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Economic Development and Industrial Performance in Mexico post-NAFTA

Juan Carlos Moreno-Brid

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1. Introducción

In 1994, Mexico, the United States and Canada launched the North American Free Trade Agreement (NAFTA) which, if not exactly a free trade initiative, was a path-breaking compromise to drastically reduce barriers to intra-regional trade.² For Mexico, NAFTA represented much more than a trade-boosting venue. It was the culmination of a radical change in the country's development strategy. This change, implemented since the mid-1980s, implied abandoning import substitution and state-led industrialization, in favor of a strategy centered on trade and financial liberalization plus the drastic reduction of the state's intervention in the economy. This new strategy, and NAFTA in it, aimed to achieve two goals. The first was to set the Mexican economy on a non-inflationary, export-led growth path driven by sales of manufactured goods. The underlying assumption was that NAFTA, together with the drastic macroeconomic reforms and rapid, unilateral trade liberalization initiated in the second half of the 1980s would encourage local and foreign investment in the production of tradable goods to transform Mexico into the key export platform to the United States. The rapid expansion of Mexico's manufacturing sector stimulated by exports of labor-intensive products would allegedly pull the rest of the domestic economy onto a long-term path of high growth. Furthermore, the downsizing of the public sector and the elimination of subsidies would eliminate the fiscal deficit and cut down inflation.

A second, politically fundamental goal was to guarantee the lock-in of Mexico's macroeconomic reform process. The government of President Salinas (1988–94) claimed that NAFTA would impose international legal and extra-legal constraints that would deter any attempt by subsequent governments in Mexico to return to trade protectionism and major State intervention in economic affairs.

Today it is clear that for Mexico, the macroeconomic reforms plus NAFTA have been neither the panacea claimed by its supporters nor the disaster predicted by its opponents.³ Their great expectations have been only partially fulfilled. On the one hand, Mexico's performance in the last thirteen years has been marked by small fiscal deficits, low inflation, and a surge in non-oil exports and foreign direct investment (FDI). On the other hand, economic activity and formal employment generation have had a disappointing performance. Indeed, fixed domestic capital formation has increased, but not sufficiently, and real gross domestic product (GDP) has

¹ Senior Economic Affairs Officer, Economic Commission for Latin America and the Caribbean (ECLAC), e-mail. juancarlos.moreno@cepal.org. The opinions here expressed are the author's own responsibility and may not necessarily coincide with those of the United Nations Organization. This work is based on two papers prepared by the first author, one with Juan Carlos Rivas and Jesús Santamaría (2007) and the other with J.C.Rivas and Pablo Ruiz Nápóles (2005).

² Article 102 of the Agreement formally identifies NAFTA's main objectives: '[to] Eliminate barriers to trade in, and facilitate the cross-border movement of, goods and services between the territories of the Parties; promote conditions of fair competition in the free trade area; increase substantially investment opportunities in the territories of the Parties; provide adequate and effective protection and enforcement of intellectual property rights in each Party's territory' (NAFTA, 1994).

³ For recent assessments of NAFTA's impact on Mexico, see Audley et al. (2003); Blecker (2005); Dussel (2003); Lederman et al. (2004); Moreno-Brid et al. (2005), Tornell et al. (2004) and Weisbrot et al (2004).

expanded at a rate way below its historical average and clearly not enough to generate the number of formal jobs required by the country's expanding labor force. Thus, not surprisingly, external migration has surged. According to some estimates, around half a million Mexicans annually migrate to the United States. In addition fiscal revenues have structural weaknesses, and remained very small as a share of GDP and critically depend on oil exports, The balance of payments constraint on the Mexican economy's long-term rate of growth has become more binding. Moreover, this pattern has not further the regional convergence in development in the country. In fact, polarization has most likely increased, with some regions in the North experiencing a most dynamic economic transformation brought about by the impulse of external markets, and many other regions remaining rather stagnant.

We believe that a key element behind the Mexican economy's overall lackluster performance is the evolution of its industrial sector. Thus, the analysis here put forward focuses on the evolution of the manufacturing sector, clearly within the context and results of the macroeconomic reforms undertaken since the late 1980s, aimed at shifting the economy's traditional growth pattern in order to follow a new strategy drafted along the lines of the so-called Washington Consensus. The paper is organized as follows. After this introduction, the second section presents the main changes in Mexico's industrial policies since NAFTA as well as the main macroeconomic reforms in which they were embedded. The next section analyzes the key changes in the performance of Mexico's manufacturing sector associated with the shift in policies. The final section puts forward policy recommendations to put Mexico into a path of high and sustained economic development.

2. Mexico's industrial policies post NAFTA: A brief overview

The Salinas administration (1988-94) deepened the industrial policy liberal reforms started in the mid 1980s. It inaugurated new programs, aimed at maximizing Mexico's static comparative advantages, fully complying with GATT/ WTO provisions, and thus excluded subsidies, tax cuts, trade protection schemes or performance requirements on their beneficiaries. Open to all businesses -whether in manufacturing or services- they consisted of: i) putting forward a diagnosis of the economic activity in question, and ii) suggesting actions by the government and private entities to improve performance (Ten Kate and Niels, 1996). A formal evaluation of these programs is not yet available but, in general, the magnitude of their resources -financial or otherwise- was rather small. Thus, most likely they were unable to significantly contribute to the solution of deeply rooted structural problems of Mexico's industry, *inter alia* the technological gaps, weakness of the national innovation systems, lack of long term financial resources and insufficiency of investment to modernize machinery and equipment. They certainly did not manage to develop Mexico's potential as an export platform of manufactures over and above the merely assembling activities dependent on the tax-free entry of temporary imports to be re-exported (Máttar et al 2003). A persistent and significant appreciation of the Mexican peso in real terms versus the US dollar does not help.

NAFTA formally institutionalized Mexico's trade liberalization strategy with a long-term perspective. Since then Mexico joined the OECD and the WTO, and has signed free trade agreements with numerous countries, including Chile (1991), Costa Rica (1994), Colombia, Venezuela (1994), Bolivia (1994) and Japan (2004). A few months after the dramatic balance of payments crisis experienced in 1995, President Zedillo (1994-2000) launched the Program for Industrial Policy and Foreign Trade (PROPICE, May 1996), which implied a certain reorientation of industrial policies prevalent since 1985 (Ten Kate and Niels 1996). Its rationale was that trade

liberalization had led to an excessive de-linking of some productive chains in the Mexican manufacturing sector. And claimed that sectoral-specific policies and incentives were required to increase domestic value added in it, but explicitly excluded the notion of going back to trade protectionism. It identified as priority export industries the following ones: textile, footwear, automobile, electronics, appliances, steel, petrochemicals, and canned foodstuff production. And it marked the machine tools, plastic products and electronic components industries as having major potential to become relevant indirect –i.e. suppliers of– exporters (Ten Kate and Niels; 1996).

In practice, the program only granted a tax rebate on certain imported inputs or allowed for the accelerated phase out of certain import tariffs. The initiatives –besides the Maquiladora, drawback and PITEEX programs examined above– included the ALTEX a program to favor tax-free entry of temporary inputs from abroad to large exporters. A Mexican System for External Promotion (SIMPEX) was put in place to inform the business community of investment opportunities in Mexico, and to provide local companies with marketing information. Some other programs were launched to offer consultancy to local companies to strengthen their possibilities to export, directly or indirectly.

The most significant change took place in 2000 when a series of sectoral development programs (PROSEC) were launched to compensate certain industries –classified in 22 sectors– for the adverse impact of the implementation of rule 303 of NAFTA. This rule, drafted in NAFTA's original text, stated that to avoid trade distortions, eight years after its launch (i.e.2001) Mexico must equate the nominal tariffs applied to imports coming outside of North America with those applied to goods coming from within the NAFTA region. The implementation of rule 303 caused a drastic reduction of import tariffs of a vast number of items imported from the rest of the world. PROSEC's goal was precisely to try to compensate a selected number of domestic sectors for the adverse impact of such trade liberalization measure. PROSEC's compensation centered in trade measures aimed at reducing the costs of their imported intermediate inputs through the reduction of their import tariffs. A quantitative estimate of the impact of such programs is not available. But academic experts tend to coincide that PROSEC caused major distortions in the trade system given that it opened the legal possibility of applying different import tariff to a same item depending on the type of firm/sector importing.

The administration of President Fox (2001-06) reaffirmed the notion that Mexico, though firmly inserted in a strategy of trade liberalization, must implement sector-specific policies to stimulate investment and economic growth. The National Plan for Development (2001-06) explicitly stated that, concerning the industrial sector, a key objective was to increase the generation of domestic value added, and to strengthen the linkages among local productive chains.

It argued that the State -at the national, regional or local level- has a leading role in promoting international competitiveness. It declared as a key goal to implementing specific tailored made sectoral programs to boost the international competitiveness of the following industries: automobile, electronics, software, aeronautical, textiles and garment, agriculture, maquiladoras, chemical, leather and shoes, tourism, trade and construction. By the end of the administration only four such programs had been formally completed and launched: electronics, software, leather and shoes, and textiles. Contrary to the prevailing practice in the last two decades, these programs do allow for a more active involvement of the State and earmark public funds to provide financial support in preferential conditions.

However, the small magnitude of their funds plus the long delay in putting the programs in place made it highly unlikely that they have had significant, positive impact. On November 13, 2006 –

less than a month away from the end of the Fox presidency- a new program *Fomento de la Industria Manufacturera, Maquiladora y de Servicios de Exportación* (IMMEX) was officially launched. This program simplifies the procedures for exporting firms to apply to the PITEX program. And, for such firms it reduces -from 45 to 20 days- the waiting period to receive the VAT returns. Most important, it allows firms that export services to receive the same benefits that manufacturing exporters currently received under PITEX. Obviously the IMMEX program is too new to be able to gauge its impact. Nevertheless, it is safe to conclude that, in practice, the Fox administration's key instrument of industrial policy was still the allowance of tax-free imported inputs to be re-exported.

Thus, the announced change in Mexican industrial policy's orientation to move somewhat away from horizontal policies and to implement instead more sector-specific measures seems to be in practice more rhetoric than reality. It remains to be seen what will be the approach to industrial policies and development that President Calderón (2007-2013) will adopt.

In many ways, the results of any strategy to promote Mexico's long term economic growth rests on the road for development that its manufacturing sector takes. As long as it keeps exploiting its static comparative advantage based on low-skilled and scantily paid labor, it will have low possibilities of successfully competing in the world economy and rapidly pulling the rest of the economy on a path of high and sustained expansion. Hopefully, the new administration will implement a new industrial strategy to effectively strengthen Mexico's manufacturing sector innovation and technical capabilities, transforming it into a knowledge-intensive activity with high value added and strong domestic linkages. The evolution of the real exchange rate is a key issue that should be monitored.

3. Mexico's quest towards export-led growth based on manufacturing

Trade liberalization and NAFTA did change the insertion of Mexico in the global markets, increasing its presence in exports of non-oil products. Indeed, since 1995 -or even earlier- Mexico is one of the countries whose share in the world market of non-oil exports has increased the most. Its success is evident in the evolution of its manufactured exports. Table 1A shows that from 1985 to 1994, Mexico was in fifth place in the world among the countries with the largest rise in their share in world exports of manufactures. In 1994-2002 (the most recent year for which such data is available) it ranked in second place, just behind China.

Table 1A. Changes in Participation of Exports of Manufactures in the World Market (Top 20 countries), 1985-94 and 1994-2002

Changes in Participation of Exports of Manufactures in the World Market (Top 20 Countries), 1985-94 and 1994-2002								
	1985	1994	Variation 85-94	Rank		1994	2002	Variation 94-02
	(A)	(B)	(B - A)			(C)	(D)	(D - C)
China	1.42	5.86	4.44	1	China	5.86	9.82	3.96
Malaysia	0.55	1.73	1.18	2	Mexico	1.71	3.32	1.61
Singapur	0.88	1.88	1.00	3	Philippines	0.43	0.92	0.48
Thailand	0.30	1.06	0.77	4	Malaysia	1.73	2.11	0.38
Mexico	1.01	1.71	0.70	5	Hungary	0.23	0.60	0.37
USA	12.82	13.36	0.55	6	Chec Rep.	0.31	0.64	0.32
Indonesia	0.19	0.67	0.48	7	Poland	0.40	0.62	0.22
Spain	1.49	1.79	0.30	8	Turkey	0.40	0.58	0.18
Poland	0.18	0.40	0.22	9	Thailand	1.06	1.24	0.18
India	0.47	0.67	0.20	10	Israel	0.41	0.56	0.15
Turkey	0.22	0.40	0.18	11	Viet-Nam	0.08	0.20	0.12
Philippines	0.31	0.43	0.12	12	Slovakia	0.10	0.21	0.12
Hungary	0.15	0.23	0.09	13	Rumania	0.15	0.26	0.11
Viet-Nam	0.00	0.08	0.08	14	Indonesia	0.67	0.73	0.07
Australia	0.35	0.43	0.07	15	Bangladesh	0.10	0.16	0.06
Portugal	0.44	0.51	0.07	16	Costa Rica	0.05	0.10	0.05
Pakistan	0.14	0.20	0.06	17	Cambodia	0.00	0.05	0.04
Dominican Rep.	0.06	0.11	0.05	18	Honduras	0.03	0.08	0.04
Israel	0.36	0.41	0.05	19	United Arab Emirates	0.10	0.14	0.04
Marocco	0.06	0.11	0.05	20	Estonia	0.02	0.06	0.04

Source: Own calculations based on ECLAC, CAN 2005.
Manufactures covers items 6, 7 and 8 of the CAN classification

In Table IB, the total values exported of such manufactures are reported. It show that, even thus measured, Mexico ranks among the countries whose total value of exports has increased the most. During the first period it was ranked in tenth place. And in the most recent one (1995-2002), it rose to the fifth place with an absolute increase of US \$80 billions in its exports of manufactures. China tops the list with an increase of US \$214 billions these years.

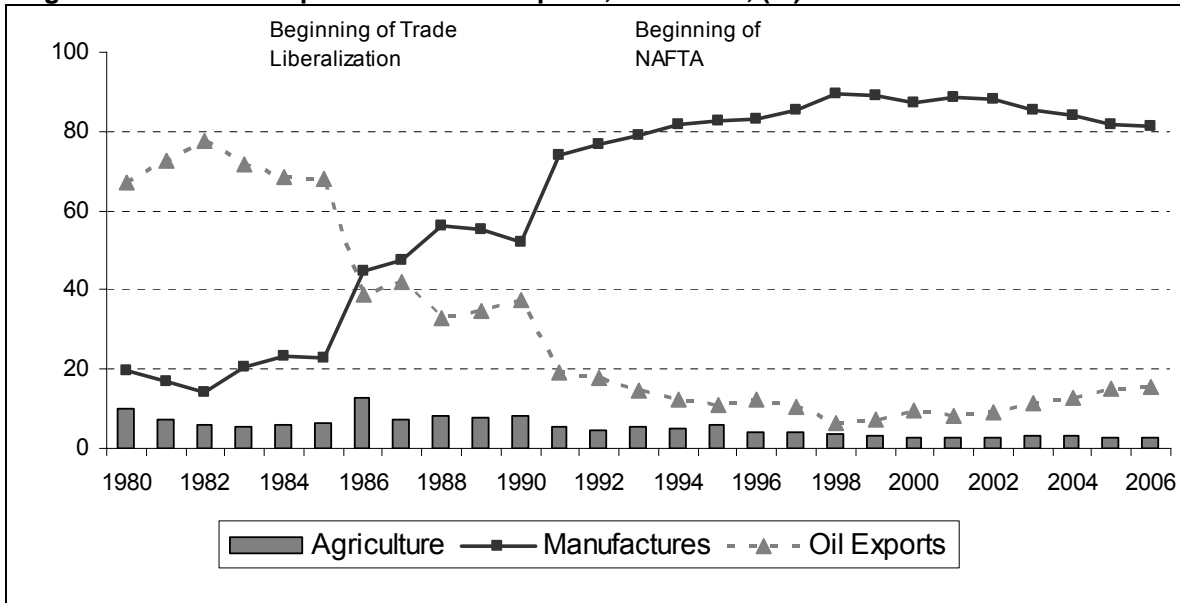
Table 1B. Changes in the Total Value of Exports of Manufactures to the World Market (Top 20 countries), 1985-94 and 1994-2002

Changes in value of Exports of Manufactures in the World Market (Top 20 Countries), 1985-94 and 1994-2002 (Millions of dollars)								
	1985	1994	Variation 85-94	Rank		1994	2002	Variation 94-02
	(A)	(B)	(B - A)			(C)	(D)	(D - C)
Estados Unidos	121.0	355.0	234.0	1	China	155.8	370.5	214.7
China	13.4	155.8	142.4	2	Estados Unidos	355.0	492.9	138.0
Francia	54.9	139.1	84.2	3	Alemania	277.3	359.5	82.1
Italia	54.8	131.4	76.6	4	México	45.4	125.2	79.7
Reino Unido	45.7	118.7	73.0	5	Francia	139.1	175.3	36.2
Canadá	47.0	100.5	53.5	6	Malasia	46.0	79.7	33.7
Singapur	8.3	49.9	41.6	7	Países Bajos	59.5	84.3	24.8
Bélgica y Luxemburgo	34.0	75.0	41.0	8	Filipinas	11.5	34.5	23.1
Malasia	5.2	46.0	40.8	9	Tailandia	28.3	46.8	18.5
México	9.6	45.4	35.9	10	Hungría	6.2	22.6	16.5
Países Bajos	24.1	59.5	35.4	11	República Checa	8.3	24.0	15.7
España	14.1	47.5	33.5	12	Polonia	10.6	23.3	12.7
Suiza y Liechtenstein	18.9	45.4	26.5	13	Turquía	10.8	22.0	11.3
Tailandia	2.8	28.3	25.5	14	Israel	10.8	21.0	10.2
Suecia	22.1	44.2	22.2	15	Indonesia	17.8	27.7	9.9
Austria	11.9	31.3	19.5	16	Finlandia	21.0	29.5	8.6
Indonesia	1.8	17.8	16.0	17	Rumania	4.0	9.8	5.8
India	4.4	17.8	13.4	18	Eslovaquia	2.5	8.1	5.5
Finlandia	8.1	21.0	12.9	19	Viet-Nam	2.2	7.7	5.5
Brasil	8.9	21.0	12.1	20	Portugal	13.5	19.0	5.5

Source: Own calculations based on ECLAC, CAN 2005.
Manufactures covers items 6, 7 and 8 of the CAN classification

As the figures show, Mexico's export boom in manufactures started before NAFTA was launched. It is partly caused by the trade liberalization processes begun in the mid 1980s, but it also has roots in the sectoral development programs put in place in the phase of State-led industrialization. Certainly NAFTA opened a formidable opportunity to export to the United States, the largest world market. In 1994, total exports represented 16% of Mexico's real GDP, and by 2000 the share had more than doubled reaching 35.1%. And, although it has declined somewhat, by 2006 it still represents more than 33%.⁴ Such drive was based on the dynamism of manufactured exports, and has changed Mexico's traditional insertion in world trade. Indeed, although in the late 1970s Mexico was a fundamentally oil-exporting economy, by 1988 manufactures provided more than 50% of its total exports. Today –and although the price of crude petroleum oil has significantly increased the share of oil exports- manufacturing's share still exceeds 80% (See Figure 1).

Figure 1. Mexico: composition of total exports, 1980-2006, (%)



Source: Moreno Brid et al (2007), based on INEGI (2007).

In the last two decades, exports have been the most dynamic component of demand for the Mexican manufacturing products. Indeed, in 1988 exports were equivalent to 49.7% of the total value added by the manufacturing industry, and by 1994 they were 71.9%. Today, exports exceed (by more than 50%) the manufacturing industry's value added. Such performance –certainly helped by NAFTA- was also influenced by two other related factors. The first is the collapse of Mexico's domestic market in 1995 (real GDP fell 6%) that forced firms to export in order to compensate their decline in domestic sales. The second one was the acute depreciation of the exchange rate of the peso vis-à-vis the US dollar that took place in 1995 (45% in real terms), in response to the foreign exchange crisis then experienced.⁵ This real depreciation has gradually

⁴ Unless otherwise specified, the figures quoted in this paper are derived from official sources, including the Instituto Nacional de Estadística, Geografía e Informática (INEGI), Banco de México and ECLAC.

⁵ Blecker (2005), Krueger (1998) and Pacheco-López (2004) provide econometric studies that conclude that NAFTA had no significant impact on Mexican exports, after controlling for the effect of the real exchange rate movements. However, Lederman *et al* (2004) argue the opposite.

but systematically eroded since then, ⁶ and by 2006 preliminary data indicate that it has practically been eliminated relative to its level in 1994.

The export boom placed Mexico among the most successful competitors in many branches of the US market of manufactures; a position currently challenged by China. Key actors *Maquiladoras* were a key driving force behind this export drive. Indeed, already in the early 1990s they conformed more than half of Mexico's total exports of manufactures, and more than 40% of Mexico's total exports. Other important actors behind this boom have been the foreign firms already well established in Mexico as well as some that arrived as part of the vast inflow of Foreign Direct Investment triggered by trade liberalization, NAFTA and privatization. Actually, FDI grew from a level comparable to 2% of GDP in the early 1990s to reach its peak of 4% in 2001, but has declined since then. The manufacturing industry absorbed 53% of all FDI inflows to Mexico during 1994-2004, and was heavily concentrated in three sub-sectors: Metal products (48%), Chemical products (16%), and Food beverages and tobacco (18%).

Mexico's strong export drive has been accompanied by increased technological sophistication of some of the manufactured goods sold abroad. Table 2 presents the structure of Mexican exports and their share in OECD's total imports from 1985 to 2002 (the most recent year available with this classification), distinguishing three groups: i) Exports directly based on natural resources (agriculture, energy, textile fibers, minerals and metals), ii) Manufactures and iii) Other exports. In turn, manufactured goods are classified in two groups, those that make intensive use of natural resources and those that tend to use more other resources. ⁷

Table 2 Selected Indicators of Mexican Exports to the OECD: 1985-2002

Mexico	1985	1990	1994	2000	2002
Market Share	1.78	1.52	2.03	3.46	3.64
Natural Resources	3.12	2.12	2.00	2.59	2.71
Agriculture 1/	1.30	1.28	1.37	2.01	2.09
Energy 2/	4.60	3.26	2.99	3.28	3.44
Textil Fibers, Minerals and metal 3/	1.89	1.48	1.57	1.48	1.44
Manufactures	1.17	1.39	2.21	4.07	4.31
Based on Natural Resources 4/	1.23	0.96	1.03	1.22	1.23
Not Based on Natural Resources 5/	1.09	1.32	2.09	3.81	3.99
Others 6/	1.61	2.54	2.70	4.01	4.66
Structure of exports	100	100	100	100	100
Natural Resources	58.60	33.62	21.43	14.38	14.55
Agriculture 1/	9.66	10.27	8.18	5.33	5.24
Energy 2/	45.94	21.02	11.82	8.49	8.74
Textil Fibers, Minerals and metal 3/	3.01	2.33	1.44	0.56	0.44
Manufactures	39.13	62.45	74.89	81.70	81.55
Based on Natural Resources 4/	3.38	3.37	2.52	1.57	1.44
Not Based on Natural Resources 5/	35.76	59.08	72.37	80.13	80.11
Others 6/	2.27	3.93	3.68	3.92	3.90

1/ Sections 0, 1 and 4; Chapters 21, 22, 23, 24, 25 and 29. 2/ Section 3. 3/ Chapters 26, 27 and 28. 4/ Chapters 61, 63 and 68; groups 661, 662, 663, 667 and 671. 5/ Sections 5 and 6 (less chapters included in 4/), sections 7 and 8. 6/ Section 9.

Source: Moreno Brid et al (2007) based on CAN 2005, ECLAC.

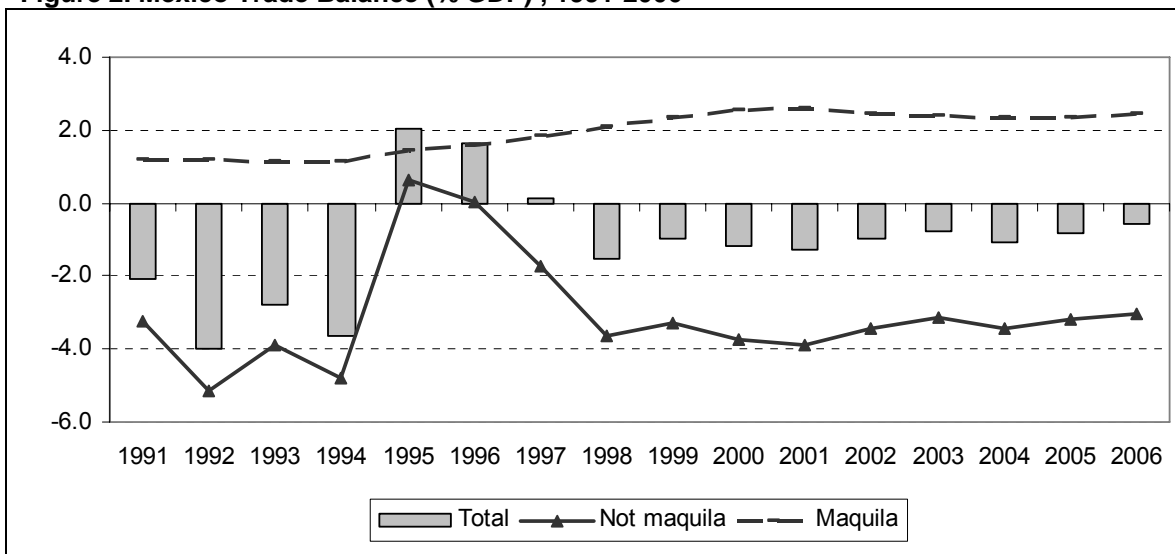
⁶ Comparing consumer price indices measured in a common currency, preliminary data indicate that the peso appreciated in real terms 30% between 1995 and 2006. The ratio of the price deflators of tradables (manufactures) *vis a vis* non-tradables (services) suggests a real exchange appreciation of around 15% this same period.

⁷ Table 2 does not give any information on the technological content of the actual processes adopted to manufacture export goods. In particular, all *Maquiladora*'s exports are registered as "not based on natural resources".

The second part of the table registers the same categories, in terms of their contribution to Mexico's total exports. Notice the impressive penetration of the OECD market of manufactures by Mexico (from 1.2% to 4.3%). Its penetration of the OECD market of manufactures not based on natural resources has been rather fast, raising their share from 1.09% in 1985, to 2.09 in 1994 and 3.99% in 2002. The dynamism is also reflected in the fact that, while in 1985 they accounted for 36% of Mexico's total exports, by 1994 the share was 72.4%, and by 2002 it stood at 80.2%. Mexico's export-drive, far from being uniformly grounded on each and every one of its manufacturing industries, has been highly concentrated. Few industries -motor engines and autoparts, automobiles, and computers and other electronic equipment- account for close to 60% of Mexico's total exports of manufactures in 1994-06. Adding three more activities (other manufacturing industries, electrical equipment, and garments) raises their combined share to over and above 70%. In general, these branches are among those registering the highest increase as a proportion of Mexico's total exports of manufactures.

The impact at the micro-level of the firm is also unevenly distributed. According to some authors, the bulk of Mexico's manufacturing exports can be explained by the performance of not more than 300 firms, with a majority of them linked to transnational corporations (See Mattar et al 2003, Dussel 2000).⁸

Figure 2. Mexico Trade Balance (% GDP) , 1991-2006



Source: Moreno-Brid et al (2007)

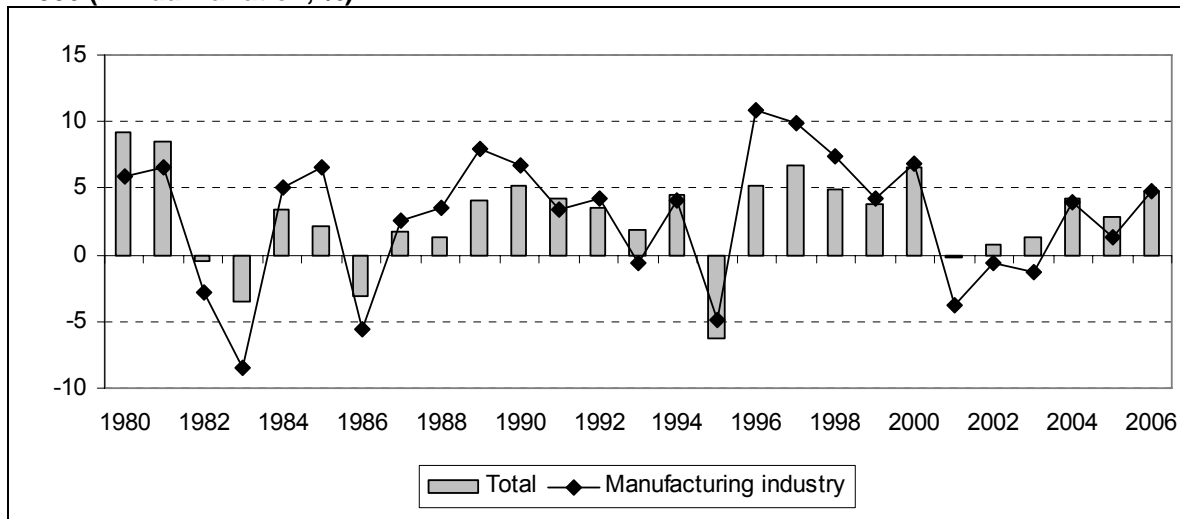
Notwithstanding the impressive performance of manufactured exports since NAFTA, conspicuously reflected in the trade surplus with the United States, Mexico has systematically registered trade deficits except for periods of severe recessions. Figure 2 shows that the maquiladoras surplus has been more than counterbalanced by the deficit in the rest of the economy. In fact, the trade surplus derived by the former and the oil industry have not compensated the bulging trade deficit in the remaining manufacturing activities coupled with the small deficit in trade of primary goods and services (See Moreno-Brid et al 2005).

⁸ For an analysis of the evolution and determinants of Mexico's manufacturing industries see M.Cordero, J.Mattar, R.Padilla and C.Schatán (2007), IPEA

4. Mexico's manufacturing industry: foreign trade and economic growth

As figure 3 shows, manufacturing has been the driving force of economic growth; showing a strongly procyclical evolution. In general, periods of relatively high expansion in manufacturing activity are correlated with periods of a dynamic impulse in the Mexican economy. Similarly, when the manufacturing industry has collapsed then the overall Mexican economy has undergone a deep contraction.

Figure 3. Real GDP growth of the Mexican economy and its manufacturing industry: 1980-2006 (Annual variation, %)

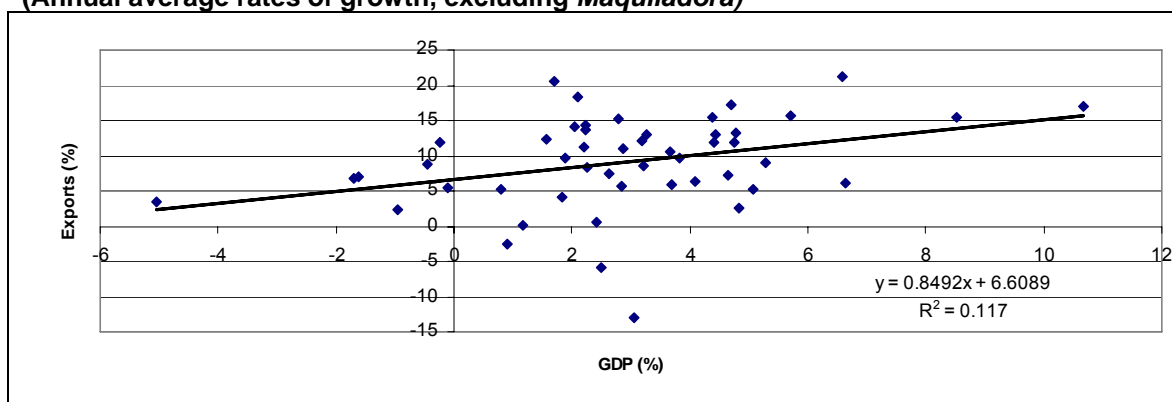


Source: Moreno-Brid et al (2007).

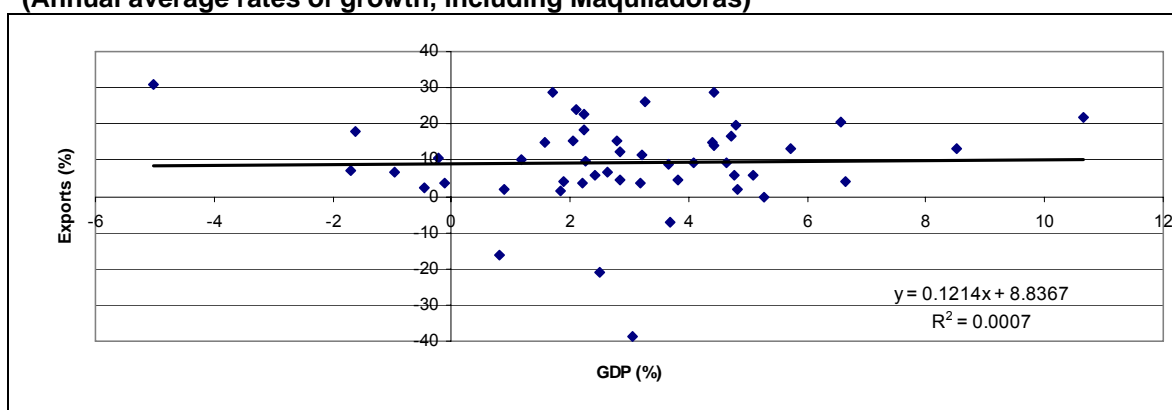
Parallel to the export boom in manufactures, Mexico has experienced in the last two decades a massive penetration of imports; mainly of manufactured goods. It was certainly expected that, after decades of trade protection, the opening of the domestic market to foreign competition would provoke an intense but temporary flow of imports. But, the theory went, that once Mexican consumers got adjusted to trade liberalization, their purchases of imported goods would slow down. Such slowdown has, however, yet to be seen, particularly in periods of intense economic activity. In fact trade liberalization has been accompanied by an intense and persistent surge in imports, expanding at annual rates over and above 30 per cent.

As a share of GDP, they climbed from 10 per cent in 1982 to more than 30 per cent by the mid 1990s where they still remain today. Such intense and persistent penetration of imports has weakened the “pulling” power of the exporting sector relative to the rest of the economy. Indeed, the evolution of real value added in manufacturing activities tends to be scantily associated with the evolution of its exports.

**Figure 4. Mexico manufacturing industries: Real value added and exports, 1988-2005
(Annual average rates of growth, excluding *Maquiladora*)**



**Figure 5. Mexico manufacturing industries: Real value added and exports, 1988-2005
(Annual average rates of growth, including *Maquiladoras*)**



Source: Moreno Brid et al (2007)

Figures 4 and 5 show the relation between the average rates of expansion of exports and of real value added for each branch of manufacturing during 1988-2005. Contrary to some *a priori* expectations, it shows no significant relation between them, independently of *maquiladoras* are or are not included. In other words, in general exports have not been able to act as a strong engine of growth of the manufacturing sector. In fact, neither they have had sufficiently strong spill over effects in other branches of the economy. This incapacity is partly due to the fact that Mexico's manufactured exports have become heavily dependent on imports, with rather reduced local content and weak linkages with domestic suppliers. This is true of *maquiladoras*⁹ but also of a substantial proportion of other firms that export manufactures. In fact around 70% of Mexico's exports of manufactures are produced through assembling processes of imported inputs that enter the country under preferential tax schemes -PITEX and ALTEX (Dussel 2003 and 2004). Most important, such tax facilities entail approximately 30% lower input costs for manufacturing firms that rely on foreign suppliers –entering through a program of temporary imports- relative to a similar firm that relies instead on locally produced inputs.

The fast expansion of imports backs the previous assertions. From 1988 to 2006, imports of manufactures at constant prices expanded at an average annual rate that more than doubled that of

⁹ According to some estimates, on average no more than 5% of *maquiladoras* intermediate inputs and raw materials are locally supplied.

its exports. Not surprisingly, the trade deficit in manufacturing has been widening, putting extra pressure on the overall trade balance (See Moreno Brid et al 2005). Traditionally, manufactured goods account for the bulk of Mexican imports. In 1982, and measured in constant pesos, they represented 90% of total imports. By 1994 their share was 95%, where it has approximately stood since then.

Other elements behind the fast pace of Mexican imports since 1985 are the appreciation of the real exchange rate and the resumption of a facilitated access to external funds. In any case, Mexican consumers began to satisfy their pent-up demand for a wide variety of imported goods after decades of having a tightly restricted access to. But, such import demand also mirrors to some extent the strong relation that exporting firms have with foreign suppliers. The case of Maquiladoras, up to now the most successful export sector, is typical as they rely on imported inputs and materials, and have a weak relation with local suppliers. Another factor that boosted import penetration to the domestic market, and that cannot be a priori ruled out, is the likely breakdown of some internal linkages in Mexico's domestic productive structure, as local producers have been put out of business by foreign competition. Finally another element that may have also worked in the same direction is the insufficiently dynamic performance of labor productivity in Mexico's manufacturing. Indeed, from 1994 to 2006, instead of catching up, it widened its gap vis a vis that of the United States.¹⁰ Unit labor costs in manufacturing show similarly unfavorable comparison, increasing approximately 5-7% relative to the US.

On a more technical basis, applied econometric studies reveal that in the last fifteen to twenty years the Mexican economy has significantly increased its structural dependence on imports. The results indicate that Mexico's long-term "income-elasticity" of demand for imports (essentially manufactured goods) has more than doubled in this period.¹¹ Traditionally its value stood between 1.2 and 1.5, but it has then risen to levels close to 3.0. Thus, if Mexico's real income is to grow at an annual average long-term rate of 5 per cent, its imports in real terms will tend to expand 15%. To keep the trade deficit in check, and avoid it bulging as a proportion of income, Mexican exports must then expand at least 15% per year. If the terms of trade move in an adverse way, the required expansion of exports would have to be higher. Such fast growth of exports seems unlikely to be sustained in the long run. As a bench mark recall that during 1988-99 when the US economy rapidly grew, Mexican exports increased at an annual average rate of 10%.

It is unlikely that the upward shift in Mexico's long-run income elasticity of imports is a long-term phenomenon. Most likely, it will abate and then decline somewhat as some once-and-for-all effects of trade liberalization on the demand for foreign goods and services wear off. But, if it remains at current high levels, the external sector will be a major obstacle in Mexico's development path, away from recurrent balance of payments crises. In any case, the most recent data reports an annualized increase of 18% in Mexico's imports, while its real GDP expanded 4.4 per cent (Verify)

Figure 6 illustrates how trade liberalization and macroeconomic reforms have failed to insert Mexico in a path of strong export-led growth. It shows that, for the Mexican economy as a whole, the relation between trade performance and economic growth has deteriorated. Figure 7 compares the same data but for the manufacturing industry, with somewhat similar conclusions.

¹⁰ Own elaborations based on official data

¹¹ The "income-elasticity" of imports is the increase -measured in percentage points- that imports measured at constant prices will register for every one per cent increase in real income.

Figure 6. Trade Balance and Real GDP Growth in Mexico, 1970-2005

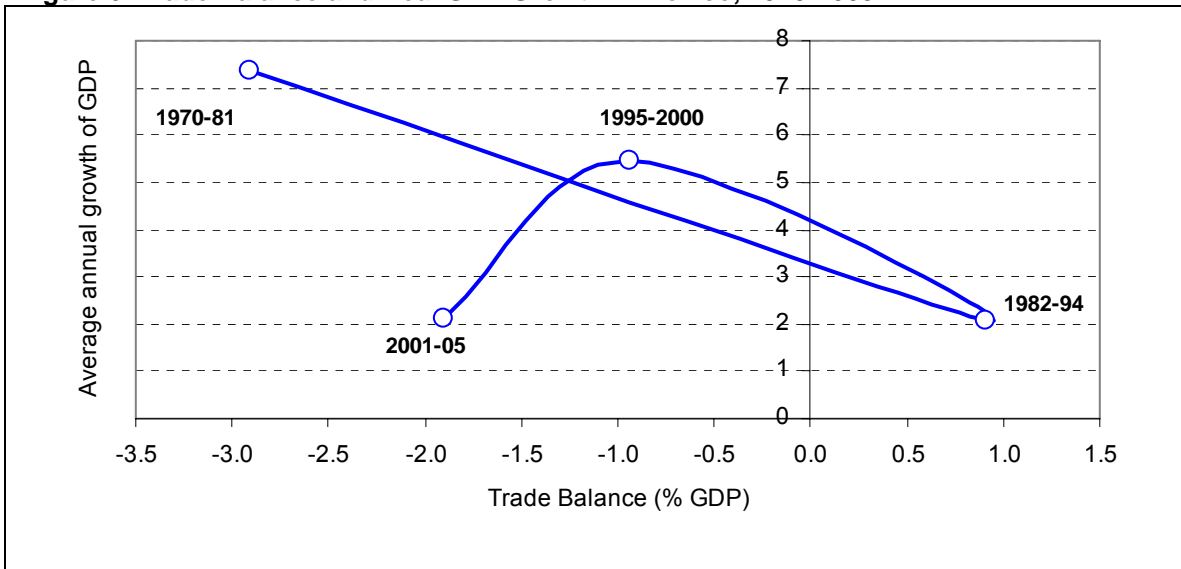
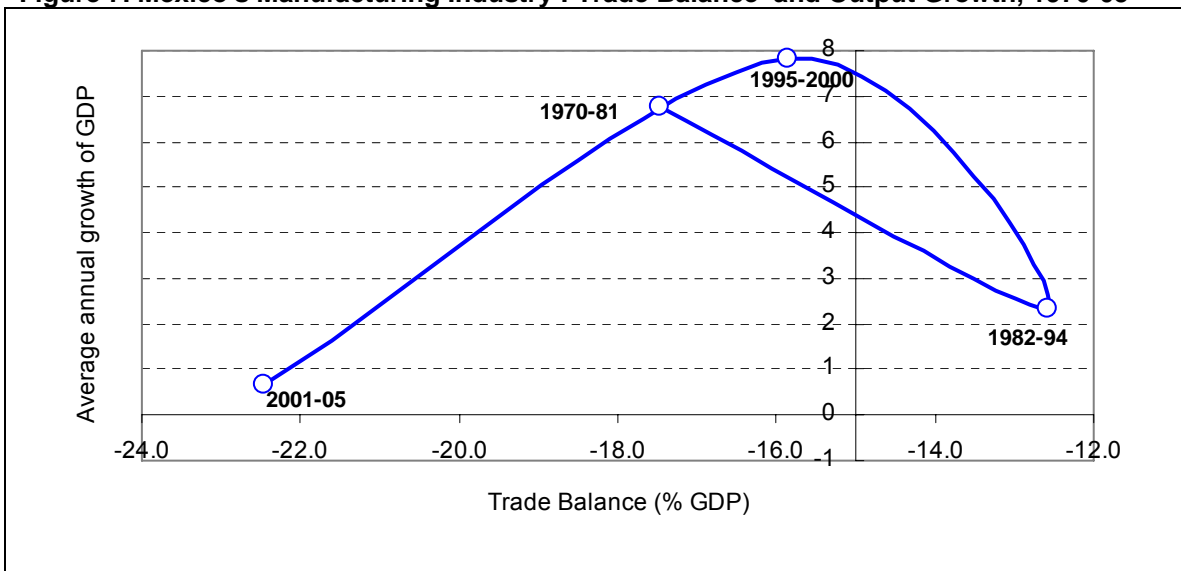


Figure 7. Mexico's Manufacturing Industry : Trade Balance and Output Growth, 1970-05



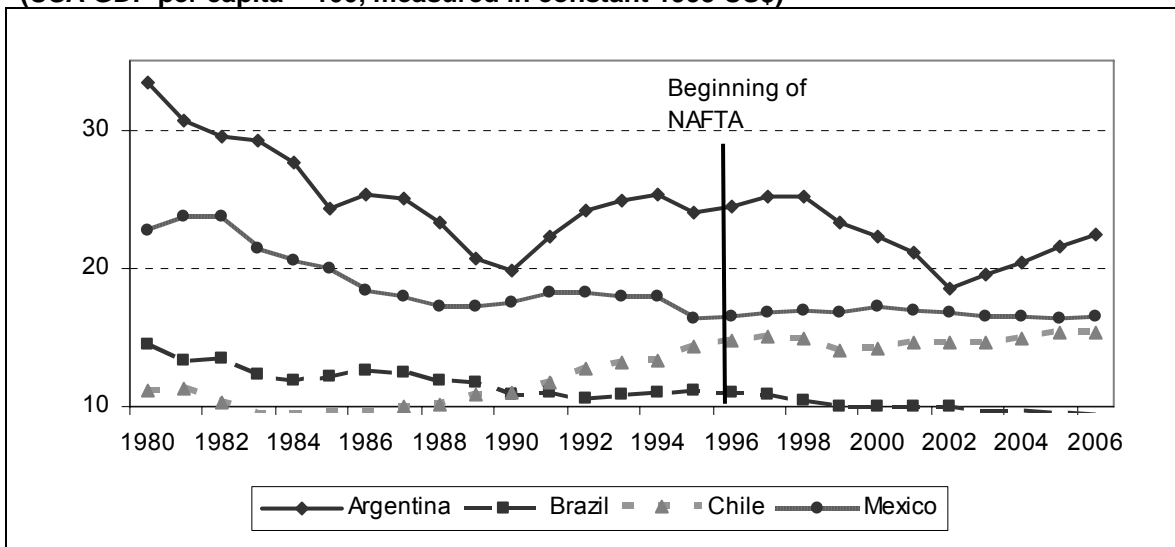
Source: Moreno-Brid et al (2007).

There is certainly a deteriorating relation between trade performance and growth. Indeed, during 1971-81, Mexico's real GDP expanded at an annual average rate above 6 per cent and registered a trade deficit of 2.7 per cent. The international debt crisis and the collapse of the oil boom forced an economic slowdown in the 1980s concomitant with a trade surplus of 1 per cent of GDP. The first five years after NAFTA saw real GDP expand at a 5 per cent annual average rate. This recovery was short-lived as the renewed appreciation of the peso eventually slowed down the export boom, and the slowdown of the US economy in 2001 put an end to the dynamism of this

short period of export led growth. In 2001-06, the Mexican economy barely grew (less than 3 per cent on an annual average rate), registering a trade deficit of close to 1-5%.

Such slow expansion has led to a reduction in its income per capita. In 2006, real GDP grew by 4.3 per cent, improving their performance in the recent past, but still way below the rates of expansion reached in 1950-73 as well as those needed to absorb the vast increase in the supply of labor. In other words, with relatively similar amounts of foreign resources as a proportion of GDP as it received in the four decades before the oil collapse, the Mexican economy is now able to grow on average at only one third of the annual rates it experienced in 1950-80; before macroeconomic reforms were put in place. As figure 8 shows, in the late 1980s Mexico managed to begin to moderately reduce such gap. However, the economic crisis suffered in 1995 widened it once more. Since then it has had minor changes. Its gap with the US currently stands at a level comparable to what it was in the 1950s!

Figure 8. Mexico and other countries: real GDP per capita (relative to the US) 1980-2006 (USA GDP per capita = 100, measured in constant 1995 US\$)



Source: Moreno Brid et al (2007).

Contrary to the expectations raised by the macroeconomic reforms and NAFTA, Mexico has not seen any significant convergence between its average real income or in terms of living standards with its main regional trade partners (Blecker, 2005). A remarkable trait of the Mexican transition to trade liberalization was the relatively limited restructuring that has occurred of the composition of output in the manufacturing industry, especially relative to that of exports. As estimated with ONUDI's index of structural variation, the change in the composition of manufactured exports between 1988 and 2003 was equivalent to 32% of their total volume. If maquiladoras are excluded, the index is lower, 27.6%.¹² However, using the same methodology suggests a much smaller change in the composition of value added in Mexico's manufacturing industry in this period: only 13.2% of total output, that is close to one third of the corresponding index estimated for exports. It may be concluded that, with some exceptions, NAFTA's reallocation processes have extrapolated past trends in the composition of value added within the manufacturing

¹² The index is given by $S = \sum \text{abs}\{[q_i(t_n) - q_i(t_0)]/2\}$, that is the sum of the absolute value of the differences between $q_i(t_0)$ is the share of industry "i" in total exports of manufactures in the initial year, and $q_i(t_n)$ is the corresponding share of the same industry in total exports of manufactures during the final year. The closer the final figure is to zero (one), the weaker (stronger) is the structural change in the period of reference. See ONUDI (1998).

industry. In other words, there is scant evidence of a massive restructuring of manufacturing output. In fact some of the most dynamic sectors have their roots in the era of import-substitution and State-led industrialization.

Sustaining high long-term economic growth should be a top priority in the national agenda. Assuming that the labor force expands at an average 2.5% per year, the Mexican economy needs to expand at least at an average annual rates of 6% in real terms just to create sufficient jobs.¹³ The rate of growth would need to be even higher in order to improve the living standards of the more than 13 million Mexicans that live in extreme poverty conditions.

In any case it is clear that the evolution of employment in Mexico after NAFTA has not met the favorable expectations it generated. There has been a re-composition of employment in favor of export-related activities, but overall employment growth is still found wanting. NAFTA's effects on employment in the Mexican rural sector have been adverse; partly due to the limited growth of value added in the manufacturing industry, and its weakened labor absorption capacity. Partly as a consequence of this, migration flows to the US have actually increased. In 2006, open unemployment in Mexico has reached a most acute level in years, at the same time that its informal sector has vastly expanded. In addition the earnings and wage gap between the qualified and the unqualified labor force has widened.

The creation of formal jobs has fallen considerably short of the increase in labor supply. From 1990 to 2004, an annual average of 300,000 jobs were created; considerably lower than the average annual increase of one million in Mexico's economically active population. As mentioned above, such imbalance in the labor market is a key factor behind the rise in informal and in open employment as well as in migration. From 2000 to 2004, this imbalance was even more acute. However, official data indicates that in 2006 formal employment grew at the unprecedented rate of 4%, apparently having been able to create close to one million jobs that year, although most of them of a temporary or occasional nature. That year of the total of 17 million employees enrolled in the Social Security System, 64% had a, say, permanent job -22 percentage points below the 86% share it held in 1994-, 13% had occasional jobs, and the remaining 23% were classified as employed in "other jobs". The first group expanded 1.2% during the year, the second one 6.7%, and the third 11%.

Between 2000 and 2005 employment in manufacturing declined 18%, this reduction is significant given that this sector is still the one that offers more permanent, formal jobs. Particularly worrying is the increased vulnerability, and lack of social protection of the Mexican workers. Indeed, from 2000 up to 2006 the proportion of the employed population without medical insurance or other social benefits (*prestaciones*) increased from 61% to 64%. In sheer numbers, it means that 27 million employed lack such benefits. It should be clear that if the economy does not enter in the medium term a path of high and sustained expansion, able to create sufficient number of jobs, the nation's social fabric may be severely damaged.

Numerous analysts coincide that so far the trade and macroeconomic reforms have not led to any significant improvement in the long term trend of growth of labor productivity in manufacturing. Although difficult to disentangle from other effects, trade liberalization must have had some positive impact on productivity growth in selected –but not all- manufacturing industries. It is safe to assume that in the capital goods and heavy intermediates sector it allowed for greater

¹³ Note however, that according to some estimates Mexico's medium-term income elasticity of employment is currently 0.29, which means that a 1% increase in employment requires a 3.5% expansion of real GDP (Ruiz Nápoles, 2007).

intra-industry (and intra-firm) specialization in foreign trade. And in some light industries -food processing and parts of the textile industry- it shook out and forced to modernize less efficient local producers. But all in all, our estimates indicate that labor productivity has not responded in an sufficiently dynamic way to the new policy environment. To the extent that the productivity gains that may have occurred were based on a the elimination or displacement of local producers, their short term social impact could have been adverse. Whether in the medium term such impact is positive depends on the degree to which the thus redundant labor successfully makes the transition to be gainfully employed in the dynamic sectors. Note too that contrary to the support policies in place in the United States, Mexico has not implemented any program to ease such transition or to compensate displaced workers for the potentially adverse effect done by NAFTA. A crucial requirement for this is for investment to respond dynamically However, this has so far not happened.

5. Conclusions

The macroeconomic reforms implemented since the mid 1980s, have had mixed results in the Mexican case. On the one hand, the fiscal deficit and inflation were drastically cut down, and have remained at low levels for years. FDI inflows increased and helped to trigger an export boom in manufacturing that transformed Mexico's insertion in the world economy. Indeed in twenty five year it went from being essentially an oil-exporting country to becoming a major export platform of manufactured goods –including vehicles, auto parts, ready-made clothing and electronic products- to the United States.

On the other hand, notwithstanding the surge of non-oil exports, the Mexican economy has not grown fast enough and, thus, has been unable to create enough jobs to meet its employment needs. In fact its GDP's growth has been marked by sharp, short-lived upswings that exert excessive pressure on the trade balance and ultimately stoke foreign exchange crises and prevent the consolidation of a sustained and robust economic expansion. In brief, the balance of payments constraint on the Mexican economy's long-term expansion has actually become more binding.

Part of the explanation of this failure lies in the fact that an overall upturn in investment simply did not accompany the reforms and the new macroeconomic environment. Indeed, fixed capital formation, although it has risen to the equivalent of 21% of GDP; is way below the 25% benchmark identified by UNCTAD as the minimum ratio required to sustain a medium term annual economic expansion of 5%. This limited response of investment is partially explained by the fact that the trade liberalizing reforms were implemented when the Mexican economy was in deep stagnation, tightly constrained in its access to foreign credit. The drastic fall in public investment, implemented to cut down the fiscal deficit, did not help either. The uncertainty arising from the change in development strategy was another factor that led to the postponement or interruption of investment projects by the private sector. Trade liberalization and the shift in industrial policies had a particularly significant impact on the manufacturing sector. The intensified competitive pressure in the domestic markets made it clear to local firms that they had to modernize and reorient their sales towards exports in order to survive. The incentives for structural change were there, but not necessarily the means to do it. Indeed the elimination of most fiscal and financial subsidies placed heavy pressure on Manufacturing's relative rate of return. And although financial liberalization brought about a deep restructuring of Mexico's banking sector, domestic credit availability for productive activities and for investment has been severely rationed for the last ten years. As a share of GDP, between 1996 and 2006 banking credits to productive activities have shrunk in more than 15 points as a proportion of GDP.

Indeed, notwithstanding that Mexico's banking sector was privatized and eventually absorbed to a major extent by foreign banks, the ratio of domestic banking credit to investment and production measured as a proportion of Mexico's GDP is among the lowest such ratios in Latin America.

Thus a dual structure in Mexico's manufacturing sector has been taking shape. On the one hand there are a few, very large firms whose links with TNCs and access to foreign capital help them to successfully become relevant players in export markets. On the other hand a vast number of medium and small firms struggling to survive the intensified competition pressure from their external competitors. One worrying trait of Mexico's boom in exports of manufactured goods is its rapidly increasing reliance on imported intermediate goods and raw materials. Such increased reliance partially reflects a rupture of backward linkages and explains why the impact of manufactured exports on domestic value added has been rather limited. Indeed, although Mexican exports of manufactures have grown in US current dollars at approximately the same pace as Korean ones, the value added of the manufacturing sector in Mexico has expanded at barely half the rate of growth of the Korean one (UNCTAD, 2002).

A word of caution on exchange rate policy is necessary. As many observers have concluded, Mexico should be wary of any persistent trend of appreciation in its real exchange rate. Its modern economic history has once and again proven that systematic episodes of appreciation of its real exchange rate are invariably reflected in mounting trade deficits that lead to an unsustainable path of external indebtedness, and sooner or later detonate a balance of payments crisis and the collapse of economic activity.

Mexico's manufacturing sector, and actually the whole economy, is at a crossroads. It can not further base its international insertion on low wages and *maquiladoras*. But, at the same time, it has not yet successfully entered the international markets based on high value added processes and products. If Mexico is to succeed in its so far failed quest to achieve high and sustained economic growth, there is urgent need to rethink key elements of its overall strategy and industrial policies (For an excellent analysis of the industrial policy debate see Shapiro, 2006). In particular the incentives currently in place to induce the tax-free entry of imported inputs and raw materials for export purposes must be reconsidered. And, if special programs to promote the development of selected industrial sectors are implemented –as is the case in the current administration- they should be supported by sufficient financial and human resources as required by the daunting magnitude of the challenge. In this regards, the institutional framework should be tailored to guarantee, as best as possible, that all subsidies are granted in a temporary, transparent, accountable and goal- oriented way. In particular an urgent priority is to put in place new policies to promote technological innovation in the manufacturing industry and to favor linkages with local suppliers. Needless to say a new wave of public investment is required to expand and improve the basic infrastructure. Such expansion is not realistic without a reform that corrects fundamental weaknesses in Mexico's fiscal performance. First of all, even though the current measure of the fiscal deficit is small, Mexico's tax revenues –excluding oil- are extremely small. They need to increase in, say at least 5 points of GDP, to be able to provide the public services and basic infrastructure that a modern society requires. Second, approximately one third of fiscal income is derived from oil revenues; that are highly volatile and likely bound to significantly decrease in the medium term, unless substantial investment in exploration and extraction is carried out. Moreover, this dependence is due to a rather distorted tax scheme imposed on PEMEX that, in practice, makes it very difficult for it to invest and become more efficient.

Third, the weakness of fiscal revenues are partly the consequence of numerous tax exemptions, an endemic tax evasion, and a surge of the informal sector. In addition, taxation of capital gains is

more the exception than the rule. Fourth, the conventionally measured fiscal deficit is low but does not register certain disbursements –so called contingent liabilities- that have grown massively in recent years, *inter alia* social security pensions. Finally, its zero-deficit rule has a pro-cyclical element imbedded in the fiscal budget process, so that fiscal policy tends to exacerbate business fluctuations. These are all major shortcomings. But one thing is recognizing them, and another –very different one - is being able to solve them. For this, it is necessary to build a “fiscal pact” between the government, the civil society and the entrepreneurial sector that recognizes for Mexico to enter a path of development with social inclusion it needs substantially higher fiscal revenues. These will have to be used in a transparent and socially accountable way to improve the quality and quantity of public goods,. Whether the administration of President Calderón (2007-12) will have the political will to implement such fiscal reform and put in place a new development strategy is an open question.

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