 1960)	126.81	144.79	161.65	167.27	186.77	208.11
Change (%)	16.7	14.2	11.7	3.5	11.7	11.4
Employment (million of workers)	19,072	19,804	20,642	21,400	21,997	22,792
Change (%)	3.9	3.8	4.2	3.7	2.8	3.6

Table 9

PROJECTION OF THE PRIMARY AND SECONDARY OIL INDICATORS OF MEXICO 1985 and 1990 (percentages)

	1979	1985	1990
<i>Primary indicators</i>			
Share of crude oil in merchandise exports	45.2%	74.0%	76.5%
Share of crude and gas in merchandise exports	45.2	82.0	86.4
Share of petroleum in GDP	6.5	8.6	9.6
Crude oil production per capita (barrels per inhabitant)	8.7	16.1	22.3
<i>Secondary: composition of GDP</i>			
Exports	11.3	11.5	11.1
Government consumption	10.7	11.2	11.8
Gross fixed investment	22.9	29.0	31.8
Public	10.1	14.0	16.6
Private	12.8	15.0	15.2
Increase in stocks	2.7	2.8	2.9
Private consumption	66.3	63.8	62.3
Imports	-13.9	-18.3	-19.9
GDP	100.0	100.0	100.0
Government expenditure	18.8	25.2	28.4

Source: DIEMEX-Wharton Control Projection, 1980-90, of 31 January 1980.

remains liberal, while monetary policy remains tight, as can be appreciated by comparing the rates of growth of M1 with nominal GDP (Table 8).

In spite of the restrained character of this oil and economic policy package, the oil symptoms become more pronounced from 1980 onward, according to the estimates of Table 8. Let us consider first the primary symptoms.

(1) The most distinctive sign of the oil syndrome, a surplus in the external accounts, appears from 1982 onward. It is of minor order, however, and it dissipates by the middle of the decade. From there on a quasi-equilibrium is maintained (Table 8).

In line with this development, foreign borrowing contracts only in relative, not in absolute, terms. Long-term public debt, as a ratio of GDP, falls from 23 percent in 1979 to 11 percent by 1984, and to 5 percent by 1990. Under present plans, Mexico, then, will not soon become an international investor or lender.

The projection of the primary oil indicators, at the top of Table 9, shows Mexico matching the "scores" of some of the Persian Gulf economies. By the mid-1980s, oil will account for 75 percent of its merchandise exports. Crude

oil output per capita will reach 16 barrels per inhabitant. Mexican output diversification, however, will keep hydrocarbons at less than 9 percent of GDP. By 1990 they will increase somewhat, especially crude output per capita.

(2) After the mild deceleration of 1980, growth rates above 8 percent, which are abnormally high for Mexico, appear in 1981–82. During the next presidential six years, 1983–88, with the exception of the traditionally slow first year of the political cycle, 7–7.5 percent growth rates could be maintained (Table 9).

Accordingly, labor demand will keep advancing in the 3.7–3.9 percent range, which will help to attain almost equilibrium in the labor market, as labor supply is estimated to grow yearly at a high 4.0–4.3 percent, due to the influx of women to the labor force (Table 9).

If sectoral growth well below the overall GDP growth is taken as a sign of a bottleneck, agriculture will remain the most serious one (Table 8). The same will happen, although to a lesser extent, with transport and communications, which will grow below GDP (not shown in the table).

(3) The most serious symptom is inflation. In 1980 it will accelerate. In spite of the antiinflationary effort noted before, it may reach 22 percent, measured by the GDP deflator (Table 8). From there only a very gradual deceleration can be expected by the end of the Lopez Portillo administration. In the longer run, projected inflation does not fall below 15 percent. This chronic inflationary gap portends major economic consequences. It may mean the unavailability of indexation of the important prices: wages, interest rates, and even the rate of exchange, if the fundamental objective of protecting the non-oil exports is to prevail, without burdensome subsidization. A stronger dose of a stop-and-go policy, as applied in Venezuela and Saudi Arabia, could be another possibility that may happen in 1981–82, precisely during the years earmarked for expansion.

The policy-induced or secondary oil symptoms—industrial diversification through rapid capital formation, expansion of the government role and the opening of the economy—become more increasingly evident in the prognosis for later years, as Table 9 shows. The estimate for gross fixed investment reaches almost 30 percent of GDP by 1985, while imports of goods and services grow to 18 percent. Government expenditure rises to 25 percent. Private consumption contracts to 64 percent. By 1990 these changes become more pronounced.

A comparison of these compositional changes with those of Iran, Saudi Arabia, and Venezuela, in Table 3, helps to show that they are similar in nature and speed. The differences, however, are also important. Mexico does not reach, even in the prognosis for 1990, the extremely high levels of export and import shares of the three OPEC members, nor does its private consumption share fall as low. Mexico's demographic size, advanced industrialization, and large internal market are the "differentia."

One caveat merits mention: if, due to oil, the effort to continue the anti-inflationary consolidation falters, the deceleration of 1980 may not materialize. In this case, the economy may grow faster and inflation may accelerate even further than projected. The oil syndrome then will become even more marked.

In conclusion, the impact of oil will generate in Mexico the standard symptoms (although in a milder form) observable in other oil-rich countries: high growth, inflation, and even a surplus in the external accounts. Mexico will not be essentially different, according to my prognosis. The difference will be that the long border with the US will force policy to make a strong stand to contain inflation. This may mean that the oil program cannot become more dynamic than it is now.

CONCLUSION

The answers given by this article to the four original questions can be summarized as follows:

With the rapid development of its oil sector, during the recent past, 1978-79, Mexico has shown clear evidence of the early signs of the oil syndrome, as found in the Persian Gulf countries, although in a milder form, given Mexico's size and economic diversification.

Unplanned rapid growth weakened Lopez Portillo's antiinflationary effort. As a result, his fundamental aim of eliminating the external inflationary gap (mainly with the US), before entering the oil-based expansionary phase, did not materialize.

The long (and hard to control) northern border, makes Mexico a very open economy. Consequently, a chronic inflationary gap cannot be allowed, if a weakening of the financial system and a strengthening of the income protection demands are to be avoided.

The prognosis for 1980 and beyond is for a continuation of a tug-of-war between Lopez Portillo's antiinflationary stand and the oil boom. In the main projection, I expect an effort to decelerate growth this year. Inflation, however, will accelerate and yield only slightly in 1981-82.

Barring an application of a severe dose of a stop-and-go policy, growth will accelerate in 1981-82 above 8 percent, with favorable consequences for the goal of equilibrating the labor market.

In the prognosis, a prudent oil policy is assumed. It reaches 2.8 million bbls/day of crude output by 1982 and doubles by 1990.

NOTES

1. Vahan Zanoyan, of Wharton EFA, in his recent study has provided the notion of the oil countries in the intermediate position in the spectrum between the LDC and the MDC. See [3, pp. 2-5], a study prepared for the Gulf Organization for Industrial Consulting.

2. Zanoian rejects the hypothesis that there is a backward bending oil supply curve in the Persian Gulf nations. Saudi Arabian curtailment of output in 1977 was not a response to higher real prices (they declined), but to lower international demand. See [3, pp. 8-9].

3. It should be noted that these policies are not, in principle, exclusive of the oil-exporting countries; they are universal of most developing nations. What is peculiar is their cause, and especially the speed, extent, and methods with which they can be implemented by the oil countries. Regarding methods, not all LDCs have to fight inflation by the foreign lending or revaluation.

4. By successfully following this policy of keeping an almost zero inflationary gap with the US, its main trading partner, Mexico was able to maintain a stable peso vis-à-vis the dollar for 22 years. The robust expansion of its financial system during the decade of the 1960s was, in turn, founded on the certainty of a stable exchange rate.

5. Some Mexican economists have stated lightly that even with the best inflationary intentions of its neighbor, Mexico could not reach its own.

6. An excellent statement of the Mexican misgivings of sudden oil wealth is provided in the editorial article "El Reto del Petroleo" in [1].

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3. Vahan Zanoian, *Modelling the Oil Producing Economies of the Arabian Gulf: A Prototype Model Specification* (Philadelphia: Wharton EFA, 1980).