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MEXICO'S TRADE AND INDUSTRIALIZATION EXPERIENCE SINCE 1960: A RECONSIDERATION OF PAST POLICIES AND ASSESSMENT OF CURRENT REFORMS

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ABSTRACT

As are many other developing countries, but perhaps faster and farther than most of them, Mexico has been moving in the 1980s toward a liberalized trade regime after a long period of import subsitution industrialization. Compared to other experiences, and especially to those which are also well advanced in this process such as Chile and Bolivia in Latin America, the Mexican case shows a number of singular features which, over a longer time span, will probably make it a unique case of economic and political success in terms of the smoothness of its transition, given the small adjustment costs involved and the virtual absence of political tensions and resistance to change. This paper argues that—besides the critical role of non-economic factors, including geography and politics—this outcome can largely be attributed to the success that Mexico had with import substitution industrialization and, perhaps more paradoxically, to the very adverse macroeconomic conditions under which trade reform was undertaken in the 1980s. At the same time, and for related reasons, the paper is rather skeptical about the long-term benefits that the particular form of trade liberalization adopted is likely to bring.

RESUMEN

Al igual que muchos otros países en desarrollo pero quizás más rápidamente y más lejos que la mayoría de ellos, México ha avanzado en la década de los ochentas hacia un régimen comercial más liberal después de un largo período de industrialización por sustitución de importaciones. Comparado con otras experiencias, y especialmente con las de Chile y Bolivia en Latinoamérica que se encuentran muy avanzados en este proceso, el caso mexicano presenta cierto número de rasgos particulares que a la larga probablemente lo convertirán en un caso único de éxito económico y político, dada la suavidad de su transición, los bajos costos de ajuste y la ausencia virtual de resistencia al cambio y tensiones políticas. Este trabajo argumenta que—además del papel crítico de los factores no económicos, incluyendo la geografía y la política—este tipo de transición puede explicarse por la no menos exitosa experiencia que tuvo México con la industrialización por sustitución de importaciones y, quizás más paradójicamente, por las condiciones macroeconómicas tan adversas bajo las cuales se llevó a cabo la reforma comercial en la década de los ochentas. Al mismo tiempo y, por razones relacionadas con lo anterior, este trabajo se muestra escéptico en relación con los beneficios de largo plazo que puede traer consigo la forma particular de liberalización comercial adoptada.

As are many other developing countries in Latin America and elsewhere, but perhaps faster and farther than most of them, Mexico has been moving in the 1980s toward a liberalized trade regime after a long period of import substitution industrialization. Compared to other countries, and especially to those that are also well advanced in this process, such as Chile and Bolivia in Latin America, the Mexican case shows a number of singular features which, over a longer time span, will probably make it a unique case of economic and political success in terms of the smoothness of its transition, given the small adjustment costs involved and the virtual absence of political tensions and resistance to change.

This paper argues that—besides the critical role of non-economic factors, including geography and politics—this outcome can largely be attributed to the success that Mexico had with import substitution industrialization and, perhaps more paradoxically, to the very adverse macroeconomic conditions under which trade reform was undertaken in the 1980s. At the same time, and for related reasons, the paper is rather skeptical about the long-term benefits that the particular form of trade liberalization adopted is likely to bring.

The development of this argument requires a reconsideration of the industrial development experience before the 1980s. This is the task addressed in section 1, which looks at Mexico's trade and industrial policies since 1960, focusing in particular on the dynamic costs and benefits of its particular policy regime. This analysis is followed in section 2 by an overview of macroeconomic adjustment and trade policy reform in 1980s, and a preliminary assessment of the multiple impacts of trade liberalization. A concluding section summarizes the paper's main findings.

I. INDUSTRIALIZATION EXPERIENCE: THE POLICIES AND THEIR OUTCOME

The Trade and Industrial Policy Regime: An Overview

Since 1960, three broad phases can be distinguished in the evolution of industrial and trade policies (see table 1.1). During the sixties, when import substitution had already been completed in most non-durable consumer goods and light intermediates, industrial and trade policies emphasized almost exclusively the local development of the durable consumer goods, the heavy intermediate goods and the capital goods industries.[1] The protectionist regime relied

[1] For a description of industrial policy during this period, see King (1970), CEPAL-NAFINSA (1971), Villarreal (1976), and Solís (1980).

increasingly on import licenses, which were granted essentially on criteria of availability of

TABLE 1.1

Macroeconomic and Trade Policy Indicators, 1960-1990

	1961-1970	1971-1975	1976-1981	1982-1990
Annual growth rates (%)				
GDP	7.0	6.5	6.9	0.8
Consumer prices	3.5[a]	12.1	22.3	69.8
% of GDP				
Investment/GDP ratio	18.7	20.3	22.2	17.7
Operational fiscal deficit	1.4[b]	3.4	4.6	1.1
Indices 1978=100 (initial/end of period values)				
Real exchange rate[c]	104.7/89.7	87.8/80.3	89.8/78.9	118.7/91.1
Real exchange rate[d]	103.9/96.9	96.1/91.5	97.0/82.3	126.0/99.4
Real effective exchange rate[e]	na/80.6	81.3/76.0	83.3/73.2	100.2/99.5
Relative unit labor costs[f]	na/96.7	102.1/124.0	119.0/128.2	83.1/83.9
Import value under licenses (%) (initial/end of period value)	53.8/68.3	67.7/68.4	90.4/85.5	100.0/19.7[g]

[a] Based on private consumption deflator. [b] 1965-1970.
[c] US wholesale prices/Mexico's consumer prices. [d] Relative wholesale prices (US-Mexico).
[e] Banco de Mexico, based on consumer prices. [f] Mexico's manufacturing / US business sector.
[g] 1988.

Sources: Banco de México: *Indicadores económicos*; Presidencia de la República: Criterios generales de política económica; OECD (for US unit labor costs).

domestic supplies. Thus, tariff protection became less important compared to the previous two decades. These instruments combined with a number of other policies to promote local industrial integration, including the establishment of domestic content requirements (DCRs) in the automobile industry (1962), the yearly publication of lists of industrial products with potential for import substitution, and "fabrication programs" in the heavy intermediates and capital goods sectors, designed to promote local industrial integration through sector or firm-specific fiscal

incentives and import licenses.[2] Export promotion policies, on the other hand, were virtually absent in this period, except for the establishment in the mid 1960s of the "maquiladora" program, a special free trade and investment regime for export-processing plants along the northern border region.

The exchange rate regime had been characterized since 1954 by a fixed nominal rate (which was to last until August 1976) and a rather stable real exchange rate up to 1973, which showed a real appreciation of the Mexican peso at a slow pace of less than 1 percent per year during 1960s. More generally, a prudent macroeconomic management successfully oriented fiscal and monetary policies to the achievement of price stability and fast economic growth. Thus, this decade of "stabilizing development" (desarrollo estabilizador)—the golden age of Mexico's post-war development experience—recorded an average inflation rate of 3.5 percent per year and unprecedented rates of overall economic growth.

In the early 1970s, industrial policy diversified its objectives to include export promotion and the strengthening of international competitiveness, the development of capital goods industries, regional decentralization of industrial activities, and foreign investment regulation (see, in particular, CEPAL, 1979; Solís, 1980; and the Plan Nacional de Desarrollo Industrial 1979-82). The new priorities were reflected in a number of policy reforms. Export promotion policies included the establishment in 1971 of export subsidies called Certificados de Devolucíon de Impuestos (CEDIS), and of tariff rebates on imported inputs of exporting firms, the expansion of short-term export credits provided by FOMEX (Fondo para el fomento de las exportaciones de productos manufacturados), the creation in 1972 of FONEI (Fondo de equipamiento industrial) for the financing of export-oriented investments, and the formation in 1970 of IMCE (Instituto Mexicano de Comercio Exterior) to strengthen export promotion efforts and facilitate access to international markets. From 1977 to 1981, a number of trade reforms replaced import licenses with tariffs with the aim of reducing the anti-export bias of the protection regime and increasing industrial efficiency. In addition, a second generation of fabrication programs and other sector-specific policies—such as the 1977 automobile industry program and the 1981 program for microcomputers—tended to condition import protection and fiscal incentives on the achievement

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[2] General fiscal incentives, provided in the framework of the 1955 Law for the Development of New and Necessary Industries, also played a role, albeit a relatively minor one and secondary to trade protection. Another feature of the period is the reduction of the State's promotional action in the field of industrial financing and through the establishment of public enterprises, both of which had been decisive in the earlier industrialization phases. These roles were increasingly taken over by domestic private banks in long-term financing and by direct foreign investment in the fastest growing manufacturing industries.

of domestic price and export targets, a move that was often accompanied by the relaxation of DCRs and their substitution for "foreign exchange budgets" (see section 2 below).

The concern for promoting a domestic capital goods industry[3] inspired the 1973 tariff reforms, which increased the levels of protection for that industry, and the replacement in 1975 of Rule XIV of the tariff legislation, which had traditionally provided subsidies on imported machinery and equipment, by subsidies on imported machinery for the production of new capital goods. Fiscal incentives were revised and, through a unified framework (CEPROFIS, Certificados de Promoción Fiscal), afforded preferential treatment to the production and purchase of domestic capital goods, to small firms, and to regionally decentralized activities. The period also witnessed a reactivation of the role of development banks in industrial financing and of public investments in the oil, petrochemicals, steel, and some capital goods industries. The 1973 Law on Foreign Investment redefined the rules for the participation of foreign investors, including a general 49 percent restriction on foreign ownership.[4]

The macroeconomic environment, however, became highly unstable in the 1970s and often neutralized the incentives provided by industrial policy. The re-emergence of inflation and periodic episodes of foreign exchange difficulties made the real exchange rate highly volatile compared to the previous decade. The peso appreciated strongly in real terms during the fiscal expansion from 1972 to 1975 and during the oil boom from 1977 to 1981. These periods induced an increased use of quantitative import restrictions (1974, 1976-77, and 1981-82), and were followed by an exchange rate crisis, sharp devaluations, and recession-led adjustments in the balance of payments.

A comparison with the import substitution regime of the 1960s suggests that the reforms of the 1970s transformed the old arrangements into a hybrid three-tiered system which comprised:

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[3] Mexico's production of capital goods lagged considerably behind other semi-industrial economies. As the NAFINSA-ONUDI (1985) study found over 90 percent of Mexico's market for machine tools was supplied from abroad, compared to only 20 percent in Brazil and 44 percent in Korea, countries which in addition exported 27 percent and 20 percent respectively of their local production of machine tools.

[4] The National Foreign Investment Commission (NFIC)—a regulatory agency established by the Law—was empowered, however, to modify this general rule and to grant authorization for a higher percentage when such an investment was considered beneficial for the economy. In practice, the Law was to apply to *new* foreign investment projects, since the NFIC allowed those businesses that were wholly foreign-owned prior to the adoption of the Law, to retain their existing capital structure. In approving new investment projects, and waiving the 49 percent limit, the NFIC was to consider a number of criteria including their complementarity with national capital, technology transfer, balance of payments, and employment effects.

a) A scheme of export promotion through import protection in sectors under specific industrial programs (automobile, microcomputers, and a number of heavy intermediates and capital goods). These industries were protected through import licenses in the domestic market while, at the same time, they were given partial and increasing access to inputs at international prices and quality in exchange for export commitments. They enjoyed, generally, the highest levels of effective protection in the economy (see below).

b) An export-oriented system for the maquiladora plants in the northern border—the expansion of which to other regions was facilitated throughout the 1970s—under a de facto free trade regime for the imported inputs to be processed and exported, albeit with restrictions against selling in the domestic market.[5] This sector is thus virtually de-linked from the rest of the Mexican economy, with a share of value added in gross output on the order of 23 percent and importing over 98 percent of its material inputs. Labor-intensive, low-paid assembly of electronic components and apparel are the quintessential maquiladora industries.

c) A traditional import-substitution regime in the rest of manufacturing (mostly consumer goods and light intermediates) only modified by the presence of some export promotion incentives. These sectors generally enjoyed lower effective protection rates, sometimes negative, than those of the first group.

The changing structure of incentives associated with the evolving industrial and trade policies is summarized in table 1.2, showing estimates of nominal and effective protection rates—those available on a broadly comparable basis—for 1960, 1970, and 1980. As shown in the table, protection levels escalated significantly with the degree of manufacturing, especially among consumer durable and capital goods,[6] and did so increasingly over time, both between manufacturing and the primary sector and within the industrial sector itself, where the position of consumer goods worsened and that of consumer durables and capital goods improved. The main bias against the primary activities has not been suffered by agriculture—largely as a consequence of guaranteed prices and input subsidies—except from the mid 1960s to the mid 1970s, when effective protection turned from positive to negative in this sector and apparently contributed to its economic slowdown. Rather, it has been the mining, and especially the oil sector, which since the mid 1970s have subsidized heavily, through low energy prices, the rest of the Mexican economy.

It has often been noted that Mexico's protection rates have been relatively moderate among Latin American countries and other developing economies (see Balassa et al., 1971; Little

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[5] Permission to market up to 40 percent of the product in Mexico is granted in some cases. These products fall into the "807" Section of the US Tariff Schedule, which allows products assembled abroad to re-enter the US without tariffs on the US-made components.

[6] Escalation within the manufacturing sector in 1960 and 1970 is, however, almost fully explained by the high protection rates for the automobile industry. In 1980, it also reflects the increase that took place in the 1970s in effective protection for the goods industry.

et al., 1970; Ten Kate and Wallace, 1980). This feature has been attributed to the fact that, in spite of an extensive use of quantitative restrictions, a degree of domestic price discipline has been enforced by the threat of smuggling and potential competition through a several thousand kilometer border with the US economy, as well as by the role of price controls in manufacturing and guaranteed prices in agriculture.

This evidence on protection rates is consistent with the rather low but increasing estimates of the static costs of Mexico's protectionist policies. The costs of protection in 1960 were estimated by Bergsman (1974) at 2.5 percent of GDP, with only 0.3 percentage points having its origin in resource misallocation effects (the rest, 2.2 percentage points, being attributed to "X-inefficiency" plus monopolistic rents). In a subsequent study, the World Bank (1977) suggested that policy changes since 1960 may have increased the sum total of these costs by 2.5 percentage points of the manufacturing value added.

TABLE 1.2

Effective Protection Rates (%), 1960-1980

	1960	1970	1980
Agriculture	3.0	-1.4	18.5
Mining	-0.2	-12.3	
Oil	-7.9	5.3	-82.0[3]
Manufacturing	46.6	36.9	33.1
Consumer goods	40.1	28.4	5.2
Light intermediates	42.7	15.1	39.4
Heavy intermediates	38.1	41.4	53.2
Cons. durables and capital goods	85.2	77.1	108.9
Average nominal protection [1]	15.1	13.1	9.0-14.0[2]

Notes: [1]All tradables. [2]Excludes oil. [3]Oil extraction.

Sources: Bueno (1971) for 1960; Ten Kate and Wallace (1980) for 1971; Ten Kate and de Mateo (1989) for 1980. Figures refer to implicit rates without exchange rate adjustment. Treatment of non-tradables follows Balassa's modified method for 1960 and 1970 (value added of non-tradables is assumed not to change) and Balassa's original method for 1980 (prices of non-tradables are assumed not to change).

We shall leave a detailed analysis of the period since 1982 for section 2, but it is worth noting that the decade has witnessed the emergence of a new trade policy regime in the midst of severe adjustments to the 1982 debt crisis and the 1986 collapse of the international oil market. These adjustments led to unprecedented peaks in the real exchange rate (together with a rather high variability), the collapse of the real and dollar value of domestic wages, very high rates of inflation, and a deep and prolonged economic slowdown.

The Pattern of Industrial Growth

Trade and industrial policies provided a number of incentives to the expansion of manufacturing industries, especially to those which in the early 1960s were infant industries in the heavy intermediates and consumer durables and capital goods sectors. These incentives are embodied in the structure of protection presented in table 1.2 and reflect the influence of energy and agricultural price policies together with overall macroeconomic management as much as the role of the trade regime. We now focus on how the industrial sector responded to them by looking at the sources of demand and supply expansion and the evolution of industrial structure.

Sources of Market Expansion

Tables 1.3 and 1.4 show the growth of manufacturing output and its main subsectors, together with the sources of demand expansion since 1960. From 1960 to 1980, industrial expansion proceeded at a sustained rapid pace, continuing and even exceeding the high growth rates achieved in the previous two decades. The speed and stability of the growth process is outstanding among post-war developing countries and placed Mexico, with Brazil, at the top of the growth table among the larger Latin American economies.

Mexico followed a large-country pattern of industrialization (see Chenery et al., 1986), i.e., the rapid expansion of domestic markets was the major source of industrial growth.[7] The changing structure of industrial output—showing a rapidly increasing share of heavy intermediates, and consumer durables and capital goods—has to be interpreted in this light. However, the 1960s also recorded an intense import substitution process which significantly contributed to the expansion of those sectors. Those showing the largest reductions in import coefficients and the highest growth rates were the automobile industry, machinery and electrical appliances, rubber, and chemicals. Although export markets made a much smaller contribution

[7] The 1980s are no exception since the contraction of domestic demand has meant a prolonged period of industrial stagnation. For a detailed analysis of the 1980s, see section 2.

and the export-output ratio tended to decline on average, the decade also witnessed the beginning of a process which was to become more important in the first half of the 1970s, i.e., a substantial increase of export coefficients in the consumer durables and capital goods sectors, and the development of the maquiladora assembly plants in the northern border region. Transnational companies (TNCs) were prominent in the expansion of the leading sectors, particularly in three of the four fastest growing industries (automobiles, non-electrical machinery, and electrical appliances), and significant and increasing in the fourth one (chemicals). The contribution of public enterprises became, in contrast, less important compared to previous decades, even though they participated in some of the fast growing sectors as well as in the rapid development of the fertilizer and heavy petrochemicals industries.[8]

The contribution of import substitution to industrial growth declined sharply during the 1970s and even became negative, particularly in the late years of the decade when the oil boom triggered a rapid import expansion. Nevertheless, significant import substitution processes—which become apparent in a more detailed analysis—continued to take place in the heavy

8 For the source of this more detailed analysis, see Ros y Vásquez (1981).

TABLE 1.3

Manufacturing Growth, 1960-1989

	Percentage of Manufacturing Output (1980 Prices)				Annual Rates of Growth (%)		
	1960	1970	1980	1989[P]	1960-70	1970-80	1980-89
Manufacturing Output	100.0	100.0	100.0	100.0	8.1	6.3	1.4
Manufacturing Imports[1]	19.7	12.3	16.9	15.7	2.6	10.3	0.0
Manufacturing Exports[1]	6.3	5.1	4.6	13.1	5.4	5.6	13.4
Consumer goods	56.2	49.0	40.9	40.0	6.5	4.4	1.1
Light intermediates	10.0	9.7	9.7	9.6	7.7	6.3	1.2
Heavy intermediates	21.3	24.0	28.0	31.5	9.3	7.9	2.7
Cons. dur. and capital g.	12.5	17.3	21.3	18.9	11.5	8.5	0.1

[P]Preliminary.

[1]Percentage of manufacturing gross output.

Source: INEGI, Sistema de Cuentas Nacionales de México.

TABLE 1.4

Sources of Growth in Manufacturing Output

Year	Domestic Demand	Export Expansion	Import Substitution
1960-70	87.4	2.3	10.3
1970-74	102.2	2.5	-4.7
1974-80	105.0	2.2	-7.2
1980-89	-54.9	154.1	0.8

Source: Based on INEGI, Sistema de Cuentas Nacionales de México.

intermediates (petrochemicals and steel) and capital goods sectors. The small aggregate contribution of export expansion also hides the rapid increase in the first half of the 1970s of the

export coefficients in these sectors (as well as in the automobile industry), which were the major beneficiaries of the export incentives introduced throughout the decade.

Both of these processes—import substitution and export expansion—contributed to the continuously rising share of heavy intermediates and consumer durables and capital goods from 1970 to 1980. The pace of structural transformation is even more evident in the composition of manufacturing exports. By 1980 those sectors accounted for nearly half of all manufacturing exports; the consumer durables and capital goods sector alone, whose exports were virtually non-existent two decades earlier, represented 20 percent of the total. These trends also meant an increasing share in foreign trade of capital-intensive manufacturing exports, giving rise to the paradox—first noted in 1970 and much discussed since then—that Mexican manufacturing exports were more capital intensive than imports.[9]

Industrial Structure and Trade Orientation in 1980

The end result of these long-term trends is summarized in table 1.5. The table aggregates four-digit manufacturing industries according to trade orientation, distinguishing the following sectors:

a) Intra-industry trade sectors showing a relatively high share (more than 50 percent) of intra-industry trade in its total foreign trade;[10]

b) Import-competing, i.e., net importing sectors with a low share of intra-industry trade;

c) Export-oriented (or traditional exportable), i.e., net exporting sectors with a low share of intra-industry trade;

d) Non-traded showing, in contrast to the previous three groups, very low shares (less than 5 percent) of foreign trade in the industry's gross output.

Table 1.5 shows the weight of each of these sectors in manufacturing value added and foreign trade, together with its commodity composition.[11] Intra-industry trade sectors had not

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9 For a review of the literature on this issue, see Ros (1991b).

10 The share of intra-industry trade (I_j) in industry j is defined as:

$$I_j = 1 - ([X_j - M_j])/(X_j + M_j)$$

The index I_j has a minimum at 0 (when the industry exports without importing or imports without exporting) and increases towards 1 as the products of the industry are exported and imported simultaneously. See Ros (1991b) for the construction and estimation of these indices.

11 The aggregation in the table is not identical but is broadly comparable to that of tables 1.2 and 1.3 and subsequent tables. Since the relative shares of each type of goods in manufacturing are very different—consumer goods and intermediates showing large shares and, at the other end,

only reached a large share in overall manufacturing trade (of the order of 35 percent), but they even dominated manufacturing exports by 1980 with a share (51.4 percent) significantly larger than that of the export-oriented (inter-industry exports) sectors (36.4 percent). The composition of intra-industry trade sectors is heavily biased towards consumer durables and capital goods, with a substantial share of heavy intermediates (although lower than the amount corresponding

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capital goods having little significance—the discussion that follows compares the composition of each sector to that of manufacturing as a whole.

Table 1.5

to manufacturing as a whole). Automobiles and auxiliary industries stand among the former, while capital goods and intermediates comprise business machines, basic chemicals, non-ferrous metals, and non-metallic minerals. The presence of consumer goods in these sectors is limited to some alcoholic beverages, textiles, and printing.

A sharp contrast stands between the composition of the import-competing sectors—dominated by capital goods and heavy intermediates—and that of the export-oriented industries, strongly biased towards consumer goods and light intermediates. Among the importing sectors, capital goods are, indeed, of major importance. As much as 55 percent of capital goods production is generated in those sectors, and when the latter are combined with intra-industry trade sectors, they comprise more than 80 percent of the capital goods industries. On the other hand, almost half of the production of heavy intermediates originates in those importing sectors; of major importance are the paper industry and a large proportion of steel and aluminum metallurgy. The presence of consumer goods in these import-competing sectors is limited to some final products of the industries just mentioned, plus some basic products (powdered milk and sugar) that Mexico had to import in large amounts during the period considered. The overall importance of inter-industry trade (with a share of over 60 percent in total manufacturing trade) is largely accounted for by these importing sectors which represent almost 70 percent of manufacturing imports—many of which are not strictly competing with domestic production—and have traditionally determined Mexico's structural trade deficit in manufactures. In contrast, export-oriented sectors show little importance in both manufacturing value added (6.6 percent) and foreign trade (9.1 percent). These sectors include essentially natural-resource-intensive activities, the processing of some of the main exportable agricultural inputs (fish and shellfish, cotton, fruits, coffee, and tobacco), as well as wood products, porcelain, and marble.

Just as in the case of traditional exportables, the composition of non-traded goods is also strongly biased towards consumer goods and light intermediates. These sectors—many of which are really early import substituting industries—are by and large constituted by the bulk of the food, textiles, clothing, and wood industries, and account for a large share (43 percent) of manufacturing value added. This importance stands in sharp contrast with the very limited weight of the export-oriented sectors, and both of these features are linked to the prominent role that the domestic market has played in Mexico's industrial development, partly reflecting the inhibiting effects of trade policies on their international competitiveness and the development of their export potential.

An Extensive Pattern of Growth?

Table 1.6 looks at the growth process from the sources of supply expansion, summarizing the available evidence on factor inputs and total factor productivity (TFP) growth. It focuses, in contrast to table 1.7, on aggregate performance—on the assumption that industrial growth, as we shall see below, is likely to have affected the overall productivity performance of the economy.

Estimates of long-term trends in total factor productivity growth per year fall in the 2.0-2.6 percent range, thus "explaining" around 35 percent of the increase in total output. This performance could suggest a rather extensive pattern of growth, largely based on a high rate of capital accumulation (of the order of 6.2 to 6.7 percent per year). This may well be the case when Mexico's record is compared to those of developed economies or to the Korean experience, where over 40 percent of output expansion is attributable to TFP growth. But the growth pattern also appears to be significantly more intensive than the rest of Latin America (with a 25 percent contribution of TFP growth), and compares favorably with other rapidly developing economies such as Brazil—in terms of productivity performance—or Turkey—in terms of employment absorption.

The performance of the manufacturing sector itself appears, however, to have been less satisfactory. Table 1.7 presents the available estimates and makes clear the considerable differences between them. These can be explained by the methods followed as well as by differences in coverage and time periods; at the risk of some oversimplification, one could say that the lower estimates for TFP growth in the table exclude the productivity effects of factor reallocation within manufacturing (Hernández Laos and Velazco, 1990; World Bank, 1986), and that the intermediates include these reallocation effects (Syrquin, 1986), while the higher estimates are representative of large and medium-sized firms (Samaniego, 1984, as well as Velazco,1985, for labor productivity). Overall, however, they suggest that for manufacturing as a whole (including large and small firms) for the two decades since 1960, the Mexican industrial sector showed a slow rate of TFP growth (of the order of 1 percent per year). This contrast with the higher estimates in the table suggests the presence of divergent trends in productivity growth between large-scale and small-scale manufacturing establishments .

This high productivity performance of the modern large-scale segment of manufacturing compares favorably with other developing and developed country experiences (see Samaniego, 1984). This finding is consistent with international comparisons of output per worker, indicating that the labor productivity gap between Mexico and US manufacturing has been diminishing since the 1960s. One such comparison (Blomstrom and Wolff, 1989) shows a convergence of

productivity levels between 1965 and 1984 in all industries for which data are available, with the biggest catch-up taking place during the second half of the 1960s. This study also found the

TABLE 1.6

Growth of Output, Inputs, and Total Factor Productivity

Average Annual Growth Rates, Whole Economy

Country	Years	Output	Capital	Labor	TFP	Source
Mexico	1950-75	6.2			2.2[1]	Syrquin (1986)
	1960-74	6.8	6.7	3.3	2.0	Elias (1978)
	1960-75	6.4	6.2	2.4	2.6	Reynolds (1980)
Developing						
Argentina	1960-74	4.1	3.8	2.2	0.7	Elias (1978)
Latin America[2]	1960-74	5.3	4.7	2.7	1.3	Elias (1978)
Brazil	1960-74	7.3	7.5	3.3	1.6	Elias (1978)
Colombia	1960-74	5.6	3.9	2.8	2.1	Elias (1978)
Turkey	1963-75	6.4	6.8	1.0	2.2	Krueger and Tuncer (1980)
Korea, Rep.	1960-73	9.7	6.6	5.0	4.1	CCJ (1980)
Developed[3]	1960-73	5.7	6.3	0.8	2.7	CCJ (1980)
US	1960-73	4.3	4.0	2.2	1.3	CCJ (1980)
Germany	1960-73	5.4	7.0	-0.7	3.0	CCJ (1980)
Japan	1960-73	10.9	11.5	2.7	4.5	CCJ (1980)

Notes: [1]Derived from the rates of change of output per worker and capital-labor ratio (Table 8-5) assuming a capital elasticity of 0.48 (Table 8-9).

[2]Average of six Latin American countries (excluding Mexico). See Elias (1978).

[3]Average of eight developed countries. See CCJ (1980).

CCJ (1980)=Christensen, Cummings, and Jorgenson (1980).

Data for countries other than Mexico are cited from Chenery et al. (1986).

TABLE 1.7

Growth of TFP and Labor Productivity in Manufacturing

Average Annual Growth Rates

Years	TFP	Labor Productivity	Source
1960-80	1.1	3.4 / 6.6 [1]	HLV (1990) and V (1985)
1960-73	0.8	3.4 / 7.8 [1]	HLV (1990) and V (1985)
1973-80	1.5	3.3 / 4.5 [1]	HLV (1990) and V (1985)
1970-80 [2]	0.9	3.8	World Bank (1986)
1950-75 [3]	2.0	3.0	Syrquin (1986)
1963-81 [4]	3.6	6.0	Samaniego (1984)

Notes: [1]Value added per man-hour in manufacturing firms with more than 100 employees.

[2]Mean growth rates of twenty two-digit manufacturing industries.

[3]Derived. See note 1 in Table 5.

[4]Mean growth rate of seventeen four digit manufacturing industries.

HLV (1990)=Hernández Laos and Velasco (1990).
V (1985)=Velasco (1985).

smaller productivity gaps occurring in the modern TNC-dominated sectors of manufacturing. Bacha (1966) compared productivity levels for 1960 and Maddison and van Ark (1989) did it for 1975, carefully adjusting real output levels following an "industry of origin approach." A comparison of their findings also suggests a reduction in the US-Mexico productivity gap between 1960 and 1975 (see Estrada, 1991).

The slow TFP growth in manufacturing as a whole and the more satisfactory performance of large-scale manufacturing and the overall economy suggest, taken together, that the main contribution of manufacturing expansion to aggregate productivity performance must have taken place through the reallocation effects of industrial growth rather than through rapid increases of factor productivity in manufacturing itself.[12] This overall positive impact of industrial growth qualifies again the notion of an extensive growth pattern in the Mexican experience. Given the initially very large labor surpluses in traditional agriculture and services and the very fast rate of demographic expansion during the period (on the order of 3 to 3.5 percent per year)—both of which tended to moderate the overall productivity effects of resource reallocation towards manufacturing[13]—it is not easy to see how, given the *actual* rate of capital accumulation, the growth pattern could have been much more intensive. The reason is that the slow productivity growth in manufacturing can be largely attributed to the lack of productivity increases in the small-scale sector, a feature which in turn reflects a high rate of employment absorption from other sectors. Thus, there is a trade-off between the reallocation effects of industrial growth and the productivity increases within industry; a trade-off which was aggravated by very fast rates of population growth and could not be easily overcome except by means of higher rates of capital accumulation.

The question remains, however, as to which other factors, the policy regime in particular, played a role in the slow productivity growth of manufacturing and the divergent trends of its different sectors. We turn now to this issue.

Industrial Productivity Growth and the Policy Regime

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[12] The importance of these reallocation effects in Mexico's development experience and productivity performance is examined and highlighted in Reynolds (1980) and Syrquin (1986).

[13] We mean here the direct effects of resource reallocation towards higher productivity industries as well as the indirect effects on agriculture and services productivity levels occurring as a result of the reduction of labor surpluses and the induced reorganization of methods of production. The latter may be no less important than the former as the post-war development experience of developed countries clearly suggests (see Cripps and Tarling, 1973; Syrquin, 1986).

Besides the importance attributed to the educational levels and training of the work force, three main hypothesis have been advanced on the determinants of industrial productivity growth. First, the Smithian or market competition hypothesis emphasizes the incentives to technical change, to the adoption of best practice techniques and the reduction of "X-inefficiency" provided by competitive market structures and openness to international competition. The case for trade liberalization on dynamic efficiency grounds relies heavily on this view of technological progress (see, for example, Bhagwati, 1978). In contrast, the Schumpeterian approach underlines the means necessary to generate and introduce technological progress and the incentives provided by protection of innovative activity, both of which are most likely to emerge in large-scale manufacturing industries and oligopolistic market structures. A recent restatement of the Schumpeterian approach can be found in Nelson and Winter (1982); for its application to international trade analysis, see Dosi, Pavitt, and Soete (1990). Finally, Verdoorn's law, or the Kaldor-Verdoorn hypothesis, focuses on the mechanisms linking endogenous productivity growth to the rate of market expansion: a faster rate of output growth enhances productivity increases by facilitating the adoption of new technologies embodied in new capital goods, by reducing the average age of the capital stock, and by intensifying learning processes, together with the productivity improvements resulting from increasing returns to scale (see Kaldor, 1970; Schmookler, 1966). As pointed out by Nishimizu and Robinson (1986), Verdoorn's law suggests a positive link between productivity growth and export expansion as well as import substitution, to the extent that both of these processes tend to increase the size of the market.

These different hypotheses have all been present in the empirical literature on productivity growth differentials within Mexico's manufacturing sector. Blomstrom and Wolff (1989) explained productivity growth rates across industries (as well as the rate of convergence between Mexico and US industries) by the degree of foreign ownership and the initial Mexico-US productivity gap, and emphasized the spillover effects of TNCs, including in particular the competitive stimuli on domestic firms in TNC-dominated sectors. Vazquez (1981) and Casar et al. (1990) identified positive Kaldor-Verdoorn effects modified by market structure and firm size distribution, including the role of competitive pressure in dualistic structures and significant "Schumpeterian" effects in sectors dominated by large firms (both national and foreign). The World Bank study on Mexico's trade policy and industrial performance (1986) also found positive effects of output growth on productivity growth performance across industries, as well as negative effects from quantitative restrictions reflecting the lack of external competitive pressure.

Unfortunately, most of these studies (all but the last) have limited themselves to labor productivity indicators and neglected the role of industrial and trade policies, while, on the other

hand, research on TFP growth (summarized above in table 1.6) has focused on measurement rather than on explanation.[14] Using some of the data and results from these studies, this section examines the determinants of TFP growth differentials in manufacturing, including among them the influence of trade policy.

Table 1.8 presents Hernández Laos and Velazco (1990) estimates of TFP growth and TFP growth differentials with the US for 1962-1980 in an eight-sector decomposition of manufacturing. The table also includes the rate of output growth for the same period, the shares of TNCs and large private national firms in 1980, and two indicators related to the trade regime—effective protection in 1970 and dominant trade orientation in 1980.

The table suggests, first, a positive but weak association between output and TFP growth. The three worst performing industries (all of them with negative growth differentials with respect to the US) show the three slowest rates of output growth, but the two top performers (the paper industry and non-metallic mineral products [chemicals and stone, clay, and glass]) are not the fastest growing industries. Firm size and the degree of foreign ownership also have significant effects on productivity growth, which may help explain this asymmetry. The top performers are large-scale sectors where large domestic firms coexist and compete with TNC affiliates (they show, in fact, the highest shares of large domestic firms within manufacturing), in contrast to the three slow growing industries, all dominated by small firms (accounting for 55 to 70 percent of these sectors' gross output) and showing below average shares of TNCs. These features convey the importance of competitive stimuli and spillover effects of TNCs, stressed by Blomstrom and Wolff (1989). Furthermore, they highlight the role of Schumpeterian effects: productivity growth is highest when the local producers are large enough to respond effectively to the competitive challenge from TNCs.[15] In more fully TNC-dominated sectors (chemicals, consumer durables and capital goods), productivity performance, especially with respect to their US counterparts, is below that of more mixed structures.

The links between productivity growth and trade regime are more complex. Output growth shows a fairly high association with effective protection rates, a result that was first established by Ten Kate and Wallace (1980) in a cross-section analysis of two-digit manufacturing

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[14] Samaniego's estimates show, however, a fairly high association between output and TFP growth across industries, although this correlation is not made explicit in the text. Hernández Laos and Velazco also found a positive impact of output growth—in time series analysis for aggregate manufacturing—together with relative factor price effects.

[15] The glass industry is illustrative of the innovative activity of large national firms; in fact, one of the few examples of significant research and development efforts in manufacturing. This industry stands as the top performer (with an average TFP growth rate of 13.4 percent per year) in Samaniego's study of seventeen four-digit manufacturing industries in the period 1963-81.

industries.[16] This close association is probably a consequence of the structure of incentives having favored the development of sectors with a high income elasticity of demand and substantial import substitution potential (such as chemicals and consumer durables and capital goods), as well as having hindered the growth of industries that had exhausted their import

[16] The Spearman rank correlation coefficient between output growth rates in 1960-1970 and effective protection rates in 1970 was found at 0.778 (see Ten Kate and Wallace, 1980).

Table 1.8

substitution potential by 1960 and could not harness their export potential from then onward (consumer goods and light intermediates). This feature may explain why these sectors are also largely dominated by non-traded goods. To this extent, the prevailing dispersion of effective protection rates can help explain the huge productivity growth differentials between, say, the chemicals and consumer durables and capital goods sectors, on the one hand, and the wood industry, on the other. In the former the high protection rates are likely to have enhanced the productivity increases stemming from output growth effects. In the latter, the structure of incentives probably aggravated the effects of the lack of competitive stimuli arising from the absence of TNCs and large domestic firms, and of the relatively slow growth of domestic demand given by the low income elasticities of demand and the exhaustion of its import substitution potential.

The fact, however, that these highly protected sectors show, in spite of higher rates of output expansion, slower productivity increases than the top performers (paper and non-metallic minerals) with much lower protection rates, suggests that excessive protection in those sectors may well have inhibited the external competitive pressures on technical change. The explanation of productivity-trade links that emerges from table 1.8 thus appears to draw on all three hypotheses reviewed earlier. For, one would expect from that discussion to find, other things being equal, the highest rates of productivity growth in sectors with moderately positive protection rates—i.e., not so high as to eliminate the stimuli from international competition and not so low as to hinder excessive output growth—and, thus, investment and technical modernization through Verdoorn-type effects (as has happened in some primary activities and light manufacturing industries). The caeteris paribus clause—which refers to the role of firm size and domestic market structure—is important, however, as the very different productivity performance of similarly protected sectors (such as wood vs. non-metallic minerals, food processing vs. paper, or textiles vs. basic metals) clearly suggests.

This explanation of productivity growth differentials therefore suggests that productivity-trade links are far from clear-cut. The effect of trade protection on productivity growth depends on whether its direct negative influence (through the lack of external competition) is more than offset by the indirect effects, through faster output growth, which depend on a given industry's market demand, technological characteristics, and import substitution potential. More precisely, a positive net effect on productivity growth becomes more likely to the extent that:

a) the structure of protection favors the domestic development of industries with a high income elasticity of demand, strong economies of scale, and substantial import substitution potential;[17]

b) the dispersion of effective rates across industries is bounded by the criteria just mentioned, which implies its changing structure through time with, in particular, declining rates in infant industries as their import substitution potential is being exhausted.

The first feature applies broadly to the Mexican case, and probably explains the catching-up process that has taken place in several infant industries in the heavy intermediates and consumer durables and capital goods sectors, as well as what is, after all, a comparatively successful experience of import substitution industrialization. The structure of protection indeed appears to have worked in the right direction, in the sense that it provided greater incentives to industries with high income elasticities of demand, increasing returns to scale, and large potential for import substitution. The second feature fits less well, particularly with respect to the evolution through time of infant industry protection. The dispersion of the incentives structure has probably been greater than what was warranted by market demand and technological differences among industries, and the incentives provided to several infant industries persisted for too long, even increasing, as shown in table 1.2.

II. TRADE LIBERALIZATION IN THE 1980S: A PRELIMINARY ASSESSMENT

Macroeconomic Adjustment Since 1982: A Brief Overview

Since 1982, the Mexican economy has been subject to a number of external and policy shocks. External macroeconomic conditions have been dramatically adverse as a consequence of the debt crisis in 1982 and declining real oil prices, affecting Mexico's major export product. Table 2.1 shows the impact of the debt crisis on the current and capital accounts of the balance of payments. Declining oil prices following the 1986 collapse are reflected in the sharp trade deterioration and in the fall of the country's oil revenues to almost one-third their 1980 values.

The policy responses to the 1982 debt crisis and the 1986 oil price collapse both involved drastic exchange rate and fiscal adjustments. The real value of the peso, which had reached record peaks by late 1981 when the 1978 oil boom was coming to an end, has since

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[17] See Ros (1986), which examines also the role of the country's overall rate of economic growth. A related approach is Pasinetti's analysis of "comparative productivity-change advantage" as a criterion of specialization in international trade (see Pasinetti, 1981).

remained well above historical averages, with, however, a significant variability as a result of successive external shocks and the often conflicting stabilization and structural adjustment objectives of the government's economic strategy.

Three large devaluations took place in 1982. They were associated with the February policy package designed to regain fiscal control and cut a widening and unsustainable balance-of-payments deficit, with the interruption of international lending to Mexico in August, and with the attempt by the new De la Madrid administration in December to reduce the spread with the black-

TABLE 2.1

market rate. Taking into account all these adjustments, the nominal devaluation from February to December had been approximately 250 percent for the controlled rate (for foreign trade transactions) and 450 percent for the free rate (other transactions). In real terms, the peso also reached record lows; in the controlled market, its value in mid-1983 was still over 35 percent below its 1981 level, and around 20 percent below its mid-1978 level (before the real appreciation during the oil boom), which is also approximately the historical average during the period of high and stable growth of the 1960s.

After the December adjustments, the rate of daily, preannounced, nominal mini-devaluations was set in such a way as to contribute to the deceleration of inflation while, at the same time, keeping a real exchange parity appropriate to the achievement of the long-term (structural change) objectives, particularly the promotion of a (non-oil) export-led economic recovery. Initially, the appropriate parity was considered to be the mid-1983 level of the controlled rate. This approach thus required that, from then onward, actual inflation followed, approximately, the percentage rate of announced mini-devaluations (in turn decided on the basis of government inflation targets). Such was not the case, however, and increasing tensions appeared between the stabilization and structural adjustment objectives of the strategy and the associated criteria for exchange rate management.

During this first adjustment period, fiscal adjustment relied on sharp cuts in public investment, real salary reductions for government employees, increases in indirect taxes and public prices, and, no less important, on the strong revaluation, due to peso depreciations, of the real peso value of the government's foreign exchange balance—a balance in surplus broadly equal to oil export revenues minus external debt service. As a result, the public sector operational balance (i.e., the inflation adjusted budget), which had reached a record deficit of 10 percent of GDP in 1981, was brought into a small surplus in 1983, while at the same time the primary surplus was over 4 percent of GDP.

These exchange rate and fiscal adjustments led in 1983 to an improvement in non-oil exports and a favorable balance of payments; in fact, to an "overkill" of the original targets, which was also reflected in a much sharper than expected economic recession. These conditions, together with difficulties in regulating other key prices, contributed to the prevalence of short-term criteria and objectives in exchange rate management. From mid-1983 to mid-1985 the peso appreciated significantly in real terms, even though, during this first phase, the controlled rate averaged well above 1981 levels, and even above 1978 levels. But real appreciation since early 1983 weakened export performance substantially from the last quarter of 1984 and led to a sharp decline from the trade and current account surpluses achieved in 1983 and the first half of 1984.

In the first semester of 1985, the trade surplus was only half the level of a year before. These difficulties were aggravated by financial speculation, stimulated by the prospect of a large overshooting of the inflation targets for 1985 and declining oil prices in the international markets over 1985. In July and August 1985 a new collapse of the foreign exchange market followed. The controlled rate was devalued by about 20 percent and then allowed to drift down, while a completely "free" rate was legalized. Fiscal adjustment—which this time relied on both investment and current expenditure cuts—and the pace of peso depreciation were both accentuated when in early 1986 international oil prices collapsed, leading to a loss of export and fiscal revenues of the order of 7 percent of GDP during 1986. The real value of the peso would reach unprecedented low levels in 1986-87, when its average level was even lower than in 1983 (and 40 percent lower than in 1981). The operational fiscal balance, which had turned into a deficit as a result of the loss of oil revenues in 1986, was again brought into a surplus of almost two percentage points of GDP in 1987.

This time, circumstances had tilted the balance between the conflicting policy objectives in favor of structural adjustment and the maintenance of a low real value of the peso. The severity of the balance of payments and fiscal constraints, as a result of the oil price collapse, probably left no alternative but to sacrifice the stabilization objectives and to accept a sharp acceleration of the inflation rate in order to offset the loss of government revenues and keep the current account position within sustainable limits. The real appreciation that had taken place over 1983 and 1984 after the exchange rate adjustments to the debt crisis was now avoided, and for most of 1986 and 1987 the real exchange rate was kept broadly stable at mid-1983 levels, and thus well above the average levels of the previous phase.

The cost of the strategy was, of course, a higher rate of inflation and, from mid-1987 on, inflation at an accelerating pace. The restoration of current account surpluses, a comfortable position in international reserves—as a result of those surpluses and new lending from the IMF and international banks—and the prospect of an uncontrolled inflation turning into hyperinflation, led in late 1987 to a change of policy. In December 1987, an agreement was reached between the government, labor unions, and business confederations on a comprehensive attack on inflation consisting of a deindexation program, a tight monetary and fiscal stance, and a set of import liberalization measures. Deindexation involved, after a once-and-for-all devaluation, a freeze on wages, prices, and the exchange rate.

Since March 1988, the exchange rate has been allowed to float at a preannounced rate. The program's success in bringing down inflation (from 160 percent in 1987 to 30 percent in 1990), together with the turn-around in the capital account of the balance of payments since

1989, has enabled the government to meet its exchange rate targets and, in fact, to reduce the percentage rate of mini-devaluations, in spite of the continuing real appreciation of the peso since 1988. By 1990-91, the real exchange rate was well below the average levels since 1982 and, in some measures, even below those of the previous lows of the 1984-85 period (which had contributed to the mid-1985 foreign exchange crisis). At the same time, the recent period has seen a debt relief agreement with international commercial banks and an acceleration of structural economic reforms in areas other than trade policy—privatization and economic deregulation, including foreign investment flows—which, as discussed below, appear to have contributed to the strengthening of the capital account position that has sustained recent trade reform and exchange rate policy.

Trade and Industrial Policy Reform

The history of trade policy changes in the 1980s starts with the growing balance-of-payments strains experienced during the oil boom from 1978 to 1981. These difficulties eventually led to the reversal of the import liberalization measures adopted under the 1976-78 stabilization program. Direct import controls were fully reestablished in mid-1981, and this policy stance prevailed during the difficult 1982-83 period following the debt crisis (see table 2.2). At that time, tariffs ranged from zero to 100 percent, with a production-weighted average of 23.5 percent. Tariffs were often reinforced by a system of reference prices that formed the basis for establishing the actual tariff rates. In 1984 moderate import liberalization measures were undertaken as part of the structural change strategy of the De la Madrid administration. Licensing import requirements were relaxed and partially replaced by tariffs. Thus, the percentage of import value subject to permits fell to 83.5 percent, while tariffs increased and the percentage of import value exempt from tariffs declined to 36 percent. Additional steps were announced in early 1985. In the context of a medium-term plan prepared by the Ministry of Industry and Trade, a program was launched for the gradual elimination of import licenses between 1985 and 1989, and a series of steps was taken toward the establishment of a more uniform structure of effective protection. At the same time, a US-Mexico bilateral trade agreement was signed, reaffirming the commitment to liberalization and pledging the elimination of export subsidies; in exchange, Mexico obtained from the USA some of the advantages normally reserved for members of GATT.

The July 1985 Reform and GATT Membership

The disappointing performance of non-oil exports in the first half of 1985 and the increasingly influential view in government circles which attributed the failure to meet the 1983-85 inflation targets to the sluggishness of import liberalization,[18] led to additional trade reforms in mid-1985. As part of the devaluation and fiscal correction package in mid-1985, the removal of import licenses and the reform of the tariff system were further accelerated.

TABLE 2.2

Import License Coverage

Year	As percent of Tariff Items	As percent of Import Value	As percent of 1986 Production
1977		80	90
1980		24	60
1981		26	85.5
1982		100	100
1983		100	100
1984		65	83.5
1985 June			92.2
____ August	11	37.5	
____ Dec.			47.1
1986 February	10	35	
____ June	31	46.9	
____ Dec.			39.8
1987 May	6		26
____ June			35.8
____ Dec.		20	25.4
1988 April		20	23.2

Sources: Banco de México, Dirección de Investigaciones Económicas, cited by USITC (1990); Balassa (1985); de Mateo (1988); Zabludovsky (1990).

Licensing requirements decreased to 37.5 percent in August 1985 as percentage of import value (and to 47 percent of production by the end of the year) and continued to be removed throughout 1986 and 1987. Intermediate goods were heavily liberalized, together with

[18] In this view, the absence of foreign competition explained the downward rigidity, during a recession, of profit mark-ups in manufacturing, which in turn accounted for the relatively slow deceleration of inflation. Import controls should, therefore, be eliminated as fast as possible in order to force down inflation.

selected consumer goods. Liberalization also emphasized capital goods imports which fell, as a percentage of the licensed import bundle, from 19 to 10 percent (having represented 31 percent in 1982—see Zabludovsky, 1990). At the same time, tariff rates were increased, the trade-weighted average rising from 8.6 percent in 1984 to 13.3 percent by the end of 1985 (see table 2.3). This was followed by further steps towards reducing tariff dispersion; by 1986, 90 percent of the dutiable import bundle was subject to three rates (10, 22.5, and 37 percent—see Zabludovsky, 1990).

A GATT membership agreement was negotiated and signed in July 1986. Mexico pledged to continue the replacement of direct controls by tariffs (which by then was well advanced) and followed with tariff reductions[19] and a system to assess anti-dumping and countervailing duties. Mexico maintained the right to temporarily exclude from license removal agriculture and manufacturing sectors, such as automobiles, pharmaceuticals, and electronics, under specific industrial promotion programs (see below for further analysis of these programs). In addition to obtaining the advantages of GATT membership, the agreement was viewed by the Mexican administration as a means of strengthening private sector's confidence in the government's long-term commitment to trade liberalization.

The December 1987 Reforms and the Current State of Trade Liberalization

Additional major steps were undertaken in late 1987, in the context of the "Economic Solidarity Pact"—the stabilization program adopted at the time by the government with the cooperation of labor unions and business organizations. Licensing requirements dropped further to 20 percent (as percentage of import value); this time the removal involved most consumer manufactures. Tariff dispersion was reduced to the 0-20 percent range, with only five rate categories (0, 5, 10, 15, and 20 percent). The average tariff rate fell to 10 percent (unweighted) and 5.6 percent (import-weighted) (see table 2.3), while the average production-weighted import tariff declined to 12 percent (from a level of 23.5 in 1982). Practically all remaining reference prices were removed. These changes in the tariff system went far beyond the schedule of the 1986 tariff reform program. Subsequent tariff reforms included the elimination in 1988 of the 5 percent import surcharge (which had been introduced in stages since 1985) and import tariff reductions in support of the stabilization program, with a view to selectively increasing competitive pressure on goods which had been experiencing above average price increases since the

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19 This involved tariff concessions on approximately 16 percent of the 1985 import bundle, a reduction of the maximum tariff to 50 percent, and the elimination of official import reference prices (see de Mateo, 1988, and Zabludovsky, 1990).

introduction of the counter-inflation program of December 1987. In January and March 1989, concerns about making protection more uniform and especially about the surge of consumer goods imports during 1988 led the new Salinas administration to close the dispersion in nominal tariffs through an upward adjustment in tariff rates for most goods previously exempt or subject to a 5 percent rate.

Thus, by late 1989 the import-weighted average tariff was 9.8 percent. The sectors that remained protected under import licenses accounted for around 25 percent of tradable output and included mainly agricultural goods and a few manufacturing industries under industrial promotion programs. Continuing reforms and the removal of import licenses are currently taking place in these sectors, as discussed below. These current trends are likely to accelerate again in the event of a Free Trade Agreement with the US and Canada, which for Mexico—with over two thirds of its overall foreign trade and around 90 percent of its manufacturing trade being carried on with the US—may simply mean free trade tout court.

TABLE 2.3

Import Tariff Structure, 1982-1989

End of year	Tariff Mean (Unweighted)	Dispersion	Trade-Weighted Average Tariff	Number of Tariff Rates
198227.0	24.8	16.4	16	
198323.8	23.5	8.2	13	
1984	23.3	22.5	8.6	10
1985	25.5	18.8	13.3	10
1986	22.6	14.1	13.1	11
1987	10.0	6.9	5.6	5
1988	10.4	7.1	6.1	5
1989[a]	13.1	4.3	9.8	5

[a]Includes all modifications in the tariff structure up to March 9, 1989

Source: Zabludovsky (1990) based on data from Dirección General de Política de Comercio Exterior, SECOFI.

Although trade reform since 1983 has focused mainly on the import regime, significant changes have also taken place in export promotion policies (in addition to the effects on them of changes in the import regime and exchange rate policy). Export restrictions are now less important than in 1982, and those remaining are largely determined by the presence of domestic

price controls and international and bilateral trade agreements. Export licenses affect agricultural goods with controlled prices and products subject to international agreements (such as coffee, sugar, steel, textiles)—accounting together for 24.4 percent of non-oil exports (242 tariff items). Export tariffs (of up to 5.5 percent) largely affect a number of agricultural products subject to export licensing (6.7 percent of non-oil exports). At the same time, traditional export subsidies (through tax refunds to exporters) have been eliminated. The present export incentives scheme includes mainly a program exempting tariffs on "temporary" imports and a program which exempts exporting firms from import licenses on inputs.[20]

[20] These are respectively PITEX (Programa de Importación Temporal para la producción de artículos de exportación) and DIMEX (Derechos de importación para la exportación). Both were set up in 1985.

Industrial Promotion Policies and the Experiences of Two Survivors

As discussed in section 1, besides the conventional instruments of trade policy, Mexico's industrial development strategy had relied since the 1960s on sector- or firm-specific programs designed to promote local industrial integration, foster manufacturing exports, and develop national firms. These industrial programs (or programas de fabricación) provided import licenses and fiscal incentives in exchange for the achievement of increasing degrees of local integration. They were generally subject to an agreed upon schedule and a maximum domestic-to-import price differential, and included in some cases the meeting of export targets. The number of these programs increased throughout the 1960s and most of the 1970s, especially in the heavy intermediate and capital goods industries.[21] In effect, they had turned into the major industrial policy instrument during the second and more difficult stage of import substitution industrialization.

The shift since 1978, and even more so since 1983, toward a more outward-oriented industrial strategy was accompanied by a sharp reduction in the use of this policy instrument, as the replacement of import licenses by tariffs liberalized the importation of the products included in the programs themselves. At the same time, this shift led to greater selectivity in industrial promotion, and so the programs established (or reformed) during the 1980s focused on a small number of priority industries—essentially the automobile, microcomputer, and pharmaceutical sectors[22]—while greater emphasis was given to export promotion, price competitiveness, and the improvement of technological and product standards in the design of these programs.

The Automotive Industry

The industrial policy set out in the 1962 decree on automobile production—prohibiting the importation of assembled vehicles, starting in 1964, establishing a minimum degree of local integration, and obliging the firms producing auto parts to have a minimum of 60 percent Mexican capital—marked the transformation of the automobile sector from an assembly into a manufacturing industry. It also marked the beginning of a rapid local development by which the industry became a leading sector in industrial growth.[23] A common feature of this and

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[21] According to CEPAL (1979), over 750 programs were established between 1965 and 1970, and over 1200 between 1971 and 1978.

[22] A program for the petrochemicals industry was also issued in 1986, but this was intended essentially to regulate the increasing privatization of this sector.

[23] Entry regulations limiting the number of firms in the terminal industry (assembly activities), and aimed at promoting use of economies of scale, was another important aspect of the policy

subsequent decrees (1969, 1972, 1977, and 1983) has been the establishment of domestic content requirements aimed at the reduction of the industry's trade deficit and the strengthening of the local auto-parts industry based on national firms.

However, the 1977 and 1983 decrees introduced a significant shift in approach to the industry's regulatory framework.[24] The 1977 decree established foreign exchange budgets for each producer of finished vehicles but gave greater flexibility to firms with respect to the means to achieve them (more exports or greater local integration), while, at the same time, it eliminated the system of production quotas and price controls with a view to increasing competition and encouraging productivity gains. The 1983 decree ratified the focus on foreign exchange balances, allowing a lesser degree of integration to be offset by more exports. It also introduced new regulations in order to promote a fuller use of economies of scale and the rationalization of the industry's supply structure, essentially through a reduction in the differentiation of models and product lines.[25]

As we shall see in detail below, when discussing the impact of trade policy, the 1977 and 1983 reforms were successful in meeting their export promotion and trade balance objectives: having been for decades a large net importer, the automobile industry now ranks second, after the export of crude oil, in generating foreign exchange. The other major objective of the 1983 decree—the rationalization of industry supply through a reduction of product differentiation—was not achieved. The average scale on which the Mexican automobile industry worked in 1987 was only 14,800 units per line, a decline from 1981 levels and far below the scale considered minimum in the 1983 reform (50,000). Two major factors account for this failure. First, the contraction of the domestic market created a very adverse environment for the achievement of the goal: the 1982-83 recession alone reduced the average number of cars per line to 11,000 (compared to 18,000 in 1981). A second factor was the option offered in the 1983 decree which permitted additional lines on condition that they be self-sufficient in foreign exchange and that they export more than 50 percent of their output (or the equivalent value in assembly material for each line).

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approach in the early sixties. Since then the industry has been characterized by a broadly stable and dual market structure: an oligopoly of seven multinational corporations in the terminal industry (five at present) together with a more fragmented structure of small and medium-sized suppliers of auto parts, consisting of national firms or joint ventures with national majority ownership.

[24] For a detailed discussion of the 1977 and 1983 reforms, see Moreno (1987) and Peres (1990). This section relies heavily on these studies.

[25] In 1981, the seven terminal companies produced an average of 18,000 cars per line, well below Brazil (45,000) or South Korea (more than 100,000). Through a gradual reduction in the number of models and product lines, the 1983 decree aimed at an average of 50,000 units per line by 1987, the minimum considered necessary to take advantage of economies of scale.

Further deregulation and trade liberalization were introduced by the Salinas administration in late 1989, including the removal of import licenses in the auto-parts industry, a relaxation of foreign exchange requirements, and the elimination of restrictions on lines and models introduced by the 1983 decree. It is still too early to evaluate the impact of the December 1989 decree, especially the extension of trade liberalization to the automobile industry. The reforms are likely to strengthen current trends towards a greater intra-industry specialization in foreign trade by allowing terminal firms to specialize in the production of some models while importing others. At the same time, and despite its recent export performance, strong reservations have been expressed on the current state of the industry's competitiveness given, in particular, the failure to achieve the rationalization of domestic supply. This accounts for the industry's high domestic pre-tax prices, in both the terminal and auto parts sectors. In addition, the likelihood that such prices partially reflect a cross-subsidy of exports casts doubts on the impact of trade liberalization on future exports and trade balance performance.

The Computer Industry

The computer equipment industry—unlike the automotive sector or other sectors in the electronics industry—was virtually absent from Mexico in the late 1970s. The 1981 Computer Industry Program set the goals and policy guidelines that (with the exception of a major change in 1985) were to govern the development of this infant industry for the rest of the decade. This industrial program included goals concerning: a) import substitution, to be achieved through the establishment of DCRs, so that by 1986 local production would supply at least 70 percent of domestic demand;[26] b) export development, setting foreign exchange balances (as in the automotive industry) stipulating that an increasing share of payments abroad would be covered by exports; c) the reduction of domestic and import price differentials, so as to keep domestic prices only slightly above (not more than 15 percent) those of the firm's home country; d) technology transfer and national technological development, by setting a minimum of 5 percent of sales to be spent on R&D, as well as the provision for technical training; and e) the development of national enterprises by reserving the production of microcomputers for firms with a majority of Mexican capital (51 percent at least).[27]

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[26] These requirements were later reduced to about 30-40 percent (from up to 60 percent) as firms found compliance difficult.

[27] This requirement was waived in the case of minicomputers and mainframes where technological sophistication meant greater dependence on a few international suppliers. Although similar, Mexico's policy towards microcomputers differs from Brazil's "market reserve" policy in that foreign enterprises (through joint ventures) could participate in the sector. This decision was made in the hope that such firms would contribute to technical progress and to

In exchange for their commitments, firms were granted tax incentives (mainly a 20 percent tax credit calculated on the basis of new investments, wages, or domestic purchases of components) and trade protection, including import licenses for finished equipment as well as tariffs (initially set at 30 percent for microcomputers and lower levels for minis, mainframes, peripherals, and components). The program also used government procurement to favor firms adhering to the program guidelines.

A major policy change took place in 1985 regarding the limits on foreign ownership, following IBM's request to set up a production plant with 100 percent foreign capital. After an initial rejection by the National Commission on Foreign Investment, the request was accepted later in the year in exchange for a substantial increase in IBM's investment and export commitments.[28] The policy change—which was then extended to other foreign firms that had previously developed joint ventures with Mexican capital—meant that foreign companies in the microcomputer sector could now choose between keeping within the framework of the 1981 rules (a position adopted by Unisys) or request permission to operate with 100 percent foreign capital in exchange for larger export requirements (i.e. an export-import ratio of the order of three to one instead of one to one).[29]

Further policy changes took place in April 1990, when a new decree for the computer industry removed import licenses and replaced them by a 20 percent tariff on imports of micros and peripherals (the maximum rate in the current tariff structure). An agreement was also reached between the government and industrialists for a gradual phasing out (to be completed by 1992) of domestic content and foreign exchange requirements.

The results of the 1981 program have been mixed. As in the case of the automobile industry, its major successes took place in areas where the strategies of foreign firms and the government's policy objectives coincided. The sector has been one of the fastest growing export industries of the 1980s (albeit from very low initial levels). By 1985-87 more than half of production was exported (and the corresponding share of exports rises to nearly 80 percent in the case of micros). By 1987 national supply covered about 56 percent of domestic demand, only 14 percentage points below the 1981 program target for 1986. As a result, the trade deficit in computer products has been decreasing—from nearly 100 percent of imports in 1981-82 to

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greater access to foreign markets. After 1985, the policy was to differ even more from Brazil's as we shall see below.

28 IBM increased its investment project from US $7 to $91 million and agreed to export at least 92 percent of production.

29 This was the choice made by IBM as well as, reversing earlier decisions, by Apple and Hewlett Packard. Apple's failure to meet the export requirements led it, however, to stop producing micro-computers in Mexico in late 1987.

around 30 percent in the first half of 1987—a significant achievement during a period when the stock of computers per thousand inhabitants increased from 0.14 to 1.5. Similarly, the reduction of domestic and import price differentials seems to have been largely achieved. Different estimates suggest that the domestic retail prices of the highest quality micros are around 15 to 20 percent higher than US prices (Peres, 1990), or 25 percent higher according to the the World Bank (1990), which estimates the price differential in 1982 at 200 percent. In contrast to these achievements, less progress appears to have been made in technology transfer and development (especially in product technology—see Peres, 1990) while, as already indicated, the goal of reserving production of microcomputers for firms with a majority of Mexican capital was abandoned after the 1985 policy change.

In sum, while mixed, the results of the more flexible and selective approach to the automobile and computer industries appear to be a considerable improvement over past policies of infant industry protection. In the case of the automobile industry, it strengthened ongoing trends towards greater intra-industry and intra-firm specialization in foreign trade, with a clearly positive impact on export performance and probably also, as seen below, on productivity growth. The experience of the computer industry compares favorably (in terms of export performance and price differentials) with older sectors with similar characteristics, such as consumer electronics—and the difficulties faced by the latter during the recent trade liberalization experience sharpen this contrast.

Compared to a fuller liberalization of these industries, the benefits of this sectoral and certainly discriminatory approach may be criticized on two grounds. The international strategies of TNCs and Mexico's cost and locational advantages played a major role in the recent successful performance of these industries; it is difficult to disentangle the specific contribution of the sectoral programs themselves. In addition, the programs' regulations were not readily intelligible. Both of these are valid arguments. However, as we shall see later, the performance of these sectors under specific industrial programs compares favorably, especially in terms of exports and trade balances, with fully liberalized industries with similar characteristics. And the degree of discretion provided by the programs' regulations also left a certain amount of national leverage in these TNC-dominated sectors, which the government used quite effectively to achieve some of the programs' objectives, as the export experience of the computer industry suggests.

The Effects of Trade Policy Reform

Prices and Employment

Trade liberalization had several aims, one of them being, especially in late 1987, to strengthen price discipline in the manufacturing sector by opening it to greater international competition. Yet, although the counter-inflation package in late 1987 has been successful so far, economists of different persuasions agree that trade liberalization made no significant contribution to it (see Brailovsky et al., 1990; Ize, 1990). The evidence even suggests that profit margins, rather than being squeezed by international competition, have actually increased since 1987. The real peso appreciation that was a key factor in the deceleration of inflation in the recent period was accompanied by declining public sector prices in real terms and stagnant real wages, rather than by increasing real wages and reduced profit margins.

To explain this behavior, it is necessary to consider the long-term structural effects of trade liberalization on price discipline separately from those of the initial macroeconomic conditions under which it was undertaken. From a long-term perspective, the presumption that a more open economy may well weaken the market power of domestic firms and labor unions, and thus reduce the inflationary bias built into highly oligopolistic market structures, seems a plausible one. In the short term, however, exchange rate policy will have a major influence on profit margins in the tradable goods sector since domestic prices are likely to adjust with a lag to exchange variations. The heavy depreciations in 1986 and 1987 created—as shown in the estimates by de Mateo (1988) and Ten Kate and de Mateo (1989)—a large foreign-domestic price differential across *all* sectors producing tradable goods in the Mexican economy. The ensuing upward adjustment of profit margins that was slowly taking place during the trade reform period thus prevailed over the structural effects of trade liberalization on competition and market structures.

The fact that the elimination of import licenses was being effectively compensated by "exchange rate protection"—most forcefully expressed in the evolution of relative unit labor costs in Mexico's manufacturing sector (see table 2.1)—also accounts for the hardly visible adverse impact of trade liberalization on overall industrial employment. The latest industrial census data shows that from mid-1985 to mid-1988 the country's traditional industrial centers—the metropolitan area of Mexico City in the Federal District and Estado de Mexico, and Monterrey in the State of Nuevo Leon—suffered severe job losses (of almost one-quarter million) and plant closures. At the same time, however, new jobs and industrial plants were rapidly being created in the rest of the country—the central and eastern regions of Puebla and Veracruz and, especially, the northern border states of Chihuahua, Coahuila, and Nuevo Leon (excluding Monterrey). The net result of these opposite trends was a reduction of industrial employment of the order of 4 percent together with an increase in the number of industrial establishments (by 4.5 percent).

The net job losses can largely be explained by the severity of the contraction of industrial demand in 1986 and the first half of 1987—which resulted from the fiscal austerity package that followed the early 1986 oil price collapse,[30] rather than from import penetration in a stagnant or expanding domestic market. This conclusion is strengthened by the fact that employment losses, according to preliminary census information, were concentrated in highly pro-cyclical industries (basic metals, steel, electrical appliances) and consumer goods with a relatively high income elasticity of demand (meat and some textile products).[31] Since 1988, the additional liberalization measures, combined with an appreciating real peso, have had a stronger impact on import penetration. However, the adverse effects of these developments on industrial employment have been partially offset by more favorable domestic demand conditions since then, as the success of the counter-inflation program of late 1987 has been accompanied by a moderate recovery of economic activity and private investment.

Export Performance and Resource Reallocation

The major goal of trade reform was, however, to eliminate the anti-export bias of past protectionist policies and thus improve the economy's export performance sector as well as its overall efficiency in resource allocation. Mexico's strong export performance in the 1980s—non-oil exports have recorded an unprecedented boom, rising from around US $5.5 billion in 1981 to over sixteen billion in 1990, an almost three-fold increase[32]—is sometimes taken as a major outcome of trade liberalization (see, for example, Zabudovsky, 1990), i.e., a consequence of the greater access by producers of exportable goods to inputs at international prices and quality and of the shift in the relative profitability of producing for export markets.

While these factors have undoubtedly played a role, a close look at the sectoral and time pattern of export growth clearly suggests that trade liberalization as usually understood—i.e., the policy reforms introduced in the 1985-88 period—has not been the main force behind the fast growth of manufacturing exports. Table 2.4 shows the expansion of non-oil exports from 1982 to 1988 grouped according to policy regime: 1) those under specific industrial programs and

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30 As a result, manufacturing production declined by 5.7 percent in 1986 and grew by only 2.6 percent in 1987.

31 Employment in the basic metals industry was also affected by government divestments in this sector, as discussed below. Some of the other industries, such as consumer electronics in Monterrey and Mexico City and the clothing and footwear industry in the central region of Guanajuato also appear to have been affected by import penetration, especially after 1987.

32 Most of it (over 80 percent) is due to manufacturing. When the *gross* exports of the border assembly plants (maquiladoras) are included, Mexico's manufacturing exports rise to over twenty-one billion dollars in 1988, placing Mexico ahead of Brazil as an exporter of manufactures and just behind the four leading East Asian NICs.

corresponding to the type 1 regime in section 1; 2) the maquiladora industries; and 3) the rest of non-oil exports, including those from manufacturing industries which effectively recorded a shift in trade regime during the period from import substitution policies to liberalized trade, and those from primary activities which were also affected by the policy change.

As shown in the table, the fastest growing exports originate from sectors under specific industrial programs: the automobile industry (which alone accounts for 35 percent of the total increase in non-maquiladora exports) and the computer industry. As discussed above, these are precisely the industries where liberalization measures were temporarily waived, and whose finished products have been fully protected by import licenses during the whole period under consideration. Here, a fortunate combination of international factors and the industrial policy reforms of the late 1970s and early 1980s appear to be the major causes of rapid export growth. Following the 1977 automobile decree (from 1978 onwards), all the automotive firms in the terminal industry began to set up plants for making engines and assembling vehicles largely for export and, from 1977 to 1987, the share of exports in total sales increased tenfold, from 3.9 to 39.7 percent. Certainly, this increasing importance of foreign markets partly reflects the sharp contraction of domestic demand since the 1982 crisis and a shift of domestic supply toward exports in order to offset declining domestic sales. But more important was the fact that the concern for improved competitiveness and export performance expressed by the 1977 and 1983

TABLE 2.4

Growth of Non-oil Exports, 1982-1988

	US$ billions		Annual growth rate(%)	Contribution to overall increase%
	1982	1988		
1. Automobiles and computers	0.5	3.8	40.4	31.1
Automobiles	0.5	3.5	38.8	27.9
Computers	0.002	0.340	135.5	3.2
2. Maquiladoras	0.9	2.3	18.3	13.9
3. Other non-oil exports	4.3	10.2	15.5	55.1
Manufacturing	2.5	7.9	21.1	49.4
Metallic products	0.076	0.818	48.6	6.9
Steel	0.112	0.759	37.6	6.1
Cement	0.013	0.146	49.6	1.2
Other	2.3	6.1	17.4	35.2

Agriculture	1.2	1.7	5.2	4.1
Mining	0.50	0.66	4.7	1.5
4. **Total**	5.6	16.3	19.5	100.0

Source: INEGI and Banco de México, Indicadores del Sector Externo.

reforms was in harmony with the international strategies of foreign enterprises in the terminal industry.[33] The rapid advances of the Japanese automobile industry in international competition—at the expense, in particular, of American corporations—had forced the latter to redefine its productive strategies, including a shift of new investments towards lower-cost countries. Mexico's advantages in terms of proximity to the US market, experience in automobile production, low costs, and subsidies made it an attractive location for the new, export-oriented investments. By relaxing domestic content requirements, the 1977 regulatory changes facilitated this process by reducing the disadvantages that might have arisen from the use of less efficient locally produced parts, thus allowing firms to take full advantage of Mexico's cost and locational advantages.

The other major contribution to export increases has its origin in the maquiladora assembly plants in the northern border region—a sector which has traditionally been subject to a free trade regime for the processing of imported materials to be exported abroad, and which therefore did not record a change in trade regime during the period. Here, the role of the real exchange rate has been decisive. The very dynamic and improved performance of this sector in the 1980s, compared to previous periods, can be explained by the abnormally low dollar value of domestic wages that resulted from peso depreciations and the locational advantages of its proximity to the large and expanding US market during a period of increased global competition.

When these two groups of industries are excluded from the total, we are left with those that effectively recorded a change in trade regime. The annual growth rate of non-oil exports then drops from 23.8 percent to a less impressive 15.5 percent. This is, nevertheless, a very respectable rate and an encouraging sign, especially if one looks at the manufacturing component of this group (21.1 percent). It is not easy, however, to disentangle the specific contribution of trade liberalization from that of real exchange rate movements and the contraction

[33] Most of the export supply clearly stemmed form the new installed capacity after 1978 rather than from a mere reorientation of production towards exports. Thus, for example, while domestic sales of vehicles fell by 180,000 units between 1981 and 1985, exports of engines increased by more than one million units in the same period (see Moreno, 1987).

of domestic demand during the period, and one such exercise assigns a predominant role to the latter (see Brailovsky et al., 1990). In any case, it seems clear that there are no firm grounds for great optimism and that the contraction of the domestic market played a major role, making these export increases rather vulnerable to a future economic recovery. Three factors point in this direction. First, export increases in this third group have been mostly concentrated in several heavy intermediate goods (petrochemicals, steel, cement) that under normal demand conditions suffer from a structural trade deficit, but have recorded an export boom during the period following the sharp contraction of the domestic market and the large underutilization of their productive capacities. The same probably explains a second worrisome feature, the fact that industries showing high export growth did not seem to have had a significantly better investment performance than other sectors (López, 1988; World Bank, 1988). Moreover, a detailed consideration of the pattern of export growth points to the same conclusion (see table 2.1). Manufacturing exports grew rapidly both before and after the major liberalization measures were introduced in mid-1985. And after the additional reforms of late 1987, the pace of export growth has slowed down significantly in the midst of a moderate economic recovery.

The export performance of some heavy intermediate industries also reflects, however, a dynamic response of some Mexican conglomerates to the new competitive conditions of the 1980s. This response went, in fact, well beyond a redirection of their sales towards foreign markets and involved a whole redefinition of competitive strategies by some leading domestic firms (see Peres, 1990, on this subject). Indeed, an emerging trend—fairly clear in at least the glass and cement industries—is the internationalization of Mexican firms which, in addition to increasing export activity, are advancing deeply into the US market by taking over American firms. The first successful hostile takeover of an American company was in 1989 by the Monterrey-based Vitro conglomerate, a holding company which is a leading producer in the glass industry (with sales of US$ 1.1 billion in 1989).[34] In the cement industry, another Mexican conglomerate—Cemex, controlling 66 percent of the Mexican market and a leading exporter to the US—also went abroad. Cemex took over, first, the UK Blue Circle's affiliate in Mexico to increase its market share by 20 percentage points and to protect its own export market in the

[34] Vitro acquired, through a tender offer, 97 percent of the Anchor Glass Container Corporation, the second largest glass container manufacturer in the US. According to Vitro's executives, the conglomerate went abroad because, in the context of a more open Mexican economy, it could no longer be satisfied with having a strong domestic base and some export activity (actually 25 percent of its total sales in 1989), if it wanted to continue to be a glass company (see Expansion, December 6, 1989, cited by Peres, 1990).

American South. Cemex then bought Blue Circle cement properties in the US, thus becoming the fourth largest producer in the world.[35]

The end result of these trends in manufacturing exports is summarized in table 2.5, which compares the export structure in 1980, 1985, and 1989, in terms of the broad components of manufacturing. For those expecting a large and painful but greatly beneficial reallocation of resources in favor of traditional labor- and natural-resource-intensive exportable goods, the experience with trade liberalization to date should be greatly disappointing. For, beyond a few encouraging signs—the growing export shares of the wood industry and, since 1985, of textiles and apparel—the 1980s have witnessed an extrapolation of past trends in the trade and industrial patterns marked by the increasing importance of heavy intermediates and consumer durables and capital goods. Since 1985, the first year of radical trade reform, these trends have continued unabated[36] and, in the case of consumer durables and capital goods, have, if anything, accelerated.

A major factor explaining these developments is, in our view, the advanced stage (reviewed in section 1) that intra-industry (and intra-firm) processes of specialization and trade had already reached by 1980, precisely those capital-intensive, large-scale manufacturing industries that have been responsible for most of the export boom of the decade.[37] The industrial policy reforms of the late 1970s in some of these sectors gave further impulse to those processes. The incentives provided later by a very attractive exchange rate, and to a lesser extent by the mid 1980s trade reforms, thus fell on an already fertile ground. The outstanding export performance of Mexico's manufacturing in the 1980s is thus, to a large degree, a legacy of the import substitution period and highlights in a very real sense its success: it led to an irreversible change in the economy's structure of comparative advantages.

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[35] In accounting for the firm's new strategy, Cemex's executives argued that the mergers will increase cost-efficiency through economies of multi-plant operation, will improve distribution channels, and will cut transportation costs (see The News, Mexico City, January 10, 1990 cited by Peres, 1990).

[36] The declining share of heavy intermediates between 1985 and 1989 is largely due to the falling share of petrochemicals, whose export boom was concentrated in the first half of the decade as the large expansion of productive capacity undertaken during the oil boom found no outlet in the domestic market. The share of heavy intermediates in 1989 was, nevertheless, well above 1980 levels.

[37] Another possibility worth exploring is provided by Ten Kate and de Mateo's (1989) interesting finding that up to late 1987 (their latest estimate), the structure of effective protection had not changed much, in particular its dispersion had not declined, despite all the changes occurring since the early 1980s in licensing requirements and tariff structure. They attribute this puzzling development to time lags and the many other factors besides trade instruments that contribute to effective protection, including domestic and international market structures and arrangements.

TABLE 2.5

Composition of Manufacturing Exports

(constant 1980 prices, % of total)

	1980	1985	1989[p]
Consumer Goods	**47.7**	**27.3**	**26.2**
Food processing	32.6	18.6	15.6
Textiles	13.0	6.2	8.1
Other industries	2.1	2.5	2.5
Light intermediates	**3.3**	**3.4**	**5.4**
Wood and furniture	1.3	1.9	3.3
Paper	2.0	1.5	2.1
Heavy intermediates	**29.0**	**43.3**	**35.0**
Chemicals	24.0	34.3	23.1
Stone, clay, and glass	3.2	5.0	4.5
Basic metals	1.8	4.0	7.4
Cons. durables and capital goods	**20.0**	**26.0**	**33.4**
Total	**100.0**	**100.0**	**100.0**

p = preliminary

Source: Nacional Financiera (1990), based on INEGI, Sistema de Cuentas Nacionales de Mexico.

Productivity-Trade Links in the 1980s

If trade liberalization has accomplished little in terms of inter-sectoral reallocation of resources, what about its dynamic effects on productivity performance? Any attempt to answer this question must at this stage be considered tentative and preliminary. The elapsed time is still too short to draw any definite conclusions, and the data required to construct adequate indicators is still unavailable. It is with these strong qualifications in mind that we can look at the available evidence.

Table 2.6 shows, for the main component sectors of manufacturing, the output and labor productivity growth rates for 1980-85 and 1985-89, together with indicators of import penetration and export performance in those periods. Overall labor productivity growth in the 1980s, at 1.4 percent per year, has clearly been below historical trends (on the order of 3.5 percent per year—see table 1.7), but this is surely attributable to the sharp industrial slowdown during the decade. More interestingly, productivity growth shows a recovery in the post-trade liberalization period since 1985 compared to the first half of the decade, which is more than proportional to the recovery of output and in fact proceeds at a higher rate than output growth itself. Such development, indicating a reduction of employment levels in the midst of a slight recovery of output levels, suggests the presence of industry rationalization processes within manufacturing since 1985. A closer look reveals that these processes are largely concentrated in two sectors—consumer durables and capital goods and basic metals—which show the best productivity performances and are responsible for most of the acceleration of productivity growth during the second half of the decade.

Within the consumer durables and capital goods sectors, the terminal automotive industry shows the highest rates of productivity growth and is also the one, given its weight, that has probably made the largest contribution to the sector's performance. The extraordinary expansion of the industry's exports and the rapidly increasing import ratios since 1985 suggest, in turn, that productivity gains are most likely the result of a process of increasing intra-industry (and intra-firm) specialization in foreign trade, associated with its special policy regime and the international developments already discussed. In particular, the export-oriented investments of the late 1970s and early 1980s, following the 1977 reform of the automotive decree, must have made a significant contribution to the technical modernization of the industry; the effects were only fully felt as the new plants created by those investments came into operation well into the 1980s and rapidly expanded their share in the industry's output (on this subject, see Moreno, 1987).

In the second case—basic metals—the industry's fast export expansion must also have contributed to its high productivity performance. However, the industry's rationalization appears

to be more closely related to a government program with precisely that goal; a part of a broader policy of state disengagement in the economy, which included the shutdown and privatization of

table 2.6

many public enterprises in a sector where the latter have traditionally shown a relatively high share of the industry's output (29.5 percent compared to 7.2 percent on average for manufacturing). The timing of the program, started in 1985 with the major shutdown (the Fundidora Monterrey steel mill with 8,000 workers) taking place in 1986, and the pattern of productivity growth, accelerating precisely in the second half of the decade, strengthen the presumption that this has been the major factor in the improved productivity performance of the industry during this period.

The other sector making a significant contribution to the acceleration of productivity growth is food processing. The fact that productivity increases have taken place here in the midst of a slowdown of the industry's output growth also suggests a process of industry rationalization—albeit less intense and without absolute reductions in employment levels in contrast to the previous two cases and, as we shall see, of a different nature altogether. In this case, industry rationalization is probably associated with the rapid import penetration in the industry in the recent period (in fact, only since 1988) by which the import ratio had more than doubled by 1989 compared to its 1985 level. This rapid expansion of imports in the domestic market has probably led to the shakeout of some parts of the industry, with the elimination of less efficient producers explaining its rising average productivity levels, while at the same time accounting for the deceleration of output growth in the midst of an overall economic recovery in manufacturing.

The benefits of import penetration in terms of productivity performance become much more doubtful, however, when we look at the rest of manufacturing. The expansion of imports in the domestic market has been generalized across all manufacturing industries during the post-trade liberalization period; in effect, especially since the late 1987 acceleration of trade reform. As shown in table 2.8, despite the overall improvement in productivity growth, five out of the nine broad component sectors of manufacturing[38] have, in fact, recorded a decline in productivity growth rates after 1985 compared to the first half of the decade. Two of them, textiles and other manufacturing industries, show, in addition, negative rates in the more recent period. Moreover, the three worst performers (the two just mentioned and the wood industry) all have declining output levels since 1985, reflecting a displacement of domestic production by imports which more than offset the effects on output of a quite outstanding export expansion. They, together with food processing, show the fastest rates of import penetration within manufacturing; the almost fourfold increase in the textiles import ratio stands out as the most remarkable.

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38 The other four are the three just discussed and non-metallic minerals, which shows a more moderate acceleration of productivity growth and, unlike food processing, in the context of an improved output performance.

It is possible that, in these industries, TFP growth would show a better performance than output per worker if there has been a change in their output mix towards more labor-intensive products and processes; but, given the contraction of output, this is unlikely to make much difference. It is also possible that current developments are transitory and that the benefits of import penetration will only be felt over a longer time span; but it is impossible to resolve this issue at present. It remains to be seen whether current trends are likely to be reversed, and are simply the prelude to the technological revival and modernization of these light manufacturing industries or, on the contrary, these sectors are stuck in a downward spiral of stagnation, declining productivity performance, and increasing import penetration. In any case, their recent experience, and the interesting contrast that it provides with the more positive developments in food processing, clearly indicate that the short-term productivity effects of import penetration can easily turn from positive to negative—even in the context of a fast export expansion—when it proceeds at an excessive pace.

Policy Credibility and Medium-Term Macroeconomic Effects

The surge in imports that followed the 1987-88 acceleration of the trade liberalization program had other impacts of doubtful value. The results of a survey by the World Bank (1988) on enterprise perceptions of credibility and consistency of trade policy indicate that after an improvement in policy credibility during 1985 and 1986—possibly as a result of Mexico's entry into GATT in 1986 and of the heavy peso depreciations at the time—there was a clear deterioration in enterprise perceptions in 1987 and again in 1988. The latter probably reflects the impact of the recent import boom, especially acute in 1988, when imports increased at a spectacular rate (see table 2.1). At the same time, as argued by Rodrik (1990), the surge in imports was also partly a consequence of the lack of credibility, i.e., a sign of speculation against the exchange rate freeze and the acceleration of trade liberalization that were part of the "Economic Solidarity Pact," the stabilization package of late 1987.

As we have already seen, the additional trade liberalization measures in late 1987 do not appear to have made any significant contribution to the deceleration of inflation achieved by the stabilization program. Its inclusion in this package, particularly in combination with an exchange rate freeze, is therefore very controversial as it may well have worsened the tradeoff between the price stabilization objectives and the external balance constraints under which the "Economic Pact" operated (see Ros, 1991a). It exacerbated the conflicting pressures on the exchange rate—upward in order to compensate for the adverse effects of trade liberalization on the trade balance, downward in order to guarantee the deceleration of inflation—and reduced (by up to one

half) the share of trade taxes in government revenues (see Rodrik, 1990). Equally important, as these circumstances forced monetary policy to increase domestic real interest rates to unprecedented levels, the higher burden of domestic debt service in government expenditures magnified in turn the required fiscal retrenchment. The result was, indeed, to complicate unnecessarily the task of macroeconomic management.

Recent import trends have also left the country's current account balance in a very vulnerable position. Combined with the export slowdown in recent years they have led to a declining trade surplus which turned later into a widening deficit. These developments are also partly explained by the peso's real appreciation in recent years and by the moderate recovery of domestic demand. But the fact that the import boom appears to be clearly linked to the trade liberalization measures of late 1987, and that those measures have not substantially improved overall export performance, is a strong indication that trade liberalization since then has in fact had a negative impact on the structural trade balance (i.e., the trade balance at constant utilization and exchange rates). By tightening foreign exchange constraints, its overall effects on medium-term economic growth could well turn out to have been negative.[39]

In the longer term, the impact and sustainability of trade liberalization relates to two main issues: first, to whether the initially dominant and negative effects on import functions will be gradually offset by a spurt of productivity growth and a change in the structure of investments and productive capacity toward exportable goods, with its positive effect on export functions; and second, to the permanent or temporary nature of the turnaround of the capital account since 1989, which has sustained trade liberalization to date. Casual observation suggests that the recent and massive capital inflows are related to a revival of business confidence—determined, in chronological order, by inflation stabilization, the debt-relief agreement with commercial banks, massive privatization of public enterprises, and, more recently, by the prospects of a Free Trade Agreement with the US and Canada.[40] But a part of these capital inflows—capital repatriation and a fraction of portfolio foreign investment—is clearly of a singular nature, and its future exhaustion raises a macroeconomic adjustment problem in a longer-term horizon.

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[39] In other words, given domestic savings rates and the present current account deficits (or foreign savings), the Mexican economy should have been growing in recent years at higher rates than it has. The fact that it has not may well be due to the adverse impact of trade liberalization on import functions and capacity utilization.

[40] The specific contribution of trade liberalization to this process is, however, more uncertain and, if anything, probably negative. In fact, the sequence of events suggests that the (not necessarily desirable) acceleration of reforms in some of these areas, including also deregulation of foreign investment, was triggered as a means to alleviate, through capital inflows, a balance-of-payments position that was otherwise unsustainable precisely as a result of recent trade and exchange rate policies.

III. CONCLUSIONS

Mexico's industrial development was nurtured in a rather typical import substitution policy regime which provided, however, moderate levels of effective protection to manufacturing with a limited, albeit increasing, dispersion of protection rates across industries. The policy regime also included a number of sector-specific programs in infant industries which gave increasing emphasis to export targets and price competitiveness. Manufacturing, especially its heavy intermediates and consumer durables and capital goods sectors, benefited from three main mechanisms of resource transfer: high prices for their products arising from protection of domestic industrial markets; lower input costs resulting from energy subsidies, export taxes, and licenses on some agricultural raw materials and minerals; and low prices for imported capital goods as a consequence of low exchange rates and high tariff exemptions on imports of machinery and equipment, which facilitated the financing of industrial investments. Of these different mechanisms, the first (high product prices) was generally limited and important only in a few sectors while the influence of the other two changed over time: resource transfers from agriculture increased in the mid 1960s but disappeared by the late 1970s, while energy subsidies and a low exchange rate became increasingly important throughout the 1970s.

The industrial response to these incentives was highly dynamic in terms of output growth, and its resource reallocation effects generated a rather good productivity performance in the economy as a whole, even though productivity growth in manufacturing itself was less satisfactory. By 1980, the expansion of manufacturing industries, especially great in the heavy intermediates and consumer durables and capital goods sectors, had radically transformed Mexico's industrial structure and its pattern of foreign trade. The latter, in particular, was becoming increasingly marked by rapid processes of intra-industry trade and specialization in capital-intensive, large-scale manufacturing sectors under specific industrial programs. These developments contrasted with the limited and declining importance in foreign trade and industrial structure of consumer goods and light intermediates, except for the processing of some agricultural inputs constituting the bulk of traditional exporting sectors.

The 1980s witnessed the overhaul of trade and industrial policies. The transition toward a liberalized trade regime has been strikingly smooth in terms of both the microeconomic processes of resource reallocation and the macroeconomic adjustments dependent on overall industrial competitiveness. This paper has argued that two main economic factors account for this. First, Mexico's successful import substitution experience in the past—in the sense that this strategy

effectively modified the economy's pattern of comparative advantages in favor of manufacturing and the initially infant industries—a feature manifested in the fact that current trends in the trade pattern and industrial structure are, with no major exceptions, an extrapolation of the past. Second, and perhaps paradoxically, the adjustment to the debt crisis and declining terms of trade during the 1980s forced macroeconomic policy to provide unprecedented levels of "exchange rate protection," which also facilitated the adjustment of industrial firms to a more open economy and subsumed the specific dislocation costs of trade liberalization into the broader and more apparent costs of overall macroeconomic adjustment. In this way, the latter also contributed to lessen resistance to change and created a mistaken evaluation of the role of trade policy in the boom in manufacturing exports during the decade, followed by exaggerated expectations about its benefits in terms of long-term productivity performance. In the end, all this further contributed to radicalize the reform process.

In this paper's view this process has gone too far. Mexico is currently abandoning trade and industrial policy instruments that worked successfully in the past. While their use clearly required reform, and some policy schemes are less necessary and beneficial today, the economy runs the risk of freezing, or changing too slowly, its present structure of comparative advantages—getting stuck in relatively unskilled and low-paid tasks of the production processes of capital-intensive industries—a far-from-desirable prospect for a country that needs to grow fast and to rapidly increase the living standards of its nearly ninety million people. Moreover, as the real exchange rate returns to historical levels, the macroeconomic adjustment costs of trade liberalization are reappearing. Their potential effects could be highly adverse in the future unless substantial capital inflows, well above historical levels, can permanently finance a current account deficit that by now appears to be in the order of 4 percent of GDP, if historical growth rates are to be resumed. It is here that a paradoxical qualification to the paper's main argument comes in. For one way of addressing this problem involves more, rather than less, trade liberalization in the form of a Free trade Agreement with the US and Canada. To the extent that such an arrangement can provide the necessary capital inflows to shift the growth-balance of payments tradeoffs, it could make possible the resumption of a fast rate of economic development that would otherwise be prevented by an unsustainable current account deficit. Exploring this issue would lead us, however, well beyond the scope of the present paper.

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TABLE 1.5

Industrial Structure and Trade Orientation, 1980

	Intra-Industry Trade	Import Competing	Export Oriented	Non Traded	Share in Total Value Added
Commodity Composition (%)					
Consumer goods and light intermediates	23.3	20.0	73.4	73.0	47.0
Heavy intermediates	24.4	49.0	15.6	20.0	28.8
Consumer durables	37.1	8.6	0.0	4.9	12.8
Capital goods	15.4	22.4	11.0	2.1	11.4
Total	100.0	100.0	100.0	100.0	100.0
Shares in Total (%)					**Total**
Value added	22.5	28.1	6.6	42.9	100.0
Foreign trade [1]	35.7	53.1	9.1	2.1	100.0
Exports [1]	51.4	8.7	36.4	3.6	100.0
Imports [1]	30.6	67.3	0.4	1.6	100.0

[1] Average share for the period 1978-1983.

Source: Ros (1991b). Discrepancies are due to rounding.

Table 1.8

Productivity Growth Differentials in Manufacturing

Annual Growth Rates, 1962-1980

	TFP Growth (%)		Output Growth (%)	Share of TNCs (%) 1980	Share of LNFs[1] 1980 (%)	Effective Protection 1970(%)	Trade Orientation 1980[3]
	Mexico	Mexico-US Differential					
Consumer Goods							
Food processing[2]	1.0	-0.7	5.9	19.5	25.0	20.1	NT-EO
Textile, apparel, and leather	0.7	-2.4	6.7	9.1	35.8	38.6	NT
Light Intermediates							
Lumber, wood, and furniture	-2.3	-3.3	6.9	8.9	26.8	12.2	NT
Paper	3.6	2.5	7.7	17.0	48.3	16.1	MC
Heavy Intermediates							
Chemicals	2.5	0.9	9.7	55.6	24.7	94.4	MC-II
Stone, clay, and glass	2.5	1.6	8.6	12.2	46.9	5.5	EO-NT
Basic metals	1.4	1.1	8.1	14.2	39.0	22.9	MC-II
Cons. Durables and Capital Goods							
Fabricated metals, machinery, and equipment	2.2	0.6	10.6	51.7	29.1	77.2	MC-II
Mean values	1.5	0.04	8.0	23.5	34.5	35.9	

Notes: [1]LNFs=Large private national firms (more than 100 employees and less than 15 percent foreign ownership).

[2]Includes beverages and tobacco.

[3]NT=Non-traded; EO=export-oriented; MC=import-competing; II=intra-industry trade.

Sources:

1) TFP growth: Hernández Laos and Velasco (1990).
2) Output growth: INEGI, Sistema de Cuentas Nacionales.
3) Share of TNCs and LNFs in gross output: Casar et al. (1990).
4) Effective protection: Ten Kate and Wallace (1980). Weighting by value added at foreign prices.
5) Trade orientation: Ros (1991b).

TABLE 2.1

Macroeconomic Indicators, 1981-1990

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP growth rate (%)	8.8	-0.6	-4.2	3.6	2.6	-3.8	1.7	1.3	3.1	3.9
Investment/GDP ratio(%)	26.5	22.2	16.6	17.0	17.9	16.4	16.1	16.8	17.4	18.9
Consumer price inflation (%)[1]	28.7	98.9	80.8	59.2	63.7	105.7	159.2	51.7	19.7	29.9
Real average earnings[2] (index: 1980 = 100)	103.5	102.2	80.7	75.4	76.6	72.3	72.8	72.1	75.8	78.0
Operational fiscal deficit (% GDP)	10.0	5.5	-0.4	0.3	0.8	2.4	-1.8	3.6	1.7	- 1.8
Indices: 1978 = 100										
Real exchange rate[3]	78.9	118.7	124.6	107.6	104.1	129.1	127.8	102.2	97.4	91.1
Real exchange rate[4]	82.3	126.0	128.7	108.0	107.3	131.6	128.2	105.6	104.0	99.2
Real effective exchange rate[5]	73.2	100.2	109.0	89.4	86.1	125.7	136.9	113.1	102.9	99.5
Relative unit labor costs[6]	128.2	83.1	64.0	69.8	67.8	51.9	53.5	67.6	77.3	83.9
Terms of trade (index: 1971 = 100)	124.3	108.4	99.0	97.1	91.9	66.2	73.1	66.1	70.5	73.8
Debt/export ratio (%)	288	337	346	322	357	459	371	346	289	258
Balance of Payments (US$ Billion)										
Exports (goods)	20.1	21.2	22.3	24.2	21.7	16.0	20.7	20.6	22.8	27.0
Oil	14.6	16.5	16.0	16.6	14.8	6.3	8.6	6.7	7.9	10.1
Non oil	5.5	4.8	6.3	7.6	6.9	9.7	12.0	13.9	15.0	16.8
Imports (goods)	23.9	14.4	8.6	11.3	13.2	11.4	12.2	18.9	25.4	31.1
Current account	-16.1	-6.2	5.4	4.2	1.2	-1.7	4.0	-2.4	- 6.0[7]	-6.3[7]
Capital account[8]	17.4	2.9	-2.3	-0.9	-3.6	2.3	2.1	- 4.3	6.4	9.6
Change in reserves	1.3	-3.3	3.1	3.3	-2.4	0.6	6.1	-6.7	0.4	3.2

[1]December-December rate.

[2]Manufacturing sector. Includes wages, salaries, and fringe benefits.

[3]US wholesale prices/Mexico's consumer prices.

[4]Relative wholesale prices (US-Mexico).

[5]Banco de México, based on consumer prices.

[6]Mexico's manufacturing/US business sector.

[7]The figures for 1989 and 1990 are not comparable with previous years due to an upward adjustment in workers remittances (approximately 1.9 billion) (see Banco de México, 1991, Methodological note on the balance of payments).

[8]Includes errors and omissions.

Sources: Banco de México: *Indicadores económicos*; CEPAL, *Balance Preliminar de la economía de América Latina, 1990.* Presidencia de la República: Criterios generales de política económica; OECD (for US unit labor costs).

TABLE 2.6

Output and Productivity Growth in Manufacturing, 1980-1989

	Annual Growth Rates				Percentages					
	Labor Productivity		Output		Import Ratios[1]			Export Ratios[2]		
	1980–1985	1985–1989	1980–1985	1985–1989	1980	1985	1989	1980	1985	1989
Food processing[3]	0.7	1.3	2.5	1.8	12.9	4.4	10.2	12.0	11.8	15.5
Textiles, apparel, and leather	0.3	-0.9	-0.3	-1.8	5.5	2.4	8.5	8.6	8.1	19.1
Lumber, wood, and furniture	3.3	0.4	-0.5	-0.7	6.0	3.1	6.1	2.9	8.2	24.2
Paper	2.4	1.2	2.4	2.6	28.4	14.8	25.9	3.4	4.3	9.1
Chemicals	1.7	1.5	4.6	2.8	43.7	36.9	46.4	14.6	32.6	33.0
Stone, clay, and glass	-0.2	0.5	1.1	1.7	6.2	3.1	5.2	4.1	12.1	17.0
Basic metals	-0.1	6.4	0.1	2.8	81.1	37.4	42.3	2.6	11.4	31.7
Fabricated metals, machinery, and equip.	0.9	4.2	-1.6	2.2	99.2	56.1	93.9	8.5	23.4	46.3
Automobiles[4]	1.2	5.6								
Other manufacturing	0.3	-1.2	1.3	-1.2	67.6	48.2	75.4	7.3	16.0	28.3
Total manufacturing	1.2	1.8	1.2	1.6	40.5	22.9	36.4	9.0	16.7	26.3

[1]Ratio of imports to sector GDP (1980 constant prices).

[2]Ratio of exports to sector GDP (1980 constant prices).

[3]Includes beverages and tobacco.

[4]Terminal industry.

Source: INEGI, Sistema de Cuentas Nacionales.