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The 1994 Mexican Economic Crisis: The Role of Government Expenditure and Relative Prices

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Abstract

This paper discusses the role of a country's fiscal stance in weakening the financial underpinnings of an open economy with a quasi-fixed nominal exchange rate, even where the overall fiscal deficit remains unchanged, or even narrows. The paper cites the role of expanding government operations in reducing the relative price of traded goods. A marked increase in government expenditure and taxation is associated with increased production costs, excess demand for nontraded goods, and a deterioration in the financial health of the traded goods sector. The paper demonstrates that, in contrast to the current economic situation in Mexico, the period leading to the 1994 crisis closely parallels these stylized facts.

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Contents

Figures

Tables

I. INTRODUCTION

Since the mid-1980s Mexico has carried out an economic adjustment and structural reform process, aimed at achieving sustainable economic growth. However, by end-1994 a growing external current account deficit developed into a foreign exchange crisis and a collapse of the banking system as capital flows suddenly reversed; subsequently, economic activity was disrupted and output declined precipitously.

A variety of explanations have been brought forth in an attempt to identify the major factors underpinning this crisis. There is general agreement that the real appreciation of the peso contributed to an underlying economic disequilibrium—with an increased external current account deficit, and a weakened banking system following its reprivatization in the early 1990s. In turn, this reduced the authorities' policy degrees of freedom. The balance of payments crisis developed hand-in-hand with the banking crisis, resulting in an outflow of the private capital that had been attracted by the expectation of high rates of return in the context of the quasi-fixed exchange rate regime.

Other contributing factors to the crisis that have been emphasized include: political developments undermining confidence in the government and inducing capital flight (Loser and Williams, 1994); the rise in U.S. interest rates initiating capital outflows, aggravated by maturity and currency mismatches in public-debt management (Goldstein and Calvo, 1995); the jump in nonperforming loans of the banking system relative to total loans from 5½ percent at end-1992 to over 8 percent at end-September 1994 (Gonzalez-Hermosillo, 1996); the misbehavior of the banking system in the absence of appropriate regulations (Gil-Diaz, 1998); and, the moral hazard related to an expectation that the IMF would be bailing out risky loans by Mexican banks, thereby inducing further risky investments and finally provoking the banking crisis (Colomiris, 1998).

The role of fiscal policy in the 1994 Mexico crisis has not been emphasized by previous studies in light of the declining fiscal deficits during the period leading up to crisis. In contrast, this paper raises the role of a country's fiscal stance in weakening the financial underpinnings of an open economy with a quasi-fixed nominal exchange rate, even in the case where the overall fiscal deficit remains unchanged, or even declines. The paper points to the role of the increasing magnitude of government operations, rather than the size of the government deficit, in affecting the relative price of traded to nontraded goods (the real exchange rate), the financial health of the traded goods sector, and real interest rates. Similar to the negative impact that a surge in commodity export prices may have on the traded goods sector (where the increased resources are spent on nontraded goods which leads to an appreciation of the real exchange rate), a marked increase in government

expenditures and taxation causes increased production costs, excess demand for nontraded goods, and a weakened traded goods sector.[2]

This paper presents the experience of Mexico during 1987–94, and contrasts it with more recent developments in Mexico. The paper demonstrates that the experience of Mexico during 1987–94 closely parallels the above-mentioned stylized facts, with the fiscal and exchange rate policy mix leading to unsustainable cost pressures on the traded goods sector. During this period, from the perspective of the traded goods sector both the size of government operations and wage costs almost doubled, while traded goods prices deteriorated by over 40 percent relative to those of the nontraded goods sector. Strong domestic demand spurred by the nontraded goods sector led to high domestic interest rates which attracted sizable capital inflows. Bank credit extension to the traded goods sector continued (at a diminishing rate) but at a cost markedly above the traded goods sector's rate of return. This enabled the finances of both the banking system and the traded goods sector to deteriorate and created increasing vulnerability to potential negative shocks.

Mexico's recent experience is in stark contrast to these developments. Since 1994, the size of government operations has declined both in terms of U.S.dollars and in relation to traded goods prices (both revenue and expenditure have fallen at a 4 percent annual rate). Traded goods prices have increased relative to nontraded goods prices, while wage costs have declined in real terms for both sectors. In contrast to the experience during 1987–94 where increased government consumption was financed by a rundown of domestic private savings and increased access to foreign saving, the decline in government consumption that has occurred in recent years has been associated with increased domestic private savings and a decline in the external current account deficit. Nevertheless, the legacy of the 1994 banking crisis remains both in terms of the overhang of its fiscal cost and the fragility of the banking system, which will require continued vigilance by the authorities.

II. GOVERNMENT EXPENDITURE AND RELATIVE PRICES

The paper postulates that when **real government expenditures increase, and are fully financed with increased taxes, the cost of production of goods and services produced by the private sector rises**. Increased government expenditures put upward pressure on the costs of production inputs such as labor, energy, communications and transportation. More directly, it is well recognized that increased taxes raise the cost of production as evidenced by the competition among regions within countries as well as the competition among countries to attract businesses to domicile in specific locations by offering tax or tariff incentives. Indeed, increased taxes can affect production costs directly through a rise in corporate

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[2] See "Dutch disease and policy adjustment to the oil boom: a comparative study of Indonesia and Mexico" by Norio Usui in **Resources Policy**, Vol. 23, No. 4.

income or value added tax as well as in employer contributions levied on wages, and indirectly through the increase in taxes paid by employees that may be shifted to higher wage demands.[3] [4] Clearly, the magnitude of government operations is an important cost consideration for production.

However, these increased costs of production have different implications for the traded and nontraded goods sectors. The **increased costs stemming from a rise in government expenditures/taxes can not easily be passed on to output prices by producers of tradable goods in an open economy**. In contrast, producers of nontradable goods are more able to pass on these cost increases to prices as market conditions allow (facing less elastic demand conditions). Sustained over a period of time, the decline in the price of traded goods relative to that of nontraded goods stemming from increased government operations would be associated with a worsening in the financial condition of traded goods producers. This deterioration in the relative price of traded goods is equivalent to a real appreciation of the exchange rate.[5] [6]

The cost-driven deterioration in the relative price of traded goods is sustained through the demand impact of increased government operations. That is, an **increase in real government**

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[3] See "A Primer on Competitiveness" by Peter Drake in **The 1997 Economic and Technology Development Journal of Canada**, that describes trade agreements and tax rates as main competitive elements relevant for both a country and regions within a country.

[4] See "The Netherlands: "Transforming a Market Economy," by C. Maxwell Watson et al., IMF Occasional Paper No.181, Appendix I. The study finds for the Netherlands in the period 1974–97 that "every percentage point increase in taxes and contributions was associated with a 0.7 percent increase in wage costs."

[5] With a given world price of traded goods, a nominal appreciation of the local-currency nominal exchange rate results in an equivalent decline in the domestic-currency traded goods price relative to the nontraded goods price. See Khan and Lizondo (1987) where for a small open economy the relative price between traded and nontraded goods in domestic currency is referred to as the real exchange rate; an appreciation of the local-currency exchange rate results in an equivalent decrease in the domestic-currency price of exports. Also, see Kalter (1978) where, even where the world price is not given, exchange rate changes are not fully passed through to the foreign-currency price of exports. Thus, nominal exchange rate appreciation (not fully passed through to an increase in the foreign-currency export price) results in a decreased domestic-currency export price and, thus, a fall in the price of traded relative to nontraded goods.

[6] An increase in nominal government expenditures in the context of a fixed nominal exchange rate would result in increased real government expenditures in U.S. dollars or when deflated by traded goods prices.

expenditures/taxes raises aggregate demand even in the case of no increase in the fiscal deficit. This follows from the observation that government expenditure tends to be on consumption while the associated taxes tend to fall on the savings of the private sector. In other words, the relative marginal propensity to consume is higher for the additional government expenditure compared with the private sector income that is taxed. In addition, government expenditure is concentrated on nontraded goods, directly affecting demand in this sector; rising government wages further enable the shift in relative prices. As a result of the "balance-budget multiplier" effect, pressures build up for interest rates to rise associated with the increased aggregate consumption and decreased domestic savings (placing further cost-pressure on the finances of the traded goods sector).[7]

In the context of the fixed exchange rate, the **increased interest rate differentials associated with the increased aggregate demand attract capital inflows,** which further finances the change in relative prices against the producers of tradable goods and an increase in the external trade deficit. While the finances of the traded goods sector deteriorate, the access to foreign capital (and associated bank credit) enables continued production by the export sector, increased demand for (and prices of) nontraded goods, and a further deterioration in the price of traded relative to nontraded goods.

The deterioration in the financial position of the traded goods sector is the corollary to the impact of a real exchange rate appreciation on the trade balance. The real appreciation in the value of local currency and the reduced rate of return of the traded goods sector would be associated with weaker export and stronger import growth. Even with an unchanged net savings balance of the government, the deterioration in the relative price of the traded goods sector and the increased aggregate demand would be associated with decreased net savings of the private sector and an increased external current account deficit.[8]

A fundamental factor driving the sustainability of economic growth and the health of the traded goods sector is **the relationship between the real interest rate and the rate of return on capital in the traded goods sector**. As relative prices change against the traded goods sector and its costs rise, a real exchange rate appreciation weakens the sector's financial health. Continued access to credit at high real interest rates both prolongs the

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[7] See Dornbush (1980) for a description of the impact of the balanced budget multiplier. Cuthbertson (1987) finds a zero net effect on aggregate demand of increased government expenditures and taxes, by including the negative wealth effect stemming from the higher external debt needed to finance the increased trade deficit. However, in the dynamic setting described below, the continuous increase in the magnitude of government operations combined with sizable access to foreign capital overtake the negative wealth effect.

[8] A deteriorated external current account balance could be associated with decreased net public savings (public savings minus public investment) and/or decreased net private savings (private savings minus private investment).

process and aggravates the disequilibrium facing the sector, as its cost of capital becomes increasingly onerous with profits declining and the real cost of borrowing increasing. In turn, the high interest rates are sustained by increased domestic demand from the nontradable sector and by demand from the tradable sector financed by access to external capital.

The question remains **why banks would not reduce their lending to the traded goods sector, and why firms would not shift production to the nontraded sector** in the circumstances described above. In other words, the excess demand for nontraded goods would be expected to give rise to a substitution of nontraded for traded goods in consumers' and firms' purchases and to the migration of resources toward the nontraded sector until the disequilibrium is eliminated. As is demonstrated below, this did take place in Mexico but the process was not sufficient to alleviate the disequilibrium. The slow adjustment process may be due to: rational agents may be influenced by the wrong signals (e.g., a declining fiscal deficit); the real interest rate is only known ex post; and real resources are not easily transferable. Finally, there exists a tendency for banks to continue to lend to a deteriorating sector in an attempt to stave off bankruptcy.

This **analysis is analogous in many ways to that for the "Dutch disease,"** or the negative effect of a surge in export commodity prices. The increase in export revenue is spent mainly on nontradable goods which leads to increased domestic demand, an appreciation of the real exchange rate and a deterioration in the finances of the tradable sector (apart from the sector enjoying the price surge).[9] However, in the case of increased government operations, the source of increased domestic demand is internal and leads to a decline in domestic savings and higher domestic interest rates; the resulting inflow of short-term capital is an additional source of instability for the economy.

III. THE CASE OF MEXICO

The following presents the experience of Mexico during 1987–94, and contrasts it with more recent developments. While we do not attempt to prove causal relationships empirically, there is clear evidence that the experience of Mexico during 1987–94 closely parallels the analytical framework and the stylized facts presented above, with ***the fiscal and exchange rate policy mix leading to unsustainable cost pressures on the traded goods sector.*** *During this period of significant trade liberalization, from the perspective of the traded goods sector both the size of government operations and wage costs almost doubled, while its prices deteriorated by over 40 percent relative to those of the nontraded goods sector. Strong domestic demand spurred by the nontraded goods sector led to high domestic interest rates*

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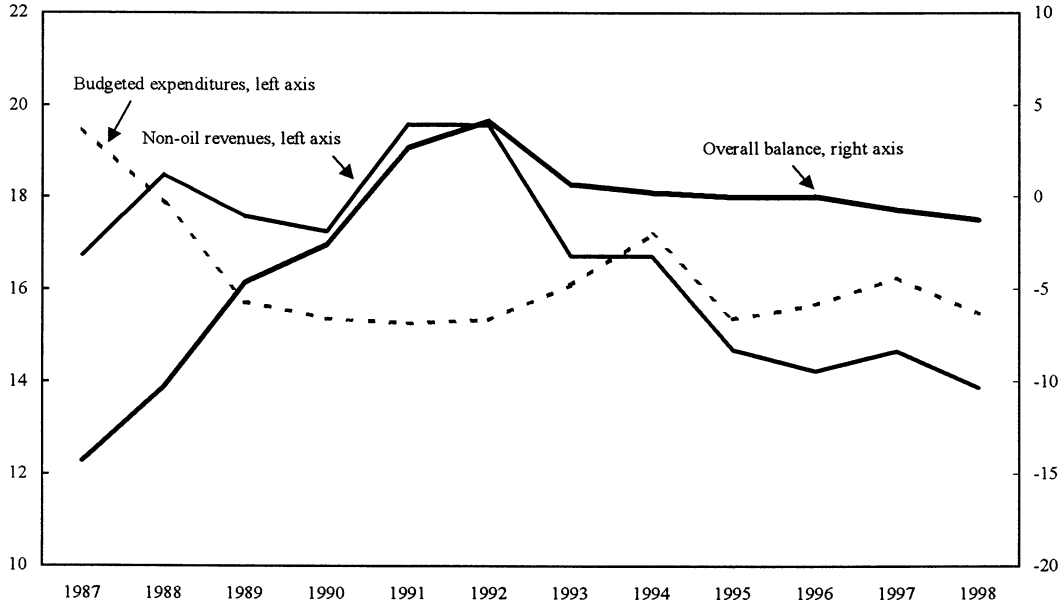
[9] The effects of this "Dutch Disease" are well described in the literature, including in Mexico during the oil boom of the late 1970's. For example, see Usui (1997), Taniura (1989), and Sachs (1995).

which attracted sizable capital inflows. Bank credit extension to the traded goods sector continued (at a diminishing rate) but at a cost markedly above the traded goods sector's rate of return. This enabled the finances of both the banking system and the traded goods sector to deteriorate and created increasing vulnerability to potential negative shocks.

A. The Public Finances

The overall public sector deficit in Mexico declined from 15 percent of GDP in 1987 to less than 1 percent in 1992–93. Even in 1994, when the crisis unfolded, the deficit was no more than 2½ percent of GDP. This fiscal performance mainly reflected a significant decline in interest payments during the period as well as some fall in noninterest expenditure. Despite the moderating fiscal deficit, the economy collapsed in 1995 and the peso was devalued by more than 70 percent.

Figure A. Mexico: Public Finances, 1987-98
(In percent of GDP)

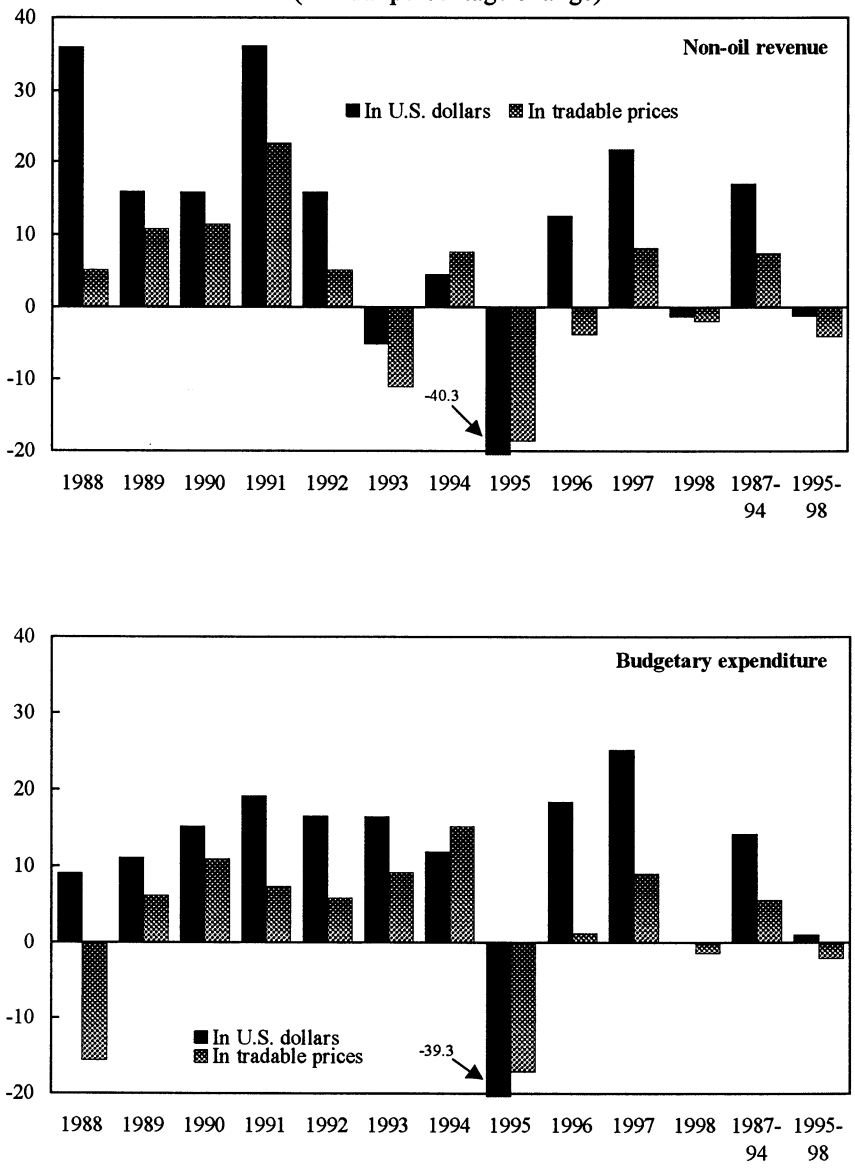


Source: Bank of Mexico and Ministry of Finance.

For purposes of **measuring the sectoral impact of government operations,** we exclude interest payments from expenditure (which do not affect the cost of production) and oil proceeds from revenue (which do not proxy for domestic taxation). Budgeted government expenditure declined as a percentage of GDP from 20 percent in 1987 to 15 percent in 1991; it subsequently rose to 17 percent of GDP by 1994. Non-oil government revenue increased

from 16½ percent of GDP in 1987 to 19½ percent in 1991 before declining again to 16½ percent of GDP in 1994 (Figure A).

Figure B. Mexico: Public Finances, 1988-98
(Annual percentage change)



Source: Bank of Mexico and Ministry of Finance.

A markedly different perception of government operations comes from an examination of data in U.S. dollars or in terms of export prices. This is of particular relevance to analyze the impact of these operations on the export sector, matching the measurement of costs with that of revenues. In the context of the quasi-fixed exchange rate regime during the

1987–94 period, budgeted expenditure in U.S. dollars rose by 12 percent a year and revenue at the rate of 15 percent a year (Table 1 and Figure B).[10] The expansion of government operations also was strong in terms of traded goods prices, with non-oil revenue collections up by 60 percent during the period.

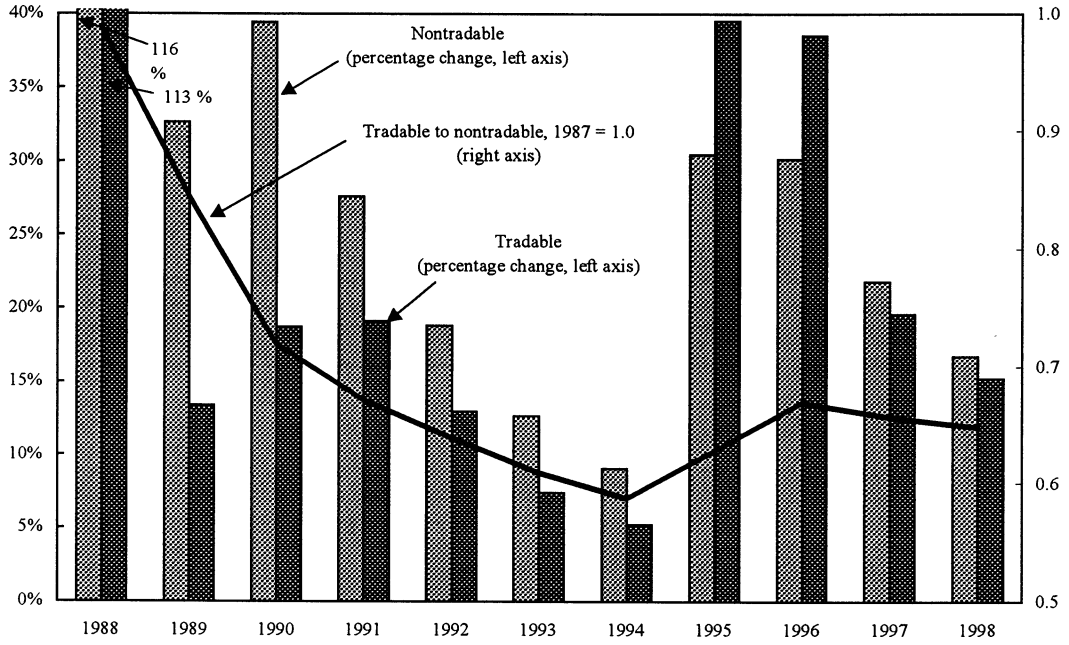
These observations can be contrasted with **more recent developments during 1995–98**. In terms of GDP, the overall public sector deficit remained around its level of 1994 while budgeted expenditure and non-oil revenue declined. In contrast to the sharp increases in the period leading up to the crisis, the size of government operations fell significantly both in terms of U.S.dollars and in relation to traded goods prices (revenue and expenditure fell at an annual rate of around 4 percent in relation to traded goods prices). This decline took place while the real effective exchange rate was about unchanged.

B. Relative Prices, Wages, and Private Savings

During the 1987–94 period when government operations increased sharply in terms of U.S. dollars and traded goods prices, the price relationship between traded and nontraded goods shifted significantly (Figure C). **During this period, the price of nontraded goods increased by 33 percent a year while, in the context of an increasingly open economy, that of traded goods rose by 23 percent a year**; as a result, the real exchange rate for the traded goods sector appreciated by over 40 percent.

[10] The divergent trend of public expenditure in terms of GDP and in U.S. dollars is associated with an increase in the GDP deflator that was significantly greater (over 300 percent) than the increase in the peso exchange rate for the U.S. dollar.

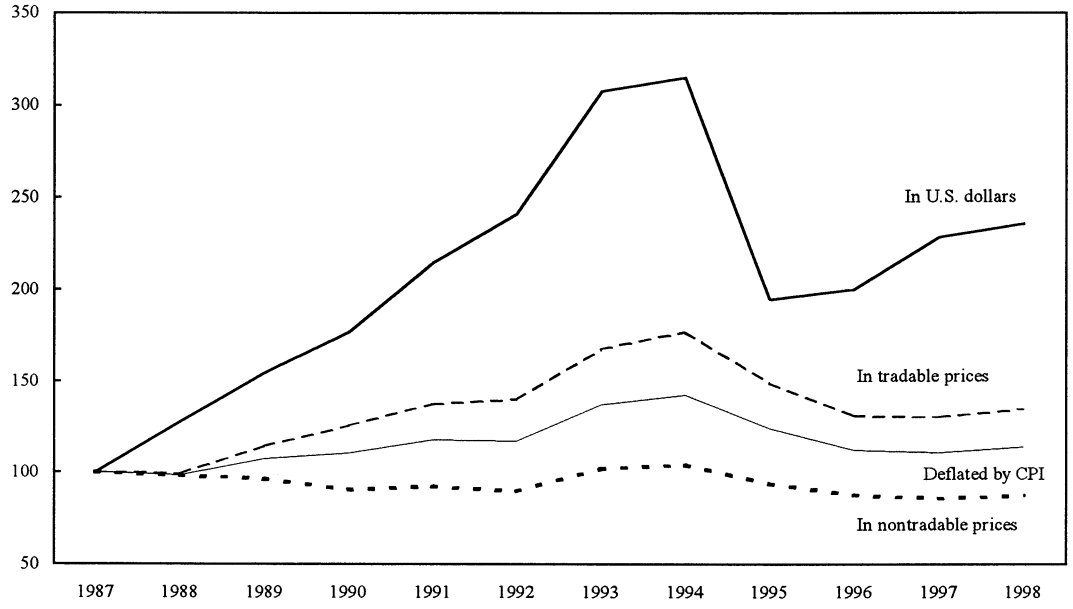
Figure C. Mexico: Relative Price Movements, 1987-98



Source: Bank of Mexico and Ministry of Finance.

Correspondingly, the **size of government operations actually declined when viewed from the perspective of the nontraded goods sector**, with budgeted expenditure falling by 20 percent during the period. The divergence in the changing magnitude of government operations relevant for the traded and nontraded goods sectors during the period is critical. For the nontraded goods sector, the size of government operations declined in importance during the period. In contrast, the magnitude of government operations increased at an accelerating pace throughout the period for the traded goods sector.

Figure D. Mexico: Wages in Real Terms
(Index 1987 = 100)



Source: Bank of Mexico.

The financial impact of the relative decline in the price of traded goods can be gleamed by examining **labor market developments**.[11] During 1987–94, real wages deflated by consumer prices increased at an annual average rate of 5 percent and remained unchanged deflated by nontraded goods prices (Figure D). In essence, the real cost of labor taking into account productivity increases declined for the nontraded goods sector. The picture is very different for the **traded goods sector.** During 1987–94, labor cost increased at an annual rate of 9 percent in terms of traded goods prices.[12] Even after taking into account productivity gains, **real labor costs increased substantially**. This rise in labor costs likely had a marked impact on the finances of the traded goods sector, affecting long-term export potential and the quality of the bank assets (as discussed below).

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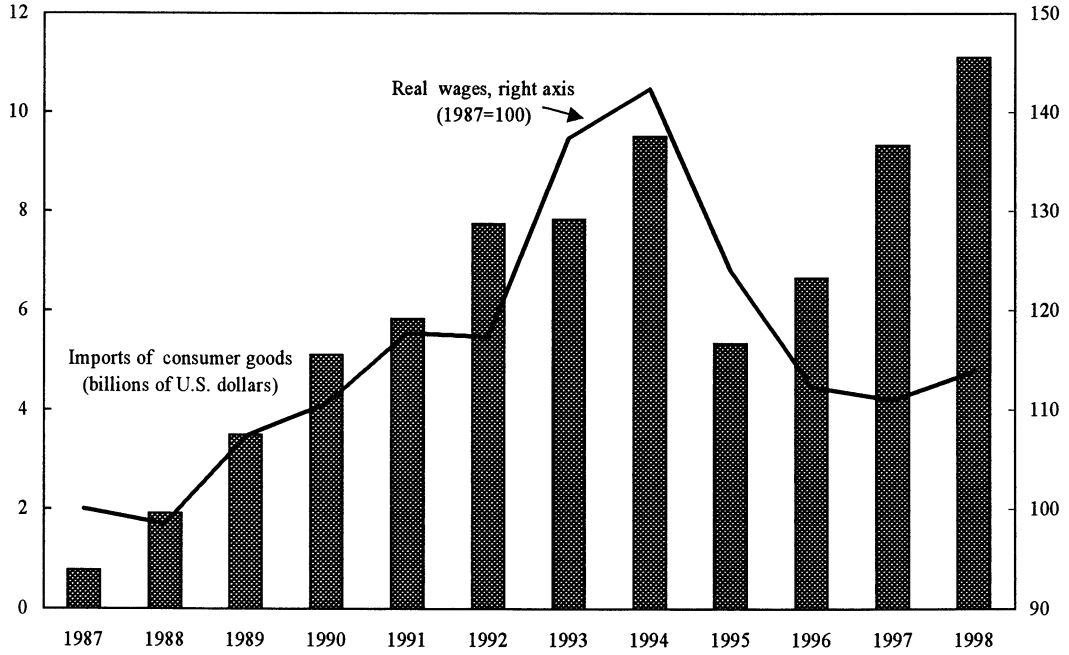
[11] While we do not have comprehensive information on the finances of the different sectors, we have strong evidence from the performance of their stock prices during the period. See Becker (1999) for the sectoral differences in stock market performance which indicates marked weakness in the financial and traded goods sectors in the period leading to the crisis.

[12] Due to data limitations, the same wage data are used for the tradable and nontradable goods.

Again, **developments during 1995–98 were markedly different**. The price of tradable goods increased at a slightly higher annual average rate than that of nontradable goods (28 percent vs. 25 percent). Nominal wages increased at an average annual rate of 19 percent; thus, real labor costs fell markedly for both sectors.

The sizable increase in wages in terms of U.S. dollars during 1987–94 also is a predictor of movements in the external current account balance through its impact on import demand (Figure E). During this period, the purchasing power of wages in dollars trebled, rising at the rate of almost 18 percent a year. In contrast, the domestic purchasing power of wages in terms of nontraded goods was unchanged. Correspondingly, Mexican products were increasingly more expensive than imported goods.

Figure E. Mexico: Real Wages and Imports of Consumer Goods, 1987-98



Source: Bank of Mexico.

The result of these relative price movements can be observed in the surge of imports that took place despite relatively slow economic growth, with particularly **sharp growth of consumer imports**. In spite of the decreasing competitiveness of domestic goods in the

international markets, exports of manufactured goods increased at a relatively high rate.[13] Nevertheless, this increase could not compensate for the relative price impact on imports, and the balance of trade deteriorated significantly. By 1994, the trade balance was in deficit by almost US$19 billion, compared with a surplus of US$9 billion in 1987 (Table 2).

It is of particular interest that **variations in the external current account balance in Mexico have been driven by the shifting position of net private sector savings, rather than by changes in net public sector savings**. During 1987–94, the external current account balance deteriorated by 9 percentage points of GDP to a deficit of 7 percent of GDP, largely corresponding to a sharp decline in net private savings. In contrast, during 1995–98 the improvement in the current account balance to a deficit of less 4 percent of GDP in 1998 was associated with improved net private savings. It is clear that changing fiscal **balances** were not a driving force in affecting the external sector in Mexico. Rather, the marked swings in the private sector savings behavior during 1987–98 are consistent with the observed behavior of swings in the **magnitude** of government operations. In essence, the increased government consumption during 1987–94 was financed by reduced private savings while the subsequent decline in government consumption prompted increased private savings.

C. The Banking Sector

The increasing imbalances in the Mexican economy that built up during the pre-crisis period cannot be explained without due regard to the **banking system credit expansion associated with large capital inflows.** During 1987–94, in conjunction with the liberalization of the financial system, interest rates were freed, credit controls and lending restrictions were removed, and reserve requirements were abolished. At the same time, bank credit to the private sector increased by over 50 percent a year, or an annual increase of 25 percent in real terms (deflated by the CPI) (Table 3). There also was a sizable increase in the money multiplier (from 2 to 7) during this period reflecting, in part, the high real interest rates paid on deposits (particularly in terms of dollars).

The high domestic interest rates in the economy were transformed into high international rates within the context of the quasi-fixed exchange rate system. The large private capital inflows during the period and corresponding surge in the supply of credit would be expected to have reduced domestic interest rates. The maintenance of high real interest rates in these conditions can be explained, in part, by the continuous expansion of domestic aggregate demand led by government operations and the nontraded goods sector. As discussed, this sector's financial strength was facilitated by its ability to pass through cost increases unconstrained by external competition, as well as by the easy access to bank credit.

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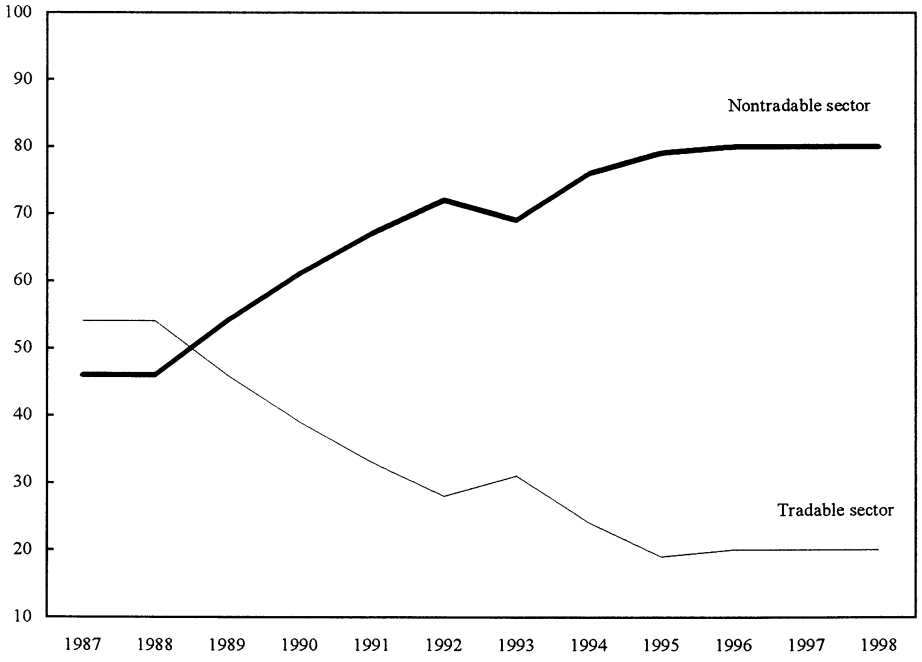
[13] The rapid rise in exports, despite a deteriorating financial condition of the sector may be explained by the sizable credit extended to this sector by the banking system throughout the period.

We have constructed a compounded interest rate index based on the average cost of funds of the banks (adding a 400 basis point spread to approximate the average cost to borrowers), and have discounted credit to the private sector and the money supply (M2) by that index (Table 4).[14] During 1987–94, while broad money remained unchanged in present value terms, the **discounted present value of bank credit to the private sector increased by 20 percent a year.** This expansion of bank credit to the private sector was sufficiently high relative to the cost of borrowing to mitigate liquidity problems, and possibly to cover any needed capitalization of interest payments. Moreover, real interest rates generally were much lower for the nontraded good sector; the average real interest rate for the nontradable sector was about 6 percent a year while that for the tradable sector was 15 percent a year. As a result, real interest rates were particularly high for the sector that could least afford them.

Figure F. Mexico: Outstanding Stock of Credit by Economic Sector, 1987-98
(In percent of total)



Source: Bank of Mexico.

[14] Table 4 shows that the average cost of funds in dollar terms was well above the U.S. prime rate through 1993. It was only in 1994 that, as a consequence of the devaluation of the peso, the average cost of funds was negative in dollar terms.

The deteriorating finances of the traded goods sector led banks to shift their financing portfolio toward the nontraded goods sector. We can see from Figure F that the stock of bank credit to the traded goods sector fell from about 55 percent of the total in 1987 to 25 percent in 1994. Also, the share of credit to the traded goods sector relative to its production declined during the period. In 1987, the manufacturing sector represented close to 21 percent of GDP and accounted for almost 25 percent of the total bank credit outstanding; by 1994, the manufacturing sector's share of GDP remained about unchanged but it accounted for only 15 percent of total bank credit.

The contraction in the relative share of credit outstanding to the traded goods sector does not represent a mismanagement of the banking system. Rather, banks reallocated their portfolio to better manage their assets driven by an increasing incidence of nonperforming loans (the percentage of nonperforming loans rose from 4 percent of total credit in 1991 to 8½ percent in 1994) (Table 5). This behavior facilitated the expansion of the profitable nontraded goods sector, but in the end contributed to the deterioration of the tradable sector and its contagion to the economy and the banking sector as a whole.

IV. Conclusions and Recommendations

This paper points to the financial deterioration of the traded good sector as a fundamental factor underlying the 1994 crisis in Mexico. The ability of a country to have sustainable economic growth is strongly put into question when the traded goods sector faces a continuous increase in the cost of production that can not be passed through to increased prices. In the end, commercial banks' finances are dependent on the finances of its debtors, especially if the problem debtor is a large part of banks' assets.

The paper concludes that policy makers need to take into account not only changing fiscal balances, but also the magnitude of public sector operations in determining the impact of fiscal policy on the sustainability of a country's balance of payments. An appropriately low fiscal deficit may be a necessary condition, but is not necessarily a sufficient fiscal condition to prevent a process of growing disequilibrium in the economy. Careful attention also needs to be given to the path toward fiscal adjustment, including the role of the size of government operations on the financial health of the tradable goods sector. Fiscal measures that reduce public expenditure, rather than increase public revenue should be favored taking into account the financial health of the traded goods sector and the medium-term sustainability of a country's balance of payments.

The lessons that can be gleamed from this paper bode well for the present circumstances of Mexico. Since 1994, within the context of a low overall public sector deficit, the size of government operations has declined markedly (in terms of GDP, U.S. dollars and traded goods prices). At the same time, traded goods prices have increased both in relation to nontraded goods prices and wages. The external current account deficit has remained moderate and largely financed by direct foreign investment. However, the legacy of the 1994 banking crisis remains both in terms of the overhang of its fiscal cost and the fragility of the banking system, which will require continued vigilance by the authorities.

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Table 1. Mexico: Public Finances in Real Terms and in U.S. Dollars

	In Billions of U.S. Dollars		At Tradable Prices		At Nontradable Prices	
	Budgeted Expenditure	Non-oil Revenue	Budgeted Expenditure	Non-oil Revenue	Budgeted Expenditure	Non-oil Revenue
1987	28.7	24.7	39.6	34.0	39.6	34.0
1988	32.4	33.6	34.6	35.8	34.2	35.3
1989	34.8	38.9	35.5	39.6	30.0	33.5
1990	40.1	45.0	39.3	44.1	28.3	31.7
1991	47.8	61.3	42.2	54.1	28.3	36.4
1992	55.7	71.0	44.6	56.9	28.5	36.4
1993	64.8	67.4	48.7	50.6	29.7	30.8
1994	72.5	70.4	56.1	54.5	32.9	32.0
1995	43.5	41.6	46.4	44.4	29.2	27.9
1996	52.1	47.3	47.0	42.7	31.4	28.6
1997	65.2	58.8	51.2	46.2	33.6	30.3
1998	64.2	57.5	50.5	45.3	32.7	29.3

Sources: Bank of Mexico; and Mexican Ministry of Finance.

Table 2. Mexico: External Accounts

	(Index 1987=100)		(In billions of U.S. dollars)		(In percent of GDP)	
	Nominal Exchange Rate	Real Exchange Rate	Trade Balance	Current Account Balance	Trade Balance	Current Account Balance
1987	100	100	9.0	4.3	6.1	2.9
1988	161	130	3.0	-2.0	1.7	-1.1
1989	176	130	0.0	-5.8	0.0	-2.6
1990	200	138	-1.0	-7.5	-0.4	-2.9
1991	213	153	-7.0	-14.6	-2.2	-4.7
1992	218	167	-16.0	-24.4	-4.4	-6.7
1993	220	178	-13.0	-23.4	-3.2	-5.8
1994	239	144	-18.5	-29.7	-4.4	-7.0
1995	453	108	7.1	-1.6	2.5	-0.6
1996	536	133	6.5	-2.3	2.0	-0.7
1997	559	155	0.6	-7.4	0.2	-1.9
1998	698	146	-6.1	-15.7	-1.5	-3.8

Sources: Bank of Mexico; and IMF's World Economic Outlook.

Table 3. Mexico: Monetary Indicators

(In billions of Mexican pesos)

	Domestic Credit 1/ (Real Terms)	Credit to Private Sector 1/ (Real Terms)	Consumer Price Index (1987=100)	Central Bank Reserve Money	M1	M2	Money Multiplier 3/ (Ratio)
1987	54	18	100	14	13	49	3
1988	45	16	214	21	21	39	2
1989	56	28	257	23	29	88	4
1990	62	35	326	31	47	160	5
1991	69	45	399	40	106	238	6
1992	76	63	461	46	122	295	6
1993	78	72	506	50	144	340	7
1994	91	92	541	61	145	406	7
1995	71	63	731	81	151	535	7
1996	43	40	982	100	206	670	7
1997	77	48	1,185	151	267	897	6
1998	74	49	1,374	193	308	1074	6

Source: International Financial Statistics.

1/ Deflated by the CPI.

2/ The money multiplier is estimate by calculating the ratio between broad money (M2) and reserve money.

Table 4. Mexico: Liquidity Analysis

	Loan Interest Rate Index 2/ *1987=100*	Average Cost of Funds *(annual rates)*	Present Value 1/		
			Domestic Credit	Credit to Private Sector	Money Supply (M2)
1987	100	95	54	18	49
1988	168	68	58	20	23
1989	242	45	59	29	36
1990	332	37	61	34	48
1991	407	23	68	44	59
1992	484	19	73	60	61
1993	573	19	69	63	59
1994	662	16	74	75	61
1995	961	45	54	48	56
1996	1,256	31	34	31	53
1997	1,497	19	61	38	60
1998	1,812	21	56	37	59

Source: International Financial Statistics.

1/ Discounted by interest rate index based on the average cost of funds.

2/ The average cost of fund is adjusted by a four percent spread differential.

Table 5. Mexico: Credit Outstanding and Nonperforming Loans

	1991	1992	1993	1994	1995	1996	1997	1998
Real adjusted credit to the private sector (annual percent change) 1/	33.3	33.0	17.0	32.1	-20.6	-11.9	...	-0.2
Adjusted credit to the private sector (percent of GDP) 1/	26.3	33.0	37.4	46.7	43.6	35.7	35.5	35.3
Commercial banks' nonperforming loans (percent of total loans) 2/	4.1	5.6	7.4	8.4	7.4	7.3	11.3	11.3

Sources: Bank of Mexico and National Banking Commission of Mexico.

1/ Comparable information does not exist prior 1991. Including assets sold to FOBAPROA. From 1997 onwards credit aggregates are based on resident entities only.

2/ Excluding loans sold to FOBAPROA. From 1997 onwards stricter loan accounting rules apply.