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7 Mexico 1958–86: From Stabilizing Development to the Debt Crisis

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of Allen Sangines Krause

7.1 Introduction

The purpose of this chapter is to critically examine macroeconomic policy in Mexico during the period 1958–86. This period is of special interest as it embodies two distinct, sharply contrasting phases. Between 1958 and 1972, the inflation rate never exceeded 6 percent while annual output growth averaged 6.7 percent. The period since 1972, by contrast, has been marked by a succession of increasingly severe macroeconomic crises. At the end of 1986, Mexico was saddled with a huge foreign debt, triple digit inflation and had suffered a 13.5 percent decrease in real per capita income in the preceding five years.

Sections 7.2 through 7.5 analyze economic performance during the era of Stabilizing Development and the Echeverria, Lopez Portillo and De La Madrid administrations. In these sections we track the evolution of economic policy and the major macroeconomic variables of interest such as real wages, the foreign debt, capital flight, the fiscal deficit (broken down according to the deficits of the parastatal sector, financial intermediaries, and the rest of the government) and different measures of financial intermediation. The final section evaluates the post-1982 adjustment record.

7.2 The Record of Stabilizing Development

After the devaluation of the peso in 1954, the Mexican economy entered a phase of high growth and low inflation that would last until

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the end of the 1960s. This period has since come to be known as the era of Stabilizing Development (SD). The main objectives of economic policy during SD were to increase private sector savings and capital accumulation, maintain price stability and a fixed parity with the dollar, and increase real wages. These goals were largely achieved, leading observers to speak of a "Mexican miracle." The exchange rate was kept fixed at 12.5 pesos per dollar and the annual inflation rate averaged 3.8 percent. Real output grew at an average rate of 6.7 percent and the share of gross fixed investment in GDP rose (at 1960 prices) from 16.2 percent in 1958 to 20.8 percent in 1970. The real manufacturing sector wage inclusive of fringe benefits grew at an annual average rate of approximately 4 percent.[1]

Economic policy during this period was consistent and well defined. To promote private capital accumulation, profits were taxed at a low rate and public sector investment was directed toward projects complementary to private investment (mostly social infrastructure). A substantial increase in financial intermediation also played an important role in stimulating private investment. The supply of bank funds and private sector credit grew rapidly in response to a policy of maintaining real deposit rates at positive levels competitive with those offered in the United States. In real terms, bank credit to the private sector grew at an average annual rate of 14.8 percent.

Fiscal and monetary policies were coordinated with a view to preserving a fixed exchange rate and overall price stability. The growth rate of the monetary base was strictly controlled and it was well understood that if the fiscal deficit exceeded the level consistent with the planned rate of monetary emission, expenditures were to be lowered until the gap was eliminated. The main source of funds for financing the fiscal deficit was not the printing press but rather forced "loans" extracted from the commercial banking system through the imposition of high reserve ratios ($\approx$34 percent). Since bank deposits grew at a rapid pace, this provided a considerable margin for noninflationary financing of the fiscal deficit.

The conventional view holds that the SD program was inherently flawed and that starting sometime around the mid-1960s the economy was besieged by a host of intractable problems:

1. *Inadequate employment growth.*[2] Underemployment is alleged to have worsened as a result of policies aimed at stimulating investment, which made capital relatively cheap and encouraged firms to use less labor-intensive technologies, and the protectionist trade regime, which promoted the capital-intensive, import-substituting industrial sector at the expense of the labor-intensive agricultural sector.

2. *A worsening distribution of income.*[3] Neglect of agriculture and inadequate employment growth meant that the poorest groups gained little in the growth achieved under SD.
3. *Progressive loss of fiscal control.*[4] Concern about the deteriorating distribution of income created pressure to increase social welfare expenditures, leading to a sharp increase in overall public sector spending in the last half of the 1960s. Because of an earlier failure to achieve any significant tax reform, revenue growth could not keep pace and the fiscal deficit started rising, climbing from 0.9 percent of GDP in 1965 to 3.8 percent in 1970. The larger fiscal deficits, in turn, caused the payments balance to deteriorate and by 1970 the current account deficit had reached the unprecedented figure of $1.19 billion.
4. *Diminishing growth potential.*[5] It is often claimed that the economy began to lose steam after 1965 when growth in agricultural output declined steeply and the opportunities for "easy" and efficient import-substitution had been largely exhausted.

We are unable to find much support for the above critique. There is little hard evidence that either underemployment or the distribution of income worsened during the SD era. Claims that underemployment worsened are quite tenuous given the numerous, serious problems with the employment data in the 1960 and 1970 populations censuses.[6] Estimates of employment growth differ widely depending on the nature of the adjustment made to correct flaws in the data. Although the quality of the data is problematic, on balance, the evidence lends greater support to the view that the SD policies succeeded in greatly reducing the extent of underemployment. For the industrial sector, even pessimistic estimates show growth rates of employment well above that of the labor force.[7] Nor does it seem that high employment growth in the industrial sector was achieved at the expense of employment growth elsewhere in the economy. Gregory (1986) reviews the data on wages and productivity in the informal sector and concludes that they strongly contradict the hypothesis that the large shift of labor out of agriculture depressed informal sector incomes. During the 1960s real wages and labor productivity increased substantially across establishments of all sizes in industry, commerce and services.[8]

Utilizing data from various household expenditure surveys, numerous studies have been made of how the distribution of income has evolved since the early 1950s. These studies generally conclude that the distribution of income worsened during SD. This conclusion, however, is open to question in view of problems in the comparability of the data across surveys and possible biases in the summary measures of the income distribution. Moreover, there is some evidence which

suggests that, regardless of how the overall distribution may have changed, the poor benefitted substantially in absolute terms from the high rate of economic growth. According to van Ginneken (1980), the percentage of families living in poverty declined from 45 percent in 1958 to 30 percent in 1969.[9]

The claim that the economy's growth momentum began to decline after the mid-1960s appears to be similarly weak. The high rates of growth of agricultural output between 1945 and 1965 were based on the development of large scale irrigation schemes in the northwest that improved existing lands and brought vast amounts of new land under cultivation. By 1965, this source of growth had been largely exhausted.[10] Agricultural growth fell off sharply after 1965 because of political constraints on land redistribution that prevented investment that would develop the more populous rain-fed agricultural areas, not because SD entailed "neglect of the agricultural sector." Furthermore, despite the deceleration in agricultural growth, overall growth remained satisfactory thanks to the strong performance of the industrial sector. The share of investment in GDP rose from 18.7 percent to 20.8 percent and total output grew at an annual average rate of 6.9 percent over 1966–70.

Finally, we also disagree with the view that fiscal discipline began to break down during the Diaz Ordaz administration. The increase in the fiscal deficit from 0.9 percent of GDP in 1965 to 3.8 percent in 1970 reflected merely the normal workings of a very well-defined political expenditure cycle. Table 7.1 displays the results of regressing the detrended values of current, capital, and total government expenditures for the period 1965–85 on six dummy variables (D1–D6) corresponding to the six years making up the presidential term.[11] It is clear that fiscal policy follows a very distinct cycle. The expenditure cycle seems to stem both from the perceived political advantages of increasing expenditures shortly before elections and from the incongruity between the natural gestation period of investment projects and the fixed, six-year term (*sexenio*) of each administration (reelection is not allowed). Fiscal expansion invariably occurs in the two years preceding the upcoming election. Capital spending increases strongly in the fifth year in a rush to complete investment projects before the term of the existing administration expires. In the following year, spending surges again as current expenditures rise in the campaign to strengthen political support just before the election. Immediately after the election, spending falls sharply as capital expenditures temporarily decline while a new set of investment projects are being designed and the new administration strives to reduce the fiscal deficit. Fiscal control then prevails until the fifth year when the cycle starts to repeat itself.

Returning to the issue of fiscal discipline in the latter part of the SD period, since 1965 was the first year of the Diaz Ordaz *sexenio*, the

Table 7.1 The Political Business Cycle

	Total Public Sector Expenditure	Current Expenditure	Capital Expenditure
D1	−.076	−.026	−.19
	(2.32)	(.63)	(4.24)
D2	−.063	−.067	−.04
	(1.93)	(1.61)	(.90)
D3	−.151	−.038	.043
	(.46)	(.92)	(.96)
D4	−.016	−.002	−.025
	(.15)	(.04)	(.046)
D5	.12	.082	.218
	(2.98)	(1.62)	(3.96)
D6	.079	.091	.059
	(2.40)	(2.18)	(1.32)
R^2	.71	.70	.80
R^2	.56	.47	.65
Durbin-Watson statistic	1.22	1.47	1.81

increase in the fiscal deficit between 1965 and 1970 was not at all out of the ordinary. The relevant comparison is between the fiscal deficits of 1964 and 1970. This comparison does not support the notion of mounting fiscal problems. In both years, the deficit was approximately 4 percent of GDP.

7.3 The Echeverria Administration: Shared Development

Economic policy changed radically with the accession of Luis Echeverria to the presidency. After contractionary measures were temporarily imposed in 1971 to reduce the payments deficit, an enormous fiscal expansion took place. In the succeeding five years, general government employment doubled and the share of total public sector spending in GDP jumped from 20.5 percent to 30 percent. Much of the increased spending took place in the parastatal sector. Between 1971 and 1975, real current expenditure by public sector enterprises grew at an average annual rate of 18 percent; capital outlays rose at an even faster rate of 29.3 percent.

Another attempt at tax reform failed in 1972. Consequently, the fiscal deficit soared, climbing to 10 percent of GDP in 1975 and 1976. Unlike in the preceding Diaz Ordaz administration, a large portion of the deficit was financed by borrowing from the Central Bank. The growth rate of the monetary base accelerated from 19.8 percent in 1972 to 33.8 percent

in 1975 and the share of seignorage in GDP rose to triple the average level of the 1960s.

A second important shift in monetary policy concerned the management of interest rates. Whereas real deposit rates were maintained at positive levels throughout SD, after 1972 this policy was allowed to lapse. Nominal interest rates were not adjusted upward in step with increases in inflation, and as real rates turned negative the "financial miracle" terminated abruptly. The total stock of real bank funds fell 13.3 percent from 1973 to 1976. Financial disintermediation, in turn, by reducing the growth of demand for bank reserves—much the largest component of the monetary base—made it far more difficult to prevent excessive growth in the high-powered money supply. The government reacted by raising the reserve ratio from .313 in 1970 to .511 in 1976. Nonetheless, real bank reserves grew at an annual rate of only 5.7 percent over 1973–76, a figure far below that (9.8 percent) recorded during the preceding Diaz Ordaz administration.

For a couple of years, expansionary demand policies were successful in stimulating strong output growth. However, problems soon began to appear. After 1972, when recovery from the 1971 recession was complete and excess capacity had largely disappeared, inflation accelerated, rising above 20 percent in 1973 and 1974. Furthermore, while aggregate growth was high from 1972–74, much of the growth was concentrated in the public sector. Private investment weakened, dropping from 14 percent of GDP (at 1970 prices) in 1971 to 12.7 percent in 1975. Government financial policies seem to have been at least partly responsible for the slump in private investment; negative real deposit rates, slowing the growth of bank funds, and higher reserve requirements caused the supply of credit to the private sector to diminish sharply.

More threatening than either the acceleration in inflation or the decline in private investment was the deterioration in the payments balance. As the nominal exchange rate remained pegged at 12.5 pesos per dollar, the real exchange rate fell rapidly and the current account deficit deteriorated until it reached the alarming level of $4.4 billion in 1975, a figure equivalent to 5.1 percent of GDP. The reluctance to raise domestic interest rates in the face of higher inflation and a clearly overvalued peso caused the overall payments balance to deteriorate to an even greater extent. Capital flight commenced on a large scale, withdrawing $3.6 billion dollars from the country in 1975 and 1976 (Zedillo 1987, 177).

The large payments deficits were mirrored in a fast-mounting level of foreign indebtedness. From a figure of $6.3 billion at the start of 1971, the total foreign debt more than quadrupled to $27.9 billion by the end of 1976. Almost all of this debt was taken out by the public sector from the commercial banks.

In 1976, the economic program of the Echeverria administration collapsed under extreme balance of payments pressures. Extensive import controls were imposed and parastatal expenditures were sharply curtailed, but little was done to check spending by other branches of the government or to curb monetary expansion. As a result, though the burden of debt service was not exceptionally high (35 percent of current account income if short-term debts could be rolled over), the current account deficit remained sizeable ($3.7 billion for the year), capital flight persisted and the Central Bank's stock of foreign exchange reserves became severely depleted. On 31 August, the peso was devalued nearly 100 percent and the economy went into a severe tailspin. During the last four months of the year, manufacturing sector employment declined 4.2 percent, the inflation rate surged to 60 percent, and there were frequent threats of bank runs. Shortly before Lopez Portillo's inauguration, negotiations began on the terms for a standby agreement with the IMF.

7.4 The Lopez Portillo Administration

The Lopez Portillo administration soon reached an agreement with the IMF on a stabilization program to be implemented in stages over three years. The program called for the usual mix of trade liberalization and monetary and fiscal austerity. In its first year, the program was fairly successful. The fiscal deficit was lowered from 9.9 percent to 6.7 percent of GDP, the inflation rate declined from 27.2 percent to 20.7 percent, and the current account deficit fell by over two billion dollars in 1977. GDP growth slowed further to 3.4 percent, but the decline was far less severe than anticipated. (GDP had been forecasted to remain constant).

When it became widely known that Mexico's oil wealth was far greater than formerly thought, the Fund program was dropped in favor of a "new," more expansionary policy package. The new development plan entailed large, sustained increases in real government expenditures. In this respect, the plan appeared to continue the discredited Public Expenditure—Led Growth strategy of the Echeverria administration. It was argued, however, that an economic base expanded and strengthened by oil wealth could support a much enlarged role for the public sector. Furthermore, strong fiscal stimulus was to be only one part of a comprehensive reform package that would avoid the main policy errors of the Echeverria administration.

In the ensuing four years, the Mexican economy recorded some impressive accomplishments (see tables 7.2a and 7.2b). Over the 1978–81 period, real GDP growth ranged between 8.0 and 9.1 percent and employment in the high-wage manufacturing sector and the public sector increased 27.2 percent and 41.4 percent. respectively. Both private

Table 7.2a **Macroeconomic Aggregates (% change)[1]**

	1976	1977	1978	1979	1980	1981	1982
Real GDP	4.2	3.4	8.3	9.1	8.3	8.0	−0.5
Manufacturing	5.0	3.6	9.8	10.6	7.2	7.0	−2.9
Agricultural and fisheries	1.0	7.5	6.0	−2.1	7.1	6.1	−0.6
Inflation[2]	27.2	20.7	16.2	20.0	29.8	28.7	98.9
Manufacturing sector employment[3]	−0.06	1.9	7.9	6.7	7.2	2.9	− 8.5
General government employment	9.8	5.7	7.5	9.9	10.8	9.6	5.3
Public sector employment	9.1	5.5	7.3	9.2	10.4	9.3	5.9
Real investment	0.4	−6.7	15.2	20.2	14.9	14.7	−15.9
Private	6.1	−6.7	5.1	22.7	13.7	14.0	−17.3
Public	−7.6	−6.7	31.6	17.1	16.7	15.8	−14.2

Table 7.2b **Composition of Output (% of GDP)[4]**

	1976	1977	1978	1979	1980	1981	1982
Private consumption	69.9	69.0	68.9	68.7	68.2	67.9	69.0
Government consumption	9.0	8.6	8.8	8.8	8.9	9.1	9.3
Gross fixed capital formation	20.9	18.9	20.0	22.1	23.5	24.9	21.0
Private	12.9	11.7	11.3	12.7	13.4	14.1	11.7
Public	8.0	7.2	8.7	9.4	10.1	10.8	9.3
Change in inventories	2.3	3.5	3.0	2.8	4.6	5.1	0.5
Exports	7.9	8.8	9.1	9.3	9.1	9.0	10.2
Imports	10.1	8.8	9.9	11.7	14.3	15.9	10.1

Sources: Sistema de Cuentas Nacionales de Mexico: Cuentas de Produccion del Sector Publico 1975–1983 for government employment data. The manufacturing sector employment series is from Indicadores Economicos. All other data is from the National Income Accounts of INEGI (Instituto Nacional de Estadistica Geografia e Informatica).

[1]Real variables are expressed in terms of 1970 prices.

[2]December to December change in the CPI.

[3]December to December change.

[4]Output shares at 1970 prices.

and public sector investment spending increased greatly. The share of public sector investment in GDP rose (at 1970 prices) from 7.2 to 10.8 percent and that of the private sector increased from 11.7 to 14.1 percent. The inflation rate began creeping upward after 1978 but never exceeded 30 percent.

Despite the substantial increase in the economy's investment rate, the acceleration in growth after the 1977 recession was not sustainable. In retrospect, it is clear that little, if any, policy reform took place and

that the oil bonanza simply resulted in the policy mistakes of the Echeverria administration being repeated on a larger scale. Both current and capital expenditures of the public sector grew more rapidly than projected and got completely out of hand after 1980. Total real public sector expenditure increased by 97.7 percent in the space of four years, climbing from 29.5 percent of GDP in 1977 to 41.3 percent in 1981, a figure some nine percentage points above the peak value recorded during the Echeverria administration (see table 7.3). This massive increase in expenditure led to large fiscal deficits as it was not matched by a similar buildup in revenues. After declining to 6.7 percent of GDP in 1977, the overall fiscal deficit grew steadily and then skyrocketed to 14.7 percent in 1981 when real public sector spending (net of interest payments on the external debt) rose an astounding 28.6 percent.

The breakdown in the overall deficit shown in table 7.4 points to stagnation of nonoil revenues, in addition to rapid expenditure growth, as an important factor in the rising deficits. PEMEX initially registered a small surplus, but after 1978, when petroleum exports commenced on a large scale, the surplus rose rapidly, reaching 6.3 percent of GDP in 1980 and then falling back to 4.1 percent in 1981. This sizeable revenue windfall was offset to a large extent by slow revenue growth elsewhere in the public sector. Between 1978 and 1981, the deficit of the non-PEMEX parastatal sector increased from 2.8 percent of GNP to 5.1 percent, with more than half of the increment owing to the decline in the sector's revenue share. The revenue share of the nonparastatal sector declined to an even greater extent, dropping from 10.5 percent of GDP in 1978 to 8.3 percent in 1981. Moreover, part of current expenditures of the Federal government probably reflects expenditures induced by revenue shortfalls in the nonparastatal sector. In the detailed fiscal accounts of SHCP (Secretaria de Hacienda y Credito

Table 7.3 **Public Sector Expenditures and Revenues (% of GDP)**

	1977	1978	1979	1980	1981	1982
Expenditure	29.5	31.0	32.2	34.6	41.3	46.4
Current	22.0	22.3	22.6	24.9	28.0	36.0
Interest payments on the foreign debt	1.9	2.0	2.1	2.1	2.3	5.1
Other	20.1	20.3	20.5	22.8	25.7	30.7
Capital	7.5	8.7	9.6	9.7	13.3	10.6
Revenues	24.2	25.5	26.2	27.8	27.7	30.1
Economic deficit	5.4	5.5	6.0	6.8	13.6	16.3
Deficit on financial intermediation[1]	1.4	1.2	1.4	1.0	1.2	1.4
Monetary deficit	6.7	6.7	7.4	7.9	14.7	17.6

Source: Estadisticas Hacendarias del Sector Publico: Cifras Anuales 1965–1982 (SHCP).
[1]Deficit of La Banca de Desarrollo.

Table 7.4 **Deficit Breakdown (% of GDP)**

	1977	1978	1979	1980	1981	1982
PEMEX						
Expenditure	3.9	4.8	5.5	5.8	7.5	7.5
Current[1]	2.0	2.1	2.5	2.9	3.6	4.5
Capital[2]	1.9	2.7	3.0	3.0	3.9	3.0
Revenues[3]	4.9	5.8	7.4	12.1	11.6	15.8
Deficit	−1.0	−1.0	−1.9	−6.3	−4.1	−8.3
Non-PEMEX parastatals						
Expenditure	12.0	12.0	11.5	12.0	13.0	12.5
Current[1]	9.8	9.5	8.9	9.0	9.9	9.9
Capital[2]	2.3	2.5	2.7	3.1	3.1	2.6
Revenues[3]	9.0	9.2	8.7	8.2	7.9	8.1
Deficit	3.0	2.8	2.8	3.9	5.1	4.4
Other[4]						
Expenditure	13.6	14.2	15.2	16.7	20.8	26.5
Current	10.3	10.7	11.2	13.0	14.5	21.5
Capital	3.3	3.5	4.0	3.7	6.3	5.0
Revenues	10.2	10.5	10.1	7.5	8.3	6.2
Deficit	3.3	3.7	4.9	9.2	12.5	20.2

Source: Estadisticas Hacendarias del Sector Publico: Cifras Anuales 1965–1982 (SHCP).

[1]Gasto de operacion plus ajenas de gasto (Operating expenditure plus "outside account" expenditure).

[2]Physical investment only (excludes financial investment).

[3]The sum of current income, capital income, taxes paid, and *ajenas de ingreso* ("outside account" income).

[4]Includes DDF (Department of the Federal District).

Publico), it is not possible to trace the majority of transfer payments by the federal government. These unaccounted for transfers increased steadily throughout the Lopez Portillo *sexenio* and reflect mostly expenditures to cover the losses of various price support schemes, local "development institutions" and firms in which the government has a minority interest.[12] If such transfers are treated as a negative revenue item (i.e., as "induced" subsidies), the revenue share in GDP of the non-PEMEX public sector fell by 5.8 percentage points over 1978–81, implying, remarkably, a three percentage point *decrease* in the sum of non-PEMEX revenues and the PEMEX surplus.

The large decrease in the share of nonoil revenues was due principally to a reluctance to raise public sector prices. The failure to maintain real public sector prices, moreover, also greatly diminished the size of the PEMEX surplus. Domestic energy prices changed very little as world petroleum prices shot upward after 1973 so that by 1980 the average internal price of petroleum products was less than a quarter of the world market price. The revenue loss from the implicit subsidy

on domestic consumption of PEMEX products amounted to 6.2 percent of GDP in 1980, a figure almost as large as the entire public sector economic deficit that year.[13]

As earlier in the Echeverria administration, the large fiscal deficits gave rise to unsustainably large balance of payments deficits which ultimately proved to be the undoing of the Public Expenditure–Led Growth strategy. Trade liberalization combined with real exchange rate appreciation lowered the real price of imported goods approximately 28 percent from 1977 to 1981, provoking a stupendous, across-the-board increase in demand. Between 1978 and 1980, real imports of capital goods and intermediate inputs increased by more than 100 percent. As the relaxation of quotas favored consumption goods more than other types of imports, the volume of imported consumer goods increased even more strongly, rising by over 200 percent in the same three-year period. On the export side, oil sales became very sizeable after 1978. From 1978 to 1981, dollar earnings generated by petroleum exports increased 682 percent. Overall export earnings, however, rose at a considerably slower rate as nonoil exports suffered both from an appreciating real exchange rate and the dismantling of the CEDIS system of subsidies. After jumping to a decade-high level in 1977, the real price of manufactured exports plummeted, declining more than 40 percent in the next four years. Predictably, the volume of manufactured exports slowed sharply in 1979 and then turned negative in 1980 and 1981.

The financial counterpart to the large current account deficits was a fast growing level of external indebtedness. The total foreign debt increased almost threefold to $81 billion at the end of 1981.[14] This figure, however, considerably overstates the increase in *net* foreign debt. Table 7.5 gathers together various estimates of capital flight during this period. The wide variation in the estimates arises from different data bases.[15] According to the Cumby and Levich estimate, capital flight siphoned off 46 percent of the extra debt accumulated between 1977 and 1981. A problem with their estimate is that the net inflow of external resources is calculated from World Bank data on the change in gross external indebtedness. But as Zedillo points out (1987, 175–76), this is not an accurate measure of net new indebtedness because in certain years some of the increment in the reported debt figures simply reflects more extensive coverage of the government's debt-reporting systems. Zedillo uses the Bank of Mexico's balance of payments data to measure the change in net indebtedness (a much more accurate measure), but also makes the odd adjustment of subtracting from the official current account data imputed interest payments on identified Mexican deposits abroad. (For some reason, reinvested interest income from foreign assets is not treated as capital flight.) In the column labeled "Modified Zedillo" we remove this latter adjustment. This gives a figure for capital

Table 7.5 **Capital Flight[1] ($ billion)**

	Cumby and Levich	Zedillo	Modified Zedillo[2]	Gulati-Adjusted CL[3]	Gulati-Adjusted Z[4]	Gulati-Adjusted MZ[5]
1977	4.99	0.69	0.98	5.61	1.31	1.60
1978	1.76	0.07	0.60	1.17	−0.52	0.01
1979	2.37	0.23	1.06	1.52	−0.62	0.25
1980	6.75	−0.68	3.89	3.72	−3.71	0.86
1981	8.56	9.73	14.03	6.15	7.32	11.62
1982	7.24	8.23	9.03	6.60	7.59	8.39
1983	11.71	2.42	3.39	6.88	−2.41	−1.44
1984	6.02	2.33	3.67	−0.66	−4.35	−3.01
1985	—	1.92	3.75	—	−0.68	1.15
Cumulative total 1977–82	31.67	18.27	29.59	24.77	11.37	22.69
Cumulative total 1977–85	—	24.94	40.40	—	10.83	26.29

Sources: Cumby and Levich (1987, 58); Gulati (1987, 73); and Zedillo (1987, 177).

[1]The Morgan Guaranty definition of capital flight: change in the foreign debt plus net foreign direct investment plus the current account surplus minus the change in short-term foreign assets of the banking system minus change in foreign exchange reserves. The Zedillo estimates also subtract the change in other official external assets.

[2]Estimate obtained using Zedillo's data and the official figures for the current account deficit.

[3]Cumby-Levich estimate with current account data adjusted by Gulati's estimate of net trade invoice faking.

[4]Zedillo estimate with current account data adjusted by Gulati's estimate of trade-invoice faking.

[5]Modified Zedillo estimate with current account data adjusted by Gulati's estimate of net trade-invoice faking.

flight that is $3.9 billion less than that of Cumby and Levich (for 1977–81). Finally, in the fourth column, the previous three estimates are corrected using Gulati's estimates (1987, 73) of net capital flight effected through trade-invoice faking. In Mexico *underinvoicing* of imports exceeded underinvoicing of exports during this period, so that estimated capital flight is reduced. The Gulati adjustment suggests that approximately one-third of the increase in total gross debt may have ended up financing capital flight.[16]

Nearly all of the new debt was contracted by the public sector; the private sector debt tripled during the 1978–81 period but still stood at only $21.9 billion in 1981. Most of the $53 billion of debt held by the public sector took the form of medium- or long-term commercial loans extended to different parastatal firms (PEMEX alone had contracted $15.7 billion of foreign debt by 1981), but the short-term debt also grew rapidly and by the end of 1981 accounted for 20.3 percent of the total

public sector debt. Since over half of private sector borrowing was short-term, for the aggregate debt the corresponding figure is a much higher 27.7 percent. By contrast, just three years earlier the share of short-term debt stood at only 13.5 percent.

Despite the large windfall conferred by oil discoveries and the high rates of GDP growth achieved between 1978 and 1981, it seems safe to say that an increase in the foreign debt of this magnitude was excessive. Table 7.6 shows how the standard debt burden measures evolved.[17] The net debt service measures take account of the fact that the private and public sectors hold income earning foreign assets as well as foreign debts. In these figures, the net debt is calculated, crudely, as the cumulative value of past (official) current account deficits starting from 1951.

While all of the debt burden measures decreased sharply after 1980 when oil exports increased by $6.5 billion, it is also evident that the heavy binge of short-term borrowing in the immediately preceding years had placed the country in a financially precarious position. Even in 1981, debt service inclusive of short-term amortization claimed nearly 80 percent of total current account income. If short-term amortization is excluded (which gives a better sense of the medium-run debt service profile), the debt service burden was not particularly onerous in 1980 or 1981 judged by the usual standards. Observe, however, that just one year later and notwithstanding a 13 percent increase in the dollar value of oil exports, a much less sanguine picture emerges. In 1982, debt service exclusive of short-term amortization absorbed 62.2 percent of total current account income and 10.6 percent of GDP.[18] The corresponding figures for net debt service are smaller but still quite large.

When the inevitable reversal in net foreign lending occurred in 1982, the inconsistencies in policy immediately drove the economy into deep stagflation. The strong growth in notional supply that had checked inflationary pressures in previous years was reversed as extremely restrictive quotas and a series of large real devaluations of the peso forced a 36.2 percent reduction in imports of intermediate inputs. Contraction on the supply side coupled with expansionary fiscal policy sent the inflation rate soaring to 99 percent while, for the first time since 1932, real output fell. Despite the reduction in real output and the large currency devaluations, the current account deficit remained huge and capital flight assumed massive proportions. It became increasingly clear that Mexico would not be able to adhere to the existing repayments schedule. On 1 September, 1982 the government reacted by nationalizing the banking system and imposing comprehensive exchange controls. In the last four months of the year, a de facto moratorium on debt service existed; all payments on the private sector debt ceased as did most payments on the principal of the public sector debt.

Table 7.6 Debt Burden Measures

	1976	1977	1978	1979	1980	1981	1982
Total debt ($ billion)	27.9	30.3	35.1	42.4	54.4	81.0	87.6
Total debt/GDP[1]	31.4	37.0	34.2	31.5	29.2	33.8	53.4
Public sector debt service[2] ($ billion)	2.5	3.8	6.3	10.2	7.7	10.3	14.9
% of merchandise exports	67.7	82.5	103.7	115.4	50.8	52.9	70.0
% of current account income	29.9	41.8	54.0	62.6	30.8	33.4	53.0
% of GDP[1]	2.8	4.7	6.1	7.6	4.1	4.3	9.1
Total debt service[3] ($ billion)	2.9	4.3	6.8	11.0	9.2	13.2	17.4
% of merchandise exports	78.8	91.8	112.7	124.7	60.8	67.9	82.1
% of current account income	34.8	46.5	58.7	67.6	36.9	42.8	62.2
% of GDP[1]	3.2	5.2	6.6	8.2	4.9	5.5	10.6
Total debt service #2[4] ($ billion)	—	10.9	12.5	15.7	15.5	24.3	39.9
% of merchandise exports	—	235.1	206.2	178.6	102.7	125.0	187.8
% of current account income	—	119.1	107.2	96.8	62.3	78.8	142.4
% of GDP[1]	—	13.4	12.2	11.7	8.3	10.1	24.3
Net debt[5] ($ billion)	19.0	22.7	24.3	27.0	31.9	39.1	51.6
Net debt service[6] ($ billion)	2.3	3.8	6.0	9.6	6.9	8.9	12.4
% of merchandise exports	63.8	81.2	99.7	109.4	45.8	45.6	58.5
% of current account income	28.2	41.1	51.9	59.3	27.8	28.7	44.3
% of GDP[1]	2.6	4.6	5.9	7.2	3.7	3.7	7.6
Net debt service #2[7] ($ billion)	—	10.4	11.7	14.4	13.3	19.9	34.9
% of merchandise exports	—	224.5	193.2	163.3	87.7	102.7	164.2
% of current account income	—	113.8	100.5	88.5	53.2	64.7	124.5
% of GDP[1]	—	12.7	11.4	10.7	7.1	8.3	21.3

Sources: Mexican Economic Outlook (CIEMEX-WHARTON) for data on the total debt and short-term public and private sector debt. All other data comes from Indicadores Economicos.

[1]Calculated by dividing nominal GNP by the period average controlled exchange rate to get GDP measured in dollars. There is *no* correction for deviations of the actual exchange rate from the equilibrium exchange rate.

[2]Public sector interest payments and amortization of the medium- and long-term debt.

[3]Public sector debt service plus private sector interest payments.

[4]The sum of public and private sector interest payments, public sector amortization of the short-, medium-, and long-term debt, and amortization of the short-term private sector debt. Amortization of the short-term debt is assumed to equal the previous period's short-term debt.

[5]Calculated as the cumulated value of official current account deficits starting from 1951.

[6]Calculated by scaling total interest payments by the public and private sectors by the ratio of net debt to total debt. No attempt is made to adjust for the fact that the interest rate on private sector foreign assets differs from the rates charged for foreign loans to the public and private sectors.

[7]Calculated as the sum of public sector amortization of the short-, medium-, and long-term payments. Net interest payments are total interest payments by the public and private sectors scaled down by the ratio of net debt to total debt. Amortization of the short-term debt is assumed to equal the previous period's short-term debt.

The 1982 debt crisis came, ironically, at the end of a period in which the Mexican economy had been presented an exceptional opportunity to embark upon an era of high and stable growth. During the 1977–82 period, Mexico enjoyed very favorable terms of trade and was blessed by the discovery of enormous oil wealth. The Lopez Portillo administration freely spent these windfalls in a sustained and extraordinary increase in fiscal expenditure. Foreign lending was undoubtedly an important permissive factor, particularly in 1981, and 1982.

The overly rapid accumulation of foreign debt by the Lopez Portillo administration would not have inflicted lasting damage on the economy had the funds been used to finance efficient investment projects. Unfortunately, this did not happen. According to the various estimates discussed earlier, between 38 percent and 53 percent of the debt accumulated during this period financed capital flight. A large portion of the remainder financed higher public sector consumption and investment. It is difficult to believe that the increase in current expenditures did much to enhance the economy's productive capacity, particularly as the share of human capital–related expenditures remained small. And though little hard data exists on the productivity of state-owned enterprises, there is little doubt that many of the public sector investments undertaken in this period were fundamentally unsound and have subsequently yielded very low social returns.

After making due allowance for capital flight, the splurge in government consumption and inefficient investments by the parastatal sector, it is difficult to escape the conclusion that Mexico obtained remarkably little for the $59.7 billion of debt taken out during the Lopez Portillo years. Perhaps the best evidence in support of this conclusion is provided by the extreme hardship the economy has subsequently suffered in servicing the debt.

7.5 The De La Madrid Administration and the Present Crisis

The De La Madrid administration began with a two-year respite from large scale debt service payments. On 10 December 1982, an agreement was reached with the commercial banks to reschedule $23 billion of capital payments on the public sector debt coming due between 23 August 1982 and 31 December 1984.

During the same period in which the restructuring of the external debt was negotiated, a wide-ranging stabilization–with–structural reform program was agreed upon with the IMF. Fiscal discipline was rigidly enforced and the consolidated public sector deficit relative to the GDP was halved from 17.6 percent to 8.9 percent (tables 7.7 and 7.8). Stringent monetary policy accompanied fiscal austerity. The real

Table 7.7 **Public Sector Revenues and Expenditures (% of GNP)**

	1982	1983	1984	1985	1986[P]
Expenditure	46.4	42.8	40.3	40.9	45.7
Current	35.8	35.0	33.4	34.6	40.1
interest on foreign debt	5.1	5.1	3.0	2.6	4.4
other	30.7	29.9	30.4	32.0	35.7
Capital	10.6	7.8	6.9	6.3	5.6
Revenues	30.1	34.3	33.0	32.6	31.0
Economic deficit	16.3	8.5	7.3	8.4	15.2[1]
Deficit on financial intermediation[2]	1.4	0.5	1.4	1.6	1.1
Monetary deficit	17.6	8.9	8.7	10.0	16.3

Sources: Data for 1982–85 are from SHCP. The 1986 figure for capital expenditure is from the Bank of Mexico's Informe Anual. All other data for 1986 are from Indicadores Economicos. Currrent expenditure is calculated residually by subtracting capital expenditures from total expenditure.

[P]Preliminary figures.

[1]There is an inexplicable discrepancy of 474.2 billion pesos between the revenue and expenditure calculation of the deficit and the sources of funds measure of the economic deficit.

[2]Deficit of La Banca de Desarrollo.

monetary base fell 12.5 percent and real credit extended to the public sector declined 15.5 percent.

In order to meet debt service obligations claiming more than 60 percent of total current account earnings (table 7.9), strict import controls were employed to force a 43 percent reduction in the volume of total imports. The private sector bore the brunt of the adjustment: the ratio of private to public sector imports fell from to 1.67 to .99, exceeding the previous post–World War II low (which occurred in 1981) by some 66 percentage points. Even after adjusting for the unusually high level of imports in 1981, this represents an extraordinary degree of import compression. The huge curtailment in imports in 1983 combined with the 1982 reduction of 39 percent brought the private sector import volume 25 percent below its *1970* level.

The price exacted for improvement in the external accounts and the public sector finances was deepening stagflation (see tables 7.10a and 7.10b). Notwithstanding stiff monetary and fiscal contraction and wage restraint sufficient to produce cuts of 17 percent in the real minimum wage and 21 percent in the overall real manufacturing sector wage, the inflation rate declined only slightly from 98 percent to 81 percent. While inflation remained high, real GDP declined 5.9 percent and aggregate underemployment increased substantially. The greatest decline in economic activity occurred in the manufacturing sector, where output decreased 7.3 percent and employment fell 6 percent.

Table 7.8 Deficit Breakdown

	1982	1983	1984	1985	1986[p]
PEMEX					
Expenditure	7.5	6.2	5.7	5.1	5.4
Current	4.5	4.2	4.0	3.8	4.2
Capital	3.0	2.0	1.6	1.3	1.2
Revenues	15.8	21.5	19.3	18.1	13.0
Deficit	−8.3	−15.3	−13.6	−13.0	−7.6
Non-PEMEX parastatals[1]					
Expenditure	12.5	14.1	13.8	14.4	13.6
Current	9.9	11.2	10.9	11.7	11.0
Capital	2.7	2.9	2.9	2.7	2.6
Revenues	8.1	7.8	8.5	9.1	9.4
Deficit	4.4	6.3	5.3	5.3	4.2
Other[2]					
Expenditure	26.5	22.5	20.8	21.4	26.8
Current	21.5	19.6	18.4	19.1	25.0
Capital	5.0	2.9	2.4	2.3	1.8
Revenues	6.2	5.0	5.2	5.4	8.6
Deficit	20.2	17.5	15.6	16.1	18.2

Sources: 1982 and 1983–86 figures are not fully comparable. For 1982, data are from Estadisticas Hacendarias del Sector Publico: Cifras Anuales 1965–1982 (SHCP). For the parastatal sector, current expenditure is calculated as operating expenditures plus *ajenas de gasto* (outside account expenditure) and total revenue is the sum of current income, capital income, taxes paid, and *ajenas de ingreso* (outside account income). Data for 1983–86 are from Indicadores Economicos. Current expenditure is operating expenditure plus *variacion de cuentas ajenas* (change in outside accounts). Total revenue is income (net of transfers) plus taxes paid.

[p] Preliminary figures.

[1] Includes expenditures and revenues of DDF (Department of the Federal District) after 1982. In 1982, DDF expenditures and revenues are in "Other."

[2] Does not include DDF expenditures and revenues after 1982. The "out-of-budget" deficit is treated as part of current expenditures.

The second straight year of severe stagflation also brought an enormous contraction in aggregate investment spending (−27.9 percent), jeopardizing the future growth prospects of the economy. Given the high rate of inflation that prevailed throughout 1983, it is improbable that demand contraction induced the collapse in private sector investment spending. Rather, the main explanatory factors appear to lie elsewhere. Financial disintermediation and the abrupt cutoff in foreign lending led to a sharp reduction in bank credit: Total real lending to the private sector dropped to 66 percent of its 1981 level.[19] Large upward jumps in the real prices for capital goods and complementary inputs sharply diminished profit margins, reinforcing the contractionary effect of the credit squeeze. The real price of imports rose approximately 29 percent while the real domestic price of energy inputs

Table 7.9 Debt Burden Measures

	1983	1984	1985	1986
Total debt ($ billion)	93.8	96.6	97.3	98.3
Total debt/GDP[1]	65.8	56.4	55.1	77.3
Public sector debt service[2] ($ billion)	12.3	11.7	11.1	9.6
% of merchandise exports	55.0	48.3	51.3	59.7
% of current account income	42.4	35.5	36.1	39.5
% of GDP[1]	8.6	6.8	6.3	7.5
Total debt service[3] ($ billion)	14.6	14.1	13.0	11.1
% of merchandise exports	65.4	58.1	60.1	69.5
% of current account income	50.4	42.8	42.3	45.9
% of GDP[1]	10.2	8.2	7.4	8.8
Total debt service #2[4] ($ billion)	30.5	27.9	17.5	15.0
% of merchandise exports	136.8	115.5	80.8	93.4
% of current account income	105.5	84.9	56.9	61.7
% of GDP[1]	21.4	16.3	9.9	11.8
Net debt[5] ($ billion)	57.9	52.4	48.2	47.0
Net debt service[6] ($ billion)	10.7	8.7	7.9	6.8
% of merchandise exports	48.0	36.0	36.4	42.3
% of current account income	37.0	26.5	25.6	28.0
% of GDP[1]	7.5	5.1	4.5	5.3
Net debt service #2[7] ($ billion)	26.7	22.6	12.4	10.6
% of merchandise exports	119.5	93.4	57.1	66.2
% of current account income	92.1	68.7	40.2	43.8
% of GDP[1]	18.7	13.2	7.0	8.3

Sources: Mexican Economic Outlook for data on the total debt and short-term public and private sector debt. All other data comes from Indicadores Economicos.

[1]Calculated by dividing nominal GNP by the period average controlled exchange rate to get GNP measured in dollars. There is *no* correction for deviations of the actual exchange rate from the equilibrium exchange rate.

[2]Public sector interest payments and amortization of the medium- and long-term debt.

[3]Public sector debt service plus private sector interest payments.

[4]The sum of public and private sector interest payments, public sector amortization of the short-, medium-, and long-term debt, and amortization of the short-term private sector debt. Amortization of the short-term debt is assumed to equal the previous period's short-term debt.

[5]Calculated as the cumulated value of official current account deficits starting from 1951.

[6]Calculated by scaling total interest payments by the public and private sectors by the ratio of net debt to total debt. No attempt is made to adjust for the fact that the interest rate on private sector foreign assets differs from the rates charged for foreign loans to the public and private sectors.

[7]Calculated as the sum of public sector amortization of the short-, medium-, and long-term debt, amortization of the short-term private sector debt, and net interest payments. Net interest payments are total interest payments by the public and private sectors scaled down by the ratio of net debt to total debt. Amortization of the short-term debt is assumed to equal the previous period's short-term debt.

Table 7.10a **Macroeconomic Aggregates (% change)[1]**

	1982	1983	1984	1985	1986[p]
Real GDP	−0.5	−5.3	3.7	2.8	−3.8
Manufacturing	−2.9	−7.3	4.8	5.8	−5.6
Agriculture and fisheries	−0.6	2.8	2.5	3.8	−2.1
Inflation[2]	98.9	80.8	59.2	63.7	105.7
Manufacturing employment[3]	−8.5	−6.0	2.3	0.2	−6.7
Real investment	−15.9	−27.9	5.5	6.4	−12.2
Private	−17.3	−24.2	9.0	13.4	−9.8
Public	−14.2	−32.5	0.6	−4.4	−16.5

Table 7.10b **Composition of Output (% of GDP[4])**

	1982	1983	1984	1985	1986
Private consumption	69.0	67.3	66.6	66.1	66.2
Government consumption	9.3	9.7	10.0	9.9	10.1
Gross fixed capital formation	21.0	16.1	16.3	16.9	15.4
Private	11.7	9.4	9.9	10.9	10.2
Public	9.3	6.6	6.4	6.0	5.2
Change in inventories	0.5	1.0	1.4	2.7	2.2
Exports	10.2	12.1	12.9	12.2	13.0
Imports	10.1	6.2	7.2	7.7	6.9

Sources: The manufacturing sector employment series is from Indicadores Economicos. All other data is from the National Income Accounts of INEGI.

[p]Preliminary figures.

[1]Real variables are measured at 1970 prices.

[2]December to December change in the CPI.

[3]December to December change.

[4]Output shares at 1970 prices.

increased 52 percent. The high real import prices led to huge reductions of 62.2 percent and 31 percent, respectively, in the volumes of imported capital goods and intermediate inputs.

In 1984 and the first part of 1985, a number of reflationary demand- and supply-side measures produced a modest recovery (from deep recession to mild recession). Real public sector investment declined another 10.4 percent in 1984, but real current expenditures net of interest payments on the foreign debt rose 5.1 percent and fiscal incentives were introduced to encourage private investment spending. Most important, the favorable payments balance recorded in 1983 allowed import controls to be greatly relaxed: Real private sector imports of intermediate inputs and capital goods rose 48.2 percent in 1984 and 35.4 percent in 1985.[20]

Disquietingly, the modest recovery was not accompanied by progress in lowering the fiscal deficit. The overall deficit declined from 8.9 percent to 8.7 percent of GDP in 1984 and then jumped up to 10 percent in 1985 as revenues fell short of, and expenditures far exceeded, their targeted values.[21] Declining oil prices lowered PEMEX's surplus, but other factors contributed as well to the growth in the deficit. While higher public sector prices raised income of the non-PEMEX parastatals, the deficit on financial intermediation worsened considerably and general tax revenues continued to stagnate (see table 7.11). Clearly, despite avowals to the contrary, no substantive effort has been made to enlarge the overall tax base. Remarkably, the share of income taxes was allowed to decline 1.6 percentage points over the 1981–85 period, pulling down the general tax take by an almost equal amount. Only part of this decline can be attributed to the depressed level of corporate profits; since 1982, the lower yield from personal income taxes accounts for nearly all of the reduction in the income tax share.

The impact of the mounting fiscal deficit was felt most strongly in financial markets. To lessen inflationary pressures, strict control over the growth rate of the monetary base was maintained. Consequently, a large part of the deficit had to be financed by the sale of government bonds (CETES) to the banking system and the public. In early 1985 the decision was made to place 250 billion pesos of CETES with Banca Multiple. After October, lending to the private sector was frozen and virtually all excess bank funds were diverted to purchases of various government issued assets (CETES, petrobonds, etc.).[22]

Table 7.11 **Public Sector Prices and Revenues[1]**

	1981	1982	1983	1984	1985	1986
Real public sector prices[2]	100	108.5	131.3	139.1	133.1	—
Revenues of non-PEMEX parastatals[3]	7.9	8.1	7.8	8.5	9.1	9.4
General tax revenues	10.8	9.0	9.0	9.0	9.3	9.4
Income taxes	5.8	4.9	4.2	4.2	4.2	4.3
Personal	2.6	2.6	2.0	1.9	2.0	2.0
Indirect taxes[4]	5.0	4.1	4.8	4.8	5.0	5.1
Foreign trade	1.1	0.90	0.50	0.50	0.67	0.87

Source: Indicadores Economicos.

[1]Revenues are expressed as a percentage of GDP.

[2]Period average price deflated by the period average CPI.

[3]Sum of revenues (exclusive of any transfers received) plus taxes paid.

[4]Sum of value added taxes, taxes on production and services, taxes on foreign trade, and "other" taxes. Does *not* include gasoline taxes (which we classify as revenues of PEMEX).

Financing the deficit in this fashion led to generally rising interest rates and a strong contraction in lending to the private sector. Whereas the inflation rate (December to December) rose slightly from 59.2 to 63.7 percent, the average cost of bank funds increased each month, rising from 47.5 percent in December 1984 to 65.7 percent in December 1985. During the same period the yield on three-month CETES jumped from 49.2 percent to 74.1 percent. The increased interest rate spread between CETES and bank funds provoked a new wave of financial disintermediation, reversing the gains made in 1984. While real credit to the public sector increased 12.6 percent in 1985, the real stock of bank funds fell 12.9 percent and (real) credit to the private sector contracted slightly.

The severe credit squeeze imposed on the private sector, falling oil prices, and the catastropic earthquake in September pushed the economy back into recession. In the second half of 1985, real GDP growth turned negative as private investment spending and manufacturing sector output contracted sharply. Overall GDP growth for the year amounted to just 2.7 percent.

At the start of 1986, the economy was sent reeling by the collapse in world market oil prices. By July, Mexican crude was fetching only $8.45 per barrel. Prices recovered somewhat thereafter, but the average price for the year still came to only $11.45, 53 percent below the 1985 average ($25.35).[23] The dollar value of oil exports declined $8.5 billion, a loss equivalent to 6.7 percent of the 1985 GDP.[24] Following previous declines, this brought the country's terms of trade to its lowest level in more than thirty years (see table 7.12). Adjusted for changes in world market interest rates, Mexico's terms of trade in 1986 stood 43.4 percent below their level in 1970 at the end of the era of Stabilizing Development. Between 1981 and 1986, the terms of trade deteriorated nearly 60 percent.

The De La Madrid administration responded to the oil price shock by digging its heels in deeper. Essentially, the pre-shock policy course was continued but with an extra measure of austerity. To blunt the impact on the trade balance, the rate of depreciation of the peso was accelerated strongly in 1986, producing, by the year's end, a 35 percent increase in the real exchange rate. Aggressive devaluation has been supplemented by limited fiscal adjustment and extremely contractionary monetary policy. Some new expenditure cuts and tax increases were introduced, but these measures fell far short of neutralizing the impact of the oil price drop, and the overall public sector deficit soared to 16.3 percent of GNP in 1986.

As in previous years, the fiscal deficit was financed largely by depriving the private sector of credit. The real monetary base fell 11.7

Table 7.12 Terms of Trade Indices

	Unadjusted	Adjusted for Changes in International Interest Rates
1960	87.8	87.2
1961	89.6	88.3
1962	83.9	82.0
1963	89.1	87.3
1964	85.7	84.8
1965	84.1	83.5
1966	85.2	85.1
1967	83.9	84.1
1968	89.0	90.4
1969	88.0	92.2
1970	96.7	100.0
1971	100.0	100.0
1972	103.3	100.7
1973	115.2	121.2
1974	100.1	116.4
1975	97.8	96.1
1976	113.0	119.2
1977	113.0	121.9
1978	104.1	115.6
1979	113.1	110.4
1980	127.6	123.5
1981	124.3	127.4
1982	108.2	94.5
1983	98.8	77.4
1984	97.1	66.5
1985	91.9	71.5
1986	65.6	54.6

Source: Informe Anual 1986.

percent while the stock of real government debt (issued by the federal government) held by the public rose 23 percent.[25] Even though nearly all marginal bank credit (77–92 percent) remained reserved for the public sector, the large increase in bond supply could not be absorbed without inducing a strong rise in real interest rates. The real (compounded, annual equivalent) interest rate paid by three-month CETES averaged 19.54 percent in 1986. Bank rates followed suit. The average cost of real bank funds was 6.3 percent and the real nonpreferential loan rate fluctuated between 13 percent and 18.2 percent.

Renewed austerity coming on top of the terms-of-trade loss brought the weak 1984–85 recovery to a grinding halt: Real output declined 3.8 percent, real investment 12.7 percent and manufacturing sector employment 6.7 percent at the same time as the inflation rate jumped from 63.2 percent to 105.7 percent. Despite the introduction of quarterly

wage adjustments, the real (minimum) wage fell (8.4 percent) for the fifth consecutive year.

7.6 Post-1982 Economic Policy: An Evaluation

Judged against almost any set of economic criteria, the post-1982 adjustment record has been a dismal failure. At the end of 1986, real output stood slightly below its 1982 level and the inflation rate had accelerated to over 100 percent. In per capita terms, real income fell 11 percent during this four-year period, with labor bearing the brunt of the decline: Since 1982, real wages have decreased approximately 30 percent, falling far below (32 percent for the real minimum wage) the levels that prevailed at the end of the Stabilizing Development era (see table 7.13). Nor do the prospects for recovery look particularly promising. Both private and public sector investment remain heavily depressed, and while large current account surpluses were achieved in 1983 and 1984, by early 1986 balance-of-payments problems had emerged once again.

Adverse external shocks and the burden of servicing the debt made some deterioration in the economy's performance inevitable. Over the 1983–86 period, Mexico's terms of trade (adjusted for changes in world market interest rates) declined 42.2 percent, the most severe blow coming in 1986 with the collapse of world market oil prices. The worsening terms of trade coupled with debt service claiming 40–50 percent of total current account income have forced an extraordinary degree of import compression upon the private sector. Contrary to textbook models, import compression is almost certain to be strongly stagflationary. The reason for this is simply that in Mexico, as in most LDCs, intermediate inputs and capital goods account for over 90 percent of total imports. On the normal assumption that factors of production are gross complements, a reduction in imports, whether imposed directly by import controls or induced by a real devaluation, exerts a powerful contractionary effect upon economic activity. Cutbacks in imported intermediates lower labor demand at a given real wage and discourage investment by reducing the productivity of capital. Restrictions on capital goods imports further depress investment by raising the supply price of capital. As most imported machinery lacks close domestic substitutes, there is little, if any, demand stimulus created by expenditure switching; instead, the construction sector goes into a slump as investment orders fall off sharply.

Table 7.14 shows how the private sector import volume has evolved since 1970. Clearly import compression has gone far beyond simply offsetting the rapid growth of the oil boom years. Between 1981 and 1983, real private sector imports were cut 73 percent; even after two

Table 7.13 **Real Wages (1970 = 100)[1]**

		Manufacturing Sector	
	Average Minimum Wage[2]	Overall[3]	Blue Collar
1964	76.4	—	—
1965	74.8	—	—
1966	85.7	—	—
1967	83.3	—	—
1968	94.7	—	97.9
1969	91.0	—	99.5
1970	100.0	100.0	100.0
1971	95.0	101.2	100.7
1972	107.6	106.7	106.6
1973	101.1	104.3	103.9
1974	110.8	104.5	106.6
1975	112.1	107.8	110.8
1976	124.7	116.7	123.2
1977	123.9	118.5	125.3
1978	119.7	116.2	121.9
1979	117.2	114.5	119.9
1980	109.0	111.2	114.8
1981	110.8	115.1	116.1
1982	97.9	114.1	116.9
1983	81.4	90.3	87.0
1984	75.9	84.0	83.5
1985	74.9	85.2	—
1986	68.6	—	—

Sources: Minimum wage data are from INEGI. The blue-collar and overall wage series for the manufacturing sector are from the Bank of Mexico's Encuesta Industrial Mensual as reported in Indices de Precios (February 1986, pp. 86–87).

[1]Period average wage index deflated by the period average CPI.

[2]The minimum wage index is a weighted average of minimum wages in different regions, where the weights are given by the region's share in the total salaried population of the nation. In years in which there was more than one wage adjustment, the period average figure is generated by weighting the wage in each subperiod by the fraction of the year over which it prevailed.

[3]Composite index for manufacturing sector wages and salaries inclusive of fringe benefits.

years of "recovery," the import volume in 1985 barely exceeded its 1978 level.

But while the terms-of-trade shock and the burden of debt service made some contraction inevitable, errant policy must also shoulder a good portion of the blame for the post-1982 debacle. The excessive use of quantitative restrictions and massive real devaluations to regulate the current account has caused import compression to be deeper and more prolonged than necessary. In view of the complementary nature of domestic factors and imports, a policy directed far more toward promoting manufacturing and agricultural exports would have minimized the impact of debt service on import flows.

Table 7.14 Private Sector Import Volume[1] (1970 = 100)

1970	100.0	1979	184.6
1971	98.3	1980	236.0
1972	104.0	1981	275.7
1973	114.4	1982	166.7
1974	133.9	1983	74.8
1975	125.5	1984	105.1
1976	112.8	1985	143.2
1977	103.1	1986[2]	133.3
1978	131.7		

Sources: Indicadores Economicos for dollar import values and the National Income Accounts for the aggregate import volume.

[1]Estimated as the aggregate import volume multiplied by the ratio of the dollar value of private sector merchandise imports to total merchandise imports.

[2]The 1986 import volume is estimated by deflating the dollar value of total merchandise imports by the dollar price index for imports and then splicing to the National Income Accounts index for the aggregate import volume.

Fiscal and interest rate policy have intensified the contractionary blow delivered against the private sector by import compression. The De La Madrid administration did not offset higher debt service payments and lower oil prices with adequate fiscal adjustment for many years. Instead, limited tax increases and cuts in current expenditures were supplemented by a variety of other policies aimed at restraining the inflationary pressures created by the large fiscal deficits.

Notes

1. This figure comes from the Bank of Mexico's survey of large firms in the manufacturing sector.

2. Tello (1979, chap. 1), Reynolds (1970), Solis (1981, 7–8), Clavijo and Valdivieso (1983), Rizzo (1984, 101, 122), Aspe and Sigmund (1984), Newell and Rubio (1984).

3. See, for example, Tello (1979, chap. 1), Solis (1981), Villareal (1983, 382, 386) and Aspe and Beristain (1984, 23).

4. See Camancho (1977) or Solis (1981).

5. Bueno (1972), Camancho (1977), Tello (1979, chap. 1), Looney (1985, chap. 2), Villareal (1983).

6. The original 1960 census was marred by gross processing errors and the corrected version still appears to greatly overenumerate the size of the agricultural labor force. Classification schemes also differ between the two censuses and in the 1970 census a large number of labor force participants were not assigned to any category.

7. Unikel (1978) estimates that the average annual growth rate of industrial sector employment during the 1960s was 3 percent while labor force growth averaged 1.4 percent. Altimir (1974), on the other hand, estimates that industrial sector employment grew at an annual average rate of 5.2 percent.

8. Gregory (1986, 232, 238–39).

9. van Ginneken classified families with incomes below 10,000 pesos in 1970 prices (close to the 1970 minimum wage) as living in poverty.

10. See World Bank (1979, 28–33) and Solis (1981).

11. Serial correlation was tested for using the limits for the Durbin-Watson statistic developed by Fairbrother for regression equations without a constant term. In those cases where the Durbin-Watson value fell in the indeterminant range, Bartlett's test was then applied as a second check for serial correlation. In none of the regressions was there evidence of first-order serial correlation.

12. Expenditures to cover revenue shortfalls in four broad areas account for the bulk of these transfers: (1) the DIF, an institute for aiding the homeless and poor children (headed by Lopez Portillo's wife); (2) the National University; (3) unregistered subsidiaries of CONASUPO; and (4) *chiquilleria* (small stuff), a category comprised mostly of companies in which the government has a minority interest, educational institutions other than the National University, and local development centers.

For reasons we do not fully understand, Jorge Hierro was kind enough to take the better part of one month out of his life (shortly before getting married) to unravel this mystery. We are greatedly indebted to him.

13. Rizzo (1984, 122) has calculated the cost of the gross subsidy. The figure in the text is obtained by multiplying Rizzo's figure by the share of private sector investment and consumption in GDP, where the latter is taken to be a rough approximation of the private sector share in total energy consumption.

14. The debt data here and in subsequent sections is taken from *Mexican Economic Outlook*, (CIEMEX-WHARTON), various issues. Data on the short-term debt is of poor quality.

15. All of the estimates in table 7.5 employ the Morgan Guaranty definition of capital flight. Cuddington (1986) has pointed out that the Morgan Guaranty definition of capital flight treats "normal" capital flows (foreign assets acquired for purposes of ordinary business activity, for portfolio diversification, etc.) as capital flight. Given that our interest is in how the net foreign debt evolved, this is the appropriate definition of capital flight. For estimates that attempt to distinguish between flight capital (or speculative capital flows) and normal capital flows, and for a discussion of the conceptual difficulties this entails, see Cuddington (1986) and Cumby and Levich (1987).

The data bases differ in several other ways besides those discussed in the text. For reasons that are not clear, the IMF data used by Cumby and Levich on the current account deficit and the change in reserves differ a great deal from the Bank of Mexico data as reported in Indicadores Economicos.

16. The extent to which capital flight estimates should be adjusted for discrepancies between home and partner country trade data is open to dispute. Partner and home country data may differ for reasons other than illegal trade. (See Cumby and Levich 1987 on this point.)

17. The figures for the ratios of debt and debt service to GNP do not contain a correction for departures of the real exchange rate from its long-run equilibrium value. As the peso was heavily overvalued between 1979 and 1981, the figures for these years are undoubtedly underestimates of the true values.

18. These are the figures for debt service implied by adherence to the existing repayments schedule. In the last four months of 1982, Mexico suspended all payments on the private sector debt and most payments on principal of the public sector debt. The suspension of debt service appears in the Mexican balance-of-payments accounts with a positive sign under the category *ingreso*

virtual (virtual income) and a matching negative sign under the category *egreso virtual* (virtual expenditures).

19. Total credit to the private sector is the sum of credit extended by the Central Bank (which is negligible), the development banks and commercial banks.

20. These real import figures are calculated by deflating dollar import aggregates by the dollar price index for total imports found in the Bank of Mexico's Informe Anual 1985 (201).

21. To a substantial extent, the large fiscal deficits since 1982 reflect an inflated level of current expenditures associated with the inflationary component of interest payments on the internal debt. We are skeptical, however, of the argument that a small value for the inflation-adjusted deficit indicates that inflation is purely inertial and that no further fiscal adjustment is necessary. Furthermore, the true size of the inflation-adjusted deficit in Mexico is still very much an unsettled question. There is some doubt about the accuracy of the figures reported by SHCP. It seems, for example, that double counting is a problem. Apparently, foreign loans contracted by NAFINSA (the principal development bank) and relent in pesos are counted twice, as part of the external and internal debt of the public sector. (See Perez 1986, 17.)

22. Loans for low-income housing, agricultural development, and export promotion were exempted from the credit squeeze.

23. Informe Anual 1986.

24. Ibid.

25. Published figures overstate the true decrease in the real monetary base in 1985. Much of the decrease reflected on administrative sleight of hand. In January, 1985 the legal reserve ratio was lowered from 48 percent to 10 percent. (For commercial banks, the 10 percent rate applied to deposits exceeding the December 1984 level while for La Banca de Desarrollo it applied to deposit balances above the highest balance registered in 1984.) At the same time, however, all banks were required to use 35 percent of their deposits to purchase federal government debt instruments and the commercial banks were also required to place 3 percent of their funds at the disposal of La Banca de Desarrollo (Informe Anual 1985, 119–20). In effect, a large part of bank reserves were simply reclassified as government debt. The figure stated in the text is calculated on the assumption that the ratio of bank reserves to M4 in 1986 was the same as in 1984.

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