

MEXICAN ECONOMIC LIBERALIZATION. THE PROJECT AND THE REALITIES

**Alicia Puyana Mutis
FLACSO-México**

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MEXICAN ECONOMIC REFORMS. THE PROJECT, THE REALITIES.
(Draft only for discussion. Not to be quoted)

Alicia Puyana Mutis¹
FLACSO-México

I. Introduction:

For two reasons Mexico is an excellent case to analyse the strengths and weakness of the actual economic model. Mexico was an early and radical reformer after been a strong corporativist, one party state. By signing, almost fifteen years ago, the North American Free Trade Agreement NAFTA, Mexico constitutes the life experiment of the probable outcomes of the USA policy of Competitive Liberalization.

The debt crises put a dramatic end to the ailing industrialization model and opened the doors to the long protracted reforms Mexico was demanding for years. Starting in December 1982, with Miguel De La Madrid's administration, Mexico abandoned the model adopted since 1940, in favour of economic liberalization. Today, the Mexican is one of the most liberal of the medium-sized economies in the world. Import tariffs were reduced and the movement of goods, services and capital is practically free.² The economic role of the government was reduced by selling off a large proportion of public enterprises, deregulating many aspects of the economy, such as transportation, telecommunications, banks, financial institutions, and practically all productive state enterprises except *Petróleos Mexicanos* (PEMEX) and the *Comisión Federal de Electricidad* (CFE), and severely reducing government investments. The process also included opening up the country to foreign capital flows.

Different institutions were put in place to regulate the market and prevent monopolistic behaviour: Comisión Federal de Competencia (CFC), Comisión Federal de Telecomunicaciones de Telecomunicaciones (COFETEL); Comisión Nacional Bancaria y de Valores (CNBV) and the Comisión Reguladora de Energía (CRE). The Central Bank, el Banco de Mexico was granted full autonomy with only one major task: to prevent inflation. Monetary policy therefore has been conducted with that aim. To mitigate the fall in incomes, and to promote the agricultural sector, the government implemented phocalized poverty programmes: PROCAMPO y OPORTUNIDAES.

¹ Carlos Elizondo read an earlier draft and made very useful comments. I thank him for that. Nevertheless all errors are my own responsibility.

²Ocampo, *et al.*, 2000.

Their impacts in terms of poverty alleviation are positive but not enough to improve the highly unequal distribution of income.

The objectives of the reforms were manifold: First, to reverse the loss of competitiveness in international markets and regain export dynamism and larger shares of world trade. Second, to speed up growth and reduce unemployment, mitigate poverty and income concentration. Finally, to sustain macroeconomic stability conducive to higher rates of capital formation. Nevertheless, the ultimate goal of economic policies are growth and improved living conditions for the population, obtained through more and better employment, necessitating permanent productivity increases. Lower inflation rates, fiscal discipline, balanced external accounts, and faster exports, important as they are, serve only as means. Tools to induce growth and development should not become the only indicators of the success of the economic policies.

Any given country engages in negotiating trade agreements--multilateral or bilateral--or regional economic integration treaties, when is convinced that neither universal free trade nor protectionism will help to overcome the obstacles to its economic growth and advance towards the more developed economies. To speed up growth and shorten distances between member countries, more advanced participating countries should grant preferential treatment to the less developed partners. In multilateral negotiations, as well as in regional integration, preferential treatment conceptually creates mechanisms of convergence and stabilizes the agreements.

The workshop has to analyse “the political and economic events of the last ten-fifteen years” behind the lack of economic growth and the prevalence of poverty and income concentration. There is growing concern that poor economic growth has a negative effect on political stability and makes it difficult, if not impossible, to structure a new social contract.

Some analysts have studied the political and institutional topics of the workshop arguing that the problems that limited the scope of the reforms and their results are to be found on the existence of a dense net of interests linking *de facto*³ and *de jure* powers. Those interests reduced the margin of the reforms and, today, they hold back the growth effects of the liberalization of the economy. His paper explains the economic constraints to construct a new social pact and gives clues to overcome the hurdles.

³ It has to be remained that the *de facto* does not mean outside the law. TELMEX monopoly was legally constituted, so is the teacher's trade union.

I will concentrate on the elements of the economic model behind the disappointing economic results of the reforms, the North American Free Agreement, NAFTA included. I will propose which economic factors, and economic policies are retarding growth and generating the explosion of the informal sector, the stagnation of the tradable sectors in the generation of GDP and employment, all that conducive to the concentration, in a few hands, of wealth, financial and industrial capital, production and exports. All these factors are leading to an increasingly unequal distribution of income with a growing share of capital and the corresponding fall of labour. Macroeconomic stability is maintained by unending adjustment, based on monetary contraction, relatively high interest rates and overvaluation.

We have to consider whether institutional reforms, the elimination of monopolistic practices by efficient regulation and the modernization of the powerful trade unions, positive as they are, would lead to the reversal of the macroeconomic policies affecting growth and employment. Will they, for instance, allow substituting the inflation targeting policy of the *Banco de México* with the obligation to harmonized stability with growth and employment targets? Will the institutional reforms help to overcome the stagnation of tradable sectors and to reverse the fall in national value added of production and exports?

Perhaps the pendulum shows that the priority is changes in policies to allow for faster growth, more and better employments, faster growing incomes and better distribution of income and assets (Rodrik et al 2002). High inequality limits cooperation: “societies may not always find it best to adopt growth-enhancing institutions, particularly when inequality is large and those institutions may foster further inequality”, (Córdoba et al, 2007, p: 28). For that reason, “the welfare costs of inequality outweigh the benefits of growth in most cases” (Córdoba et al, 2007, p: 6) Assets concentration (increased by privatization) hampers growth and reduces the interests in private indivisible investments. It could restrain the growth effects of investments in human capital. (Deininger et al. 2000)

This study shows the course of the Mexican economy and explores to what degree the objectives of the reforms, as regards growth and employment, have progressed, following liberalization and the implementation of NAFTA.

Five sections address the above concerns. The second section presents a brief summary of the reforms: mainly trade and financial liberalization and the orientation of exchange

and fiscal policies. The third, is revises the main macroeconomic and sectoral effects. The four section analyses some distributional effects taking into consideration the changes in employment, wages and income concentration. Conclusions are drawn in a final section.

II. The Project for Liberalizing the Economy.

Trade liberalization. In theory, successful liberalization of trade policies would induce sustained expansion of the external coefficient to GDP, measured as the ratio of imports plus exports to GDP. It can be assumed that lower import tariffs would reduce the domestic prices of tradable products. Since the degree of openness of an economy is inversely associated with the gap between international and domestic prices, the more open an economy the lower the difference between international and domestic prices and therefore, production and export structures should move towards comparative advantage. Assuming that the export sector has higher productivity than the rest of the economy, then, those countries that reallocate resources towards exports should grow faster. Gains in efficiency will emerge through changes in the allocation of productive resources obtained by closely linking domestic to international prices. The theory rests on the assumption of full employment and perfect markets, conditions not fulfilled in Mexico and elsewhere in the developing world.

The changes in production will produce winners and losers. The net benefit to a country depends on whether the overall benefits to those who end up winning are greater than the costs to those who come out losing, a condition that will make it feasible to compensate the losers to the exact degree of their losses, while maintaining profits for the winners. Such compensations are effected via tax transferences: levying taxes on winners and transferring part of these contributions to the losers. However, fiscal policies are mediated by the political system and by the structure of power; what often prevails is the policy of keeping the primary distribution of income untouched or even making it more unequal.

The law of compensation applies to trade and regional integration agreements, in which the aim of the countries is to satisfy their national interests, and not merely achieve increases in global welfare (Seade, 1993). In these agreements, the disequilibrium of winners and losers is apparent, and many include preferential treatment in favour of the less developed countries. The asymmetry in the distribution of the dynamic effects of trade in North-South integration accords is, however, a subject that has not been sufficiently dealt with, and which has taken on increasing relevance in the last decade. If

the distribution of the benefits of integration depends on the level of development and the size of member countries, what compensatory mechanisms are feasible and appropriate? (Michalopoulos, 1993)

The liberalization of the Mexican economy took place into two stages: the first (1985-1987), liberalization was unilateral leading to the entry to GATT. The second (1994-2008), the NAFTA period. Total liberalization of intra NAFTA trade will be reached in 2008, therefore Mexican external trade will be practically free since 89 per cent of its exports and 57 its of imports are with NAFTA partners. Trade agreements with the European Union and Japan contain elements of convergence with NAFTA and their implementation advances smoothly.

Therefore, the impact of liberalization upon the Mexican economy depends on NAFTA outcomes. Several studies carried out *ex-ante* the implementation of the Treaty accepted that the overall static effects of NAFTA would be small and would benefit Mexico in larger proportions than the USA or Canada⁴. “NAFTA could not produce significant economic effects in the U.S., whether good or bad, simply given the relative smallness of the Mexican economy compared to the American, and the already quite low trade barriers between the two countries”, (Krugman, quoted by Fairbrother, M. 2004, p: 9). The main beneficiaries will be capital intensive industries with larger scale economies. Small industries and sectors with comparative advantages, intensive in labour and land would be left behind. (Ros 1994, p: 96; Székely 1994, p: 48). NAFTA will produce winners and losers, specially in the agricultural sector and to counterbalance these loses intensive programmes of public investments would be required aiming to create non agricultural rural jobs and sources of income, (Casco and Romero, 1997, p: 82) . These programmes did not come into reality, amongst others, due to the 1994 financial crisis. NAFTA does not include any compensatory mechanisms or transfers to speed up growth of the less developed member. It was agreed, in 1990, during the Houston meeting, that “Mexico would not be treated as a developing country in the negotiations, meaning that it would not receive preferential treatment in matters such as transition periods for the elimination of tariffs” (Maxwell, 2000). So, “Mexican participation in NAFTA is another major step in the dramatic liberalization of the Mexican economy since the mid-1980s.” [...] spite of the differences in incomes and the worries about the costs to labour

⁴ Some of the several studies to ex ante evaluate the impact of NAFTA are: Casco y Romero, (1994); Hinojosa, Robinson and Robinson, (1991); Hinojosa, Robinson and Robinson, (1992); Lustig, N. Lustig, N. Bosworth, B. and Lawrence, R.Z. All of them found limited static and effects form the treaty.

of the adjustment, the NAFTA negotiators are developing an accelerated chronogram and Mexico will rapidly be integrated into the economy of the rest of the region (Smith, 1993, p: 85).

Securing reforms and access to the USA market and attracting investments became the main Mexican objectives behind NAFTA. Salinas saw NAFTA as the safe way to prevent future governments to reverse the, or to put a break to the reform process initiated in 1983 after the eruption of the debt crisis. By signing NAFTA Salinas looked to pave the way to a “Modern Mexico” in which little of the remains of the Mexican Revolution and the Mexican corporativism would prevail. With that same modernizing goal, Salinas reformed the article 27 of the Constitution, liberalized the Ejido and included in NAFTA the entire agricultural sector, without any exception. The modernizing spirit aimed to conclude the path initiated by de la Madrid of establishing a more closely and unwavering political and economic cooperation with the USA, (Bennet, 1990, p: 3; Lustig, 1992, p: 169). For these reasons, Salinas was prepared to sign the Agreement at any costs, (Ros, 1994).

So, Mexico engaged in a negotiating process to integrate its economy into a highly asymmetrical region. US per capita GDP is 16 times greater than Mexico's, and its agricultural GDP represents 15% of that for the United States. USA external sales exceed Mexican sales by a factor of 5. Canadian exports are 1.8 larger than Mexican.

Mexico agreed on a fast and total liberalization of trade without regard to the dualistic conformation of her social fabric and her economic structure in which coexist a very large universe of small producers and large companies linked to multinational corporations. In agriculture, 34 per cent of producers owning plots smaller than two hectares concentrate 3.8 per cent of all agricultural land. Despite the land reform, the Gini Index of concentration of land is 62 per cent, Deininger y Olinto (2000, p: 15). There are three million of poor agricultural landless producers not covered by the support programmes the government established prior to acceding GATT (Puyana et al. 2005a). In the manufacturing sector, a similar dual structure exists, with almost 90 per cent of establishments defined as micro and small firms with less than 10 workers, generating a large proportion of low productivity employment. The productivity gap in the agricultural and manufacturing sectors separating both countries was large and has increased.

Financial liberalization. Another element of the liberalization process is the changes in the monetary policy instrumented since early nineties: the independence of the Central

Bank and the *inflation targeting* strategy introduced as the only duty of the bank. In theory, the *inflation targeting* policy was the response to the impossibility, for the Central Bank, to control, at least in the short term, the monetary base, due to the low elasticity to the interest rate. (Carstens and Tener, 2002).

The main monetary policy instrument is the periodical withdraws of money from circulation (“*corto monetario*”), with the explicit aim of increasing the interest rate and stabilizing the peso (Castellanos, 2000). Since the amount extracted is small, in proportion of the monetary base, the “*corto*” constitutes only a signal to investors that the Bank is serious about controlling inflation and maintaining the actual exchange parity (Díaz-Bautista, Prieto y Treviño, 2003). The risk of inflation emerges from the instability of financial flows, imperfect financial markets and fragile fiscal regimes (Fraga, Goldfajn y Minilla 2003; Calvo y Mishkin 2003). These are the reasons behind the policy of high rates to attract external capitals and, at the same time, controlling the monetary supply.

Banco de México has identified as the main sources of inflation two external factors, the growth rate of the USA economy and the oil prices, and two domestic factors: wages and internal prices of basic goods (some of which are imported or have high imported content, as electricity). The overvaluation of the peso reduces the costs of imported goods and contains the pressure to increase nominal wages. Therefore, low inflation requires an appreciated peso for economic growth to take place without inflationary pressures, and exchange rate constitutes the most important price of the economy; with limited connection between productivity and wages. In that context, “... interest rates are not used by the central bank as a monetary policy instrument to soften economic cycles (as Kaldor proposed), but the other way round; the reason being that the central bank main objective is to stabilize the exchange rate”, (Levy, 2007). However, overvaluation constraints exports, productive investments and the absorption of domestic productive factors and has negative distributive effects. (Krugman y Taylor 1978, Kamin y Rogers 1997, López y Guerrero 1998; Kamin y Klau 1998).

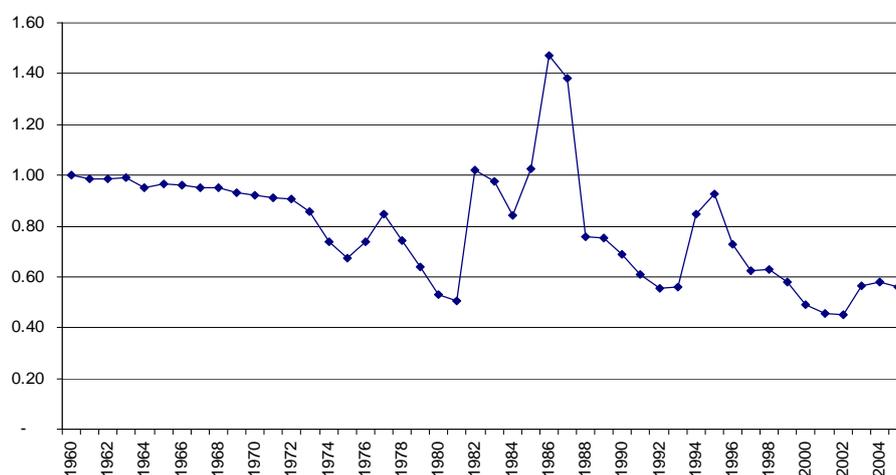
It was supposed that financial deregulation will free interest rates from government determinations pushing down financial margin. The elimination of the legal reserve requirement and the elimination of limits to interest rates on deposits will lower lending interest rates and increase deposits rates. After the 1995-crisis, commercial bank lending disappeared and the financial margins changed guarantying banks returns and deactivating bank willingness to issue credits, due to the increasing gap between the high

interest rates of the treasure bonds and lending loans and the fall in deposits rates (Levy, 2007).

For the level of Mexican development, the banking system and the stock market are underdeveloped and highly concentrated. Its weakness became more evident under the new. During the import substitution strategy, the financial system played a less crucial role and, thus, posed less of a growth constraint since the estate was a major investor and, through development institutions, financed a larger proportion of private sector investments. That active role was reduced or scrapped down making room for a larger presence of the private sector. But the private financial sector has failed to perform its intermediating role, reducing the ability of domestic producers to compete.

Exchange policy. Since 1988 a permanent overvaluation of the peso was maintained under the arguments that it would reduce inflation and by doing so, will help to achieve positive real interest rates capable to stimulate the inflow of portfolio capital and increase fix capital formation. The overvaluation of the of the peso is illustrated the in Graph II.1, as the deviation of the short run exchange rate from its long run value, in purchasing power parity⁵

Graph II.1
OBSERVED DEVIATION OF THE MEXICAN PESO EXCHANGE RATE
FROM ITS LONG RUN VALUE



Source: Calculations from: Nacional Financiera (1978), *La Economía Mexicana en Cifras*; INEGI (1999), *Estadísticas Históricas de México*; Presidencia de la República, *Informe de Gobierno*, several years.

⁵Purchasing power parity, or PPP, is simple the name for the following equation: $P=EP^*$, where E is the exchange rate and P and P* are Mexican and US consumer price indexes, respectively. It could be rewritten, $E=P/P^*$.

Since 1982 the overvaluation of the currency has only been interrupted by the by the crisis of 1986 and 1994. In 2002 the short-run deviation of the exchange rate from its long-run value was more than 40%. Some minor correction took place since then, but in 2005, revaluation was similar to the prevailing in 1980 and in 1994.

This is reason enough to expect adverse effects on the competitiveness and profitability of the Mexican trading sectors, which in turn inhibits investment and therefore growth in productivity.

If the evidence linking trade liberalization with economic growth is weak, the evidence of the benefits of liberalizing capital flows is even weaker: “In theory, the appeal of capital mobility seems obvious: If capital is free to enter (and leave) markets based on the potential return on investment, the result will be an efficient allocation of global resources. However, “in reality, financial markets are inherently unstable, subject to bubbles (rational or otherwise), panics, short sightedness, and self-fulfilling prophecies. There is plenty of evidence that financial liberalization is often followed by financial crash—just ask Mexico, Thailand, or Turkey—while there is little convincing evidence to suggest that higher rates of economic growth follow capital-account liberalization.” (Rodrik, 2001)

Fiscal policy. The contraction of the state aimed at reducing fiscal deficits and interest rates. Since it has been impossible to pass any fiscal reform, the main changes implemented are the contraction of public investments.

The tax system is weak, with low capacity to collect and enforce rules. Besides, it is plagued with special regimes (rebates, exceptions and reductions) which favours mainly big capital (Heady, 2007)⁶. As percentage of GDP, Mexican fiscal income nears 19 per cent. It is about half the OECD average and much lower if compared with the majority of OECD members (OECD, 2006a). Special regimes represents around 3 per cent of GDP a figure not too far from the elimination of the zero rate on VAT, advocated by the OECD (2006b) and by Heady (2007).

Tax structure reveals interesting bias: Mexican taxes on income and profits represent 4 per cent of GDP, while in the USA above 11 per cent and reaches 12.5 per cent in average for the OECD. Only 25 per cent of Mexican total tax revenue is levied on profits and income, while in the USA and Canada these represent 45 per cent. It is a proportion well below OECD standards and even below some Latin American countries. In OECD (2006) the

⁶ Christopher Heady is the Head of Division Tax Policy, Tax Statistics & Horizontal Programmes of the Centre for Tax Policy and Administration, at the OECD.

larger source of Mexican tax revenue is *Others*, with almost 60 per cent of the total, by far the largest in all OECD countries. Here the oil rents are included.

Oil rents captured by the government (government intake, in specialized literature), has represented during the last two or more decades, around 36 per cent of total fiscal income, and around 5.5 per cent of GDP. That fact turns Mexican fiscal structure highly dependent on oil revenues (more than other oil exporting countries as Canadá or Colombia). Mexican fiscal accounts are as dependent on oil the as any resource rich country is.

From the fiscal point of view, oil rent is one important factor behind exchange and tax policies. Since 1998, due to high oil external prices the Mexican economy is experiencing a “bonanza” (or a *curse*?) comparable to the one during seventies. This bonanza allows the government to expand expenditure without increasing taxes and avoiding the needed tax reform. Oil rent is a tax of zero political cost. Despite some reforms, the central government has a broad margin to dispose of a large share of the bonanza without the control of the congress. In effect, oil rents represented in 2006 around 45 per cent of total fiscal revenue (Puyana, 2006a), and above 50 per cent of tax revenue. Part of the rent is transfer to the private sector in the form of lower or non collected taxes, higher public sector salaries and lower prices of imported goods, through the exchange rate appreciation. Around 45 per cent of the rent is transferred to state governments in the form of fiscal transferences. Therefore, we discuss the argument that the state has no enough resources to expand social expenditure or to invest in poor people as argued by Heady (2007).

The government has not used this rent to finance investments or social expenditure, but rather to expand current expenditure of both, central government and states governments, via the transferences. From 2000 to 2006, oil rents amounted 2, 91 trillion pesos which was totally siphon into the economy. During this period current public expenditure reached 4,5 trillion pesos while public investments represented 15.8 per cent of the rent⁷. Since public expenditure is intensive in non-tradable goods, the use of rent reevaluates the real exchange rate. The actual bonanza is intensive and long lasting. It has permitted to maintain the overvaluation of the currency, and induced the Dutch Disease (which helps to explain the feeble development of tradable sectors).

III. The Reality.

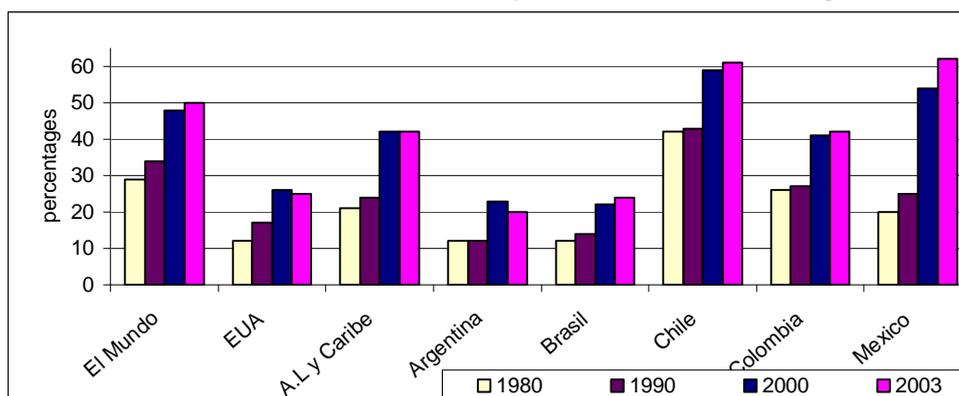
Since the mid-80s, the Mexican economy has evolved from being a closed economy to an open economy with one of the highest external coefficient relative to GDP in the

⁷ A Stabilization fund was created in 2000. By 2006 the fond had a reserve of only 11 billion pesos.

western Hemisphere. Mexican external coefficient reached 62 per cent in 2003, was larger in Latin America, but Chile and more than two times the USA. Graph. III.1.

A large external coefficient suggests higher productivity and competitiveness, and in Mexico, it has led to a high (3.8) income elasticity of imports that makes it difficult, if not impossible, to simultaneously ensure high GDP rates of growth and balanced trade and current accounts, (Romero, 2002, p: 90).

**Graph III. 1 Mexico and Selected Countries.
The External Coefficient Of Economy. 1980-2004. Percentages of GDP**



Source: Own Calculations based on World Bank, WDI, CDR2006

From 1983 to 2005 exports grew at an average rate of 9.3 per cent a year, a faster rate than imports, difference illustrated by the change in the importance of exports and imports as a percentage of the GDP. Table No. III. 1. Mexican exports are intensive in imports resulting in a low net value of exports.

**TABLE III. 1
MEXICO: EXPORTS AND IMPORTS AS PERCENTAGE OF THE GDP**

Año	Total Exports	Exports Maquila	Exports No-Maquila*	Total Imports	Maquila Imports	No- Maquila Imports+	Exp-Imp Maquila
1980	7.36	1.03	6.33	8.95	0.74	8.21	0.29
1985	18.04	3.43	14.61	11.75	2.45	9.30	0.98
1990	15.50	5.30	10.20	15.80	3.90	11.90	1.40
1995	26.80	10.50	16.30	24.30	8.80	15.50	1.70
2000	28.57	13.67	14.90	30.01	10.61	19.39	3.05
2005	27.79	12.70	15.20	28.80	9.80	19.00	2.90

* In 2004 oil exports represented 3.5% of GDP.

Source: i) Presidencia de la República, *Informe de Gobierno*, several years.

Trade with the US expanded faster and resulted in a significant trade surplus. In the year 2005, the US represented 85 per cent of the total Mexican foreign trade. The Mexican economy entered a double risk path: Mexican exports are intensive in imports and highly dependent on the evolution of the USA economy. Imports are less concentrate in the USA. In 2005, only 53 per cent of total imports originated in the USA.

The change in the composition of Mexican exports started with the structural reforms. In the year 2005, exports of manufactures represented 79.5 per cent of total external sales, contrasting with the 25 per cent in 1980. Within manufactures, the *maquiladora* segment is the one with the fastest expansion, representing around 46 per cent of total industrial exports in the year 2005, (Puyana, 2006b, pp: 30). Exports of agricultural products fluctuate around three per cent; foreign sales of oil fell from 66 in 1985 to 17 percent in 2005.

So far, for the post reform period, the average annual rates of economic growth have not performed better than before. The tradable sectors: agriculture, mining and manufactures, are lagging behind or just keeping the pace. See Table III. 2. During 1994-2003 growth has been erratic with at least two major crises (1986 and 1994-5). During the last six years the GDP growth was 1, 7 per cent, due to the contraction registered in 2001-3. By comparing the pre and post crisis periods we do not intend neither to uncritically defend the import substitution model nor to suggest it did not need reforms. We intend just to indicate that for two decades growth rates have been lower.

TABLE No. III.2
MEXICO: Average Annual Rates of Growth of GDP, by Sectors. 1940-2006

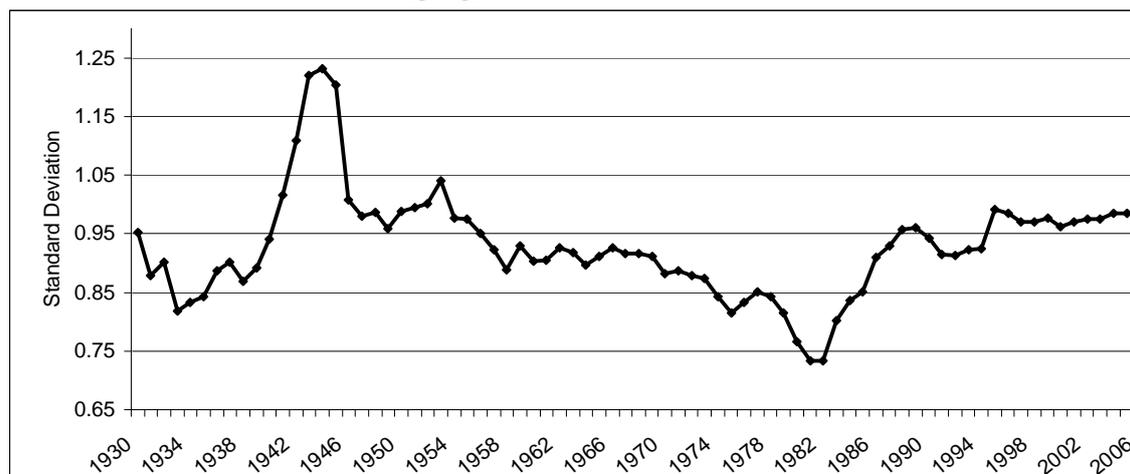
Period	Total	Agriculture	Mining	Manufacture	Construct	Electric.	Commerc.	Transport	Others
1940 - 1982	5.97%	3.41%	2.68%	6.39%	7.95%	7.17%	5.32%	8.93%	7.14%
1983 - 2006	2.75%	0.86%	-1.75%	2.78%	1.68%	4.37%	2.36%	6.79%	2.72%

Source: Based on Puyana and Romero (2007), INEGI (2007)

Estadísticas Históricas de México, Presidencia de la República, several years

The distance between the USA and Mexican GDP per capita, measured by the standard deviation decreased from 1,23 in 1947 to 0.73. The smallest gap separating the two economies was registered in 1982 (Puyana and Romero 2006). From that year on the ratio has grown up to 0.99 in 2006. Mexican GDP. Graph No. III. 2. During the convergence period 1947-82, the economies were not cointegrated, since the gap narrowed. From 1994-2006, the gap is more stable, suggesting cointegration and deeper dependence. Mexican GDP is 50% per cent smaller than the USA, and it looks that it is the closer it can be (Lederman et al 2003). They conclude: “Yet one key conclusion from careful evaluation of the impact of NAFTA is that the treaty does not suffice to ensure economic convergence in North America”, it adds that insufficient institutional reforms are the cause of it (Lederman et al 2003, p: 9)

Graph No. III. 2
NAFTA. The Diverging Path of the Two Economies. 1930-2006



Source: Own calculations based on Madisson, A. 2006, Historical Statistics for the World Economy.

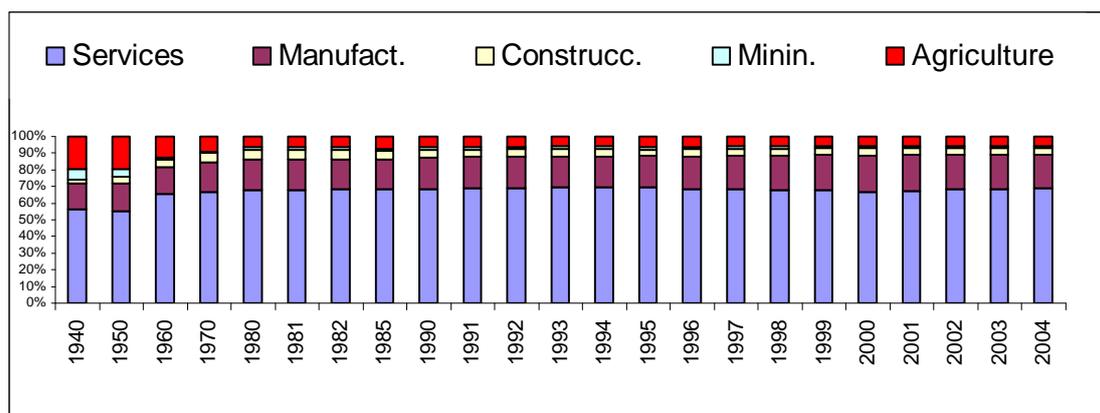
The lack of convergence suggests that the strong relation between aperture and faster economic growth of the less developed country did not materialize questioning the existence of the direct and strong causality relationship from trade and aperture to faster economic growth⁸.

We have detected a negative correlation, although weak, between the growth of the external coefficient and the expansion of the Mexican and almost all Latin American economies, suggesting that the greater the degree of openness after reforms has not been accompanied by faster growth. It is essential, therefore, to explore the sources of growth of the Mexican economy and the causes explaining why liberalization has not induced higher rates of growth and convergence, at similar conclusions arrive Leaderman et al, (2003). The variables that explain the trajectory of the Mexican economy are, in a direct relation, first, the rate of gross capital formation as percentage of GDP and, second, the rate of growth of the USA economy. In an indirect relation, the consumer price index and the fiscal deficit. Investments in human capital formation are not quite relevant (Puyana and Romero, 2007).

The emerging structure of GDP. Tradable sectors are not gaining weight in structure of the Mexican economy. Graph No. III.3. The actual contribution to GDP (and to employment) of tradable sectors, agriculture and livestock (6 per cent of GDP), and manufacturing (23 per cent of GDP), does not correspond to the country's level of development. It shows rather a premature decline that which results, amongst other factors, from the exchange and monetary policies, implemented since mid eighties.

⁸ For an actualize analysis of the debate see Rodríguez and Rodrik, (1999).

Graph No. III. 3
Sectoral Structure of the Mexican GDP. 1940-2005



Source: Authors Own Calculations based on NEGI, SNCN, several years

We calculate, following the Chenery-Syrquin (1986), that at Mexico's current per capita GDP, agriculture ought to contribute between 12 and 15 per cent of total GDP and manufacturing nearly 30 per cent (Romero and Puyana 2005).

The structure employment did not follow the path expected from the theory neither. The expansion of the high productivity tradable activities did not materialize. The services sector, the segment of low productivity, grew faster. Table No. III. 3. Mexican services sector has segments of high productivity such as the banking system, fully privatized and controlled by foreign banks and the national private monopoly in telephony. Important foreign investments came to internal commerce. However, there is a large segment of low productivity and low income services, which is the one to absorb the bulk of the precarious employment. Mexico is not an exporter of services such as India, China or some of the Caribbean countries.

TABLE NO. III. 3
STRUCTURE OF MEXICAN EMPLOYMENT BY SECTORS
1960-2006

Year	AGR	MIN	MAN	CONS	SER
1960	54.1%	1.3%	13.8%	3.6%	27.3%
1970	34.7%	1.2%	13.4%	6.3%	44.4%
1980	26.1%	1.3%	12.9%	9.0%	50.8%
1990	24.0%	0.7%	12.6%	9.7%	52.9%
1994	22.4%	0.4%	11.5%	10.8%	54.8%
2000	20.0%	0.4%	12.8%	12.2%	54.6%
2005	17.88%	0.45%	10.72%	15.25%	56.68%
2006	16.94%	0.40%	10.65%	15.63%	57.36%

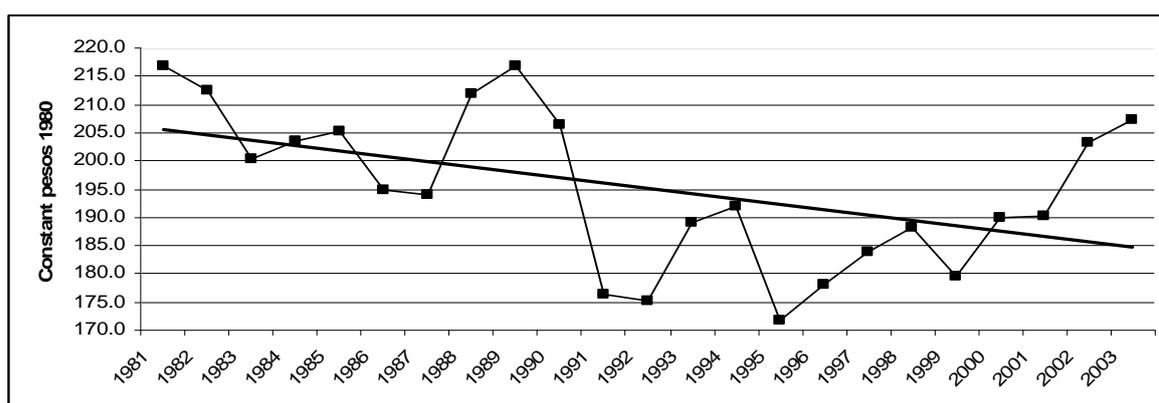
Source: INEGI: Sistema de Cuentas Nacionales de México, Online Information⁹.

⁹ The online site of INEGI must be referred.

Productivity growth. The average value of the per capita income (GDP/C) has been identified as an accurate indicator of the level of development and an approximation of higher capital intensity and greater productivity, a superior capacity to innovate and to produce differentiated goods, by production processes that are intensive in capital and technology. Countries with better information and superior communication systems can expand their trade of differentiated goods, Helpman and Krugman (1989).

In over the last twenty years, Mexican total labour productivity shows a negative trend, but a clear recovery emerged between 2001-2004. Graph No. III.4. In no one of the tradable sectors, productivity per worker grew during the post reform period. In 2005 productivity per worker in manufactures and agricultural was lower than in early eighties and late seventies respectively, as it was in mining, in which the high increase in the eighties emerged out off the oil discoveries in late seventies (Puyana and Romero 2007).

Graph No. III. 4
AVERAGE TOTAL LABOR PRODUCTIVITY. (Thousands of 1980 pesos)



Source: Our Own Calculations based on INEGI, SNCN, on line information

Infrastructure and productivity. Infrastructure is one element behind productivity and growth. The causality is not well established, however. It is not clear if infrastructure impels growth or the other way around. It acts as growth propeller only in these regions where the adequate conditions exists and a clear growth dynamic is in motion. Other wise the effects of investments in infrastructure may not crystallize. Infrastructure does not replace sound macroeconomic policy does not compensate for overvaluation. Poor and costly infrastructure can scrub the gains from macroeconomic stability.

In infrastructure, México lags behind not only the USA and Canada, also several countries of similar per capita GDP, nevertheless Leaderman et al (2003) suggested building more roads may not spur convergence neither between Mexico and the USA nor between Mexican southern and northern states. It has more to do with skill and

educational levels, Leaderman et al (2003, p: 31) The largest deficit is in transports, mainly in road and railway density by 1000 kilometres where Mexico ranks behind countries less developed. A somehow better situation exists in energy. For the Mexican development level, its energy intensity (consumption per each 1000 per US\$ 1000 of GDP) is relatively low but higher than the OECD average, which may reflect the falling capital intensity and domestic value added of production. Prices, kilowatts/hour for non-residential uses are lower as well. Domestic users pay higher prices than in the USA but significantly less than in Europe (Estache A. y Goicoechea A., 2005). What is surprising is that investors interviewed for the Estache study complain of higher non-competitive energy costs, which the data in the study dismisses.

In both, land and cellular phones networks, México has lower density for 1000 inhabitants and higher tariffs than in the majority of countries that compete with Mexico in the USA market. These costs result from the monopolistic conditions granted TELMEX when the state company was privatized and were maintained in the TLCAN treaty, supposedly to preserve the interests of the large multinationals that have invested in TELMEX (Mariscal, J., 2001; Borja Tamayo, A. Comp. 2001).

Evolution of capital formation. Another paradoxical result, explaining part of the stagnation of productivity and income per head in Mexico is the decline in capital formation, total and per worker. Since the 1982 debt crisis, Mexico experienced a sharp decline in the capital labour ratio with respect to previous periods, which is illustrated by the trend in investment per worker. From 1940 to 1982 public investment per worker grew at an average rate of 4.7% a year, in contrast, between 1983 and 2005 total investments per worker collapsed. Between 1981 and 2005, total private investment per worker descended by 27.8 per cent (from 4.2 to 3.0 thousand pesos 2000). This fall is explained mainly by the contraction (78 per cent) in public investments that was not offset by national private investment (3.27 per cent) neither by FDI growth (263 per cent!). There is notable the change in the origins of the investments: drastic fall in the share of public investments from 45 to 13 per cent and the advance in foreign participation to eleven percent. The contraction in total investments per worker appears to contradict the crowding out assertion and seems to confirm suggestions that, at the level of development in countries like Mexico, public investments act as a catalyst for

private capital accumulation, and constitutes a crucial determinant of total factor productivity.¹⁰

The decline in public investments was defended as part of the “private sector strategy”. In practical terms, its reduction was the easiest way to balance the public budget. Today, public gross capital formation represents around 3% of GDP, which induces a critical deficit in investments, not covered by private investments.

The Mexican manufacturing sector. The evolution of Mexican manufactures reveals, first, the impressive expansion of the external coefficient, second, the growing imported content and third, the changes towards the ensemble activities. The high imported content of sectoral GDP (53.1 %) implies the reduction of domestic value added of production, especially of the exports. Exports represent over half of the total sectoral product. Net external trade as percentage of GDP is negative. Table III.4

TABLE No. III. 4
External coefficient of GDP of manufactures. 1970-2003. In %

	Imports (a)	Exports (b)	Total c = (a+b)	Balance (b-a)	Imp/Exp (a/b)
1970	17.4	6.6	24	-10.8	3.6
1980	28.1	6.7	34.8	-21.4	5.2
1990	22.2	14.5	36.7	-7.7	2.5
2000	59.0	41.5	100.5	-17.5	2.4
2001	56.5	39.0	95.5	-17.5	2.4
2002	53.6	38.4	92	-15.2	2.4
2003	53.1	39.6	92.7	-13.5	2.3

Source: INEGI, Own calculations based on INEGI *Encuesta Industrial Anual 2001-2003*
Labour productivity and employment in manufactures.

During 1982-2004, Mexican manufactures lost participation in total employment and value added. The decline of sectoral employment as source of total job generation was more intensive (21 per cent during 1980-2006) than the decline in value added (13 per cent), resulting in productivity growth. Manufactured value added did recovered and, in 2006, was similar to the level registered in 1983. The average growth of labour productivity in the manufacturing sector during 1980-2004 was positive: 17000 constant pesos in 17 years. Productivity in maquila practically stagnated growing, during 1989-2004, at an annual rate of 0.3 per cent and reduced the productivity of the entire sector.

¹⁰Ishan and Kaufman (1996). “The forgotten rationale for policy reform: the productivity of investment projects,” WB WPS No 1550. The authors suggest that for developing countries, capital formation has to represent at least 24% of GDP and public investments no less than 50% of that, in order to maintain robust growth.

The growth rate of labour productivity recorded by the entire manufacturing sector was induced by the re-composition of the manufacturing sector toward some successful activities, especially automotive, machinery, and electronics. From 1990, it is clear that these sectors had the highest rates of growth of production, and registered the fastest productivity growth.

The automobile sector recorded a spectacular increase in its contribution to manufacturing GDP, jumping from 3.7 per cent in 1980 to 8.9 per cent in 1999 and 10.4 per cent in 2000. In recent years contributed at least with the 65 per cent of the net rate of growth of labour productivity. This is a surprising and revealing fact. The automobile sector did not fully face international competition until 2004 and, until that year, was subjected to the commitments of the Automobile Programme, which ended in 2004, exposing the industry, for the first time, to unhindered international competition¹¹. In sum, Mexican manufacturing is characterized by generalized slow growth in productive efficiency, except for its automobile, machinery and electronics, basic metallic, mineral and food sectors. (Puyana and Romero, 2007).

The fragmentation of the productive process. The ever-deepening Mexican specialization in ensemble activities helps to explain the feeble impact of exports of manufactures upon the expansion of sectoral GDP, productivity and employment.

Two different segments conform the manufacturing sector: normal manufactures and the ensemble activities, or “maquila”¹². The different fiscal and trade regimes separates the two segments and define the scope of vertical integration. By 2004 the maquila sector concentrated 30 per cent of all employment in manufactures, but the value added it generated represents only 7 per cent of the sectoral value added, illustrating its low integration of national content and poor productivity. In the automotive industry, the share of maquila employment was 50 per cent and in electronics and textiles it jumped to over 60 per cent. In these branches, maquila contributes with 13, 37 and 29 per cent of value added respectively.

The stimuli to promote the *maquila* and the PITEX programmes offered in Mexico (tax exemption for imports of inputs and some others) and in the United States (free importation of the U.S. components incorporated in the maquila products and tariff

¹¹ Since the Automobile Decree of 1989, the assembly firms were obliged to maintain in 2002 a national value added (VAN) from Mexican sources of 30%, and in 20003 of 29%. The Decree also established that vehicles could only be imported if they have positive trade balance. The Automobile Decree also establishes that the manufacturers of auto parts have to maintain a VAN of at least 20%.

¹² *Maquila* and the twin programme Programa de Importación temporal para las Exportaciones PITEX conform 85 per cent of all manufactured exports.

charges on the Mexican value added), limited the incorporation of Mexican value added and the scope for increasing productivity. The reforms introduced by NAFTA eliminated, from 2002 on, all the temporary imports regimes.

A one per cent growth in *maquila* exports results only in a 0.007 per cent growth in its contribution to GDP. (Puyana and Romero: 2006b). By the end of 2004, after almost forty years in operation, the the *maquila* contribution to Mexican GDP was slightly above 1.58 per cent. Given the weight of the *maquila* in total manufactured exports (47 per cent), its low value added content explains the lack of connection between the expansion of manufactured exports and the sectoral contribution to GDP growth.

In Table III.5 some variables relating to the performance of *maquila* and non-*maquila* manufacturing are shown. The difference in growth of the *maquila* is evident in nearly all the variables, particularly in the number of jobs created, which rose from 300,000 in 1988 to one million three hundred thousand in 2000, and declined to 1,1 million by 2004. In average wages also *maquila* expansion was higher than in no *maquila*. The difference is smaller in the rate of growth of value added, while the productivity in no *maquila* manufactures expanded at faster pace than *maquila*.

There were periods (1988-1995) in which the *maquila* experienced extensive growth, with a greater increase in employment than in value added. During 1993-2005, average wages outstripped productivity, suggesting that there were certain rigidities in the labour market. However, average remuneration in the *maquila* increased by 13.7 percent over the period, or almost doubled that of the other manufacturing sector.

TABLE III.5
Mexico: Evolution of the manufactures and maquila sectors 1988 / 2004.
Average annual growth rates

Período	Ocupados.		Remun. totales		V. Agreg.		Remns. Medias		Product. Media	
			Wages		Value Added		Average wages		Average productivity	
	No Maq.	Maq.	No Maq.	Maq.	No Maq.	Maq.	No Maq.	Maq.	No Maq.	Maq.
93/88	1.8	7.3	5.3	9.0	4.3	8.8	3.5	1.5	2.5	1.4
95/93	-3.7	8.7	-8.6	7.5	-0.5	10.9	-5.0	-1.1	3.3	2.0
99/95	6.3	16.4	4.8	16.3	8.1	14.4	-1.3	-0.1	1.7	-1.8
00/95	6.0	15.7	6.2	17.3	7.8	14.2	0.2	1.4	1.7	-1.3
03/00	-4.9	-6.3	-1.7	-1.9	-1.9	-6.4	3.3	4.7	3.1	-0.1
03/93	0.6	7.3	0.7	9.3	3.1	7.0	0.0	1.9	2.5	-0.3
04/88	0.9	7.1	2.0	8.9	3.5	7.6	1.1	1.6	2.6	0.4
AUTOCAR										
93/88	5.4	7.0	6.9	8.6	9.1	9.0	1.5	1.5	3.6	1.8
95/93	-3.7	8.1	-9.9	7.7	-4.9	9.1	-6.4	-0.4	-1.2	0.9
99/95	9.4	12.6	8.9	13.3	15.1	11.8	-0.5	0.6	5.3	-0.7
00/95	9.2	12.4	10.4	14.7	15.6	11.4	1.1	2.0	5.8	-0.9
03/00	-3.0	1.5	-1.8	3.5	-2.9	0.2	1.2	2.0	0.1	-1.3
03/93	2.8	8.2	2.4	9.8	5.5	7.5	-0.4	1.5	2.7	-0.6
04/88	3.4	7.5	3.6	9.0	6.6	8.1	0.2	1.5	3.1	0.6
ELECTRIC AND ELECTRONICS										
93/88	2.9	4.3	5.3	5.6	5.4	5.2	2.4	1.3	2.4	0.9
95/93	2.2	10.2	-0.3	8.8	4.4	11.6	-2.4	-1.3	2.2	1.3
99/95	12.7	15.1	12.1	16.8	17.4	14.2	-0.5	1.5	4.1	-0.7
00/95	13.1	15.6	14.1	19.2	17.5	15.2	0.8	3.1	3.8	-0.3
03/00	-9.9	-9.8	-6.9	-6.9	-8.3	-10.4	3.3	3.2	1.8	-0.6
03/93	3.5	6.3	4.5	8.7	6.5	6.2	0.9	2.3	2.9	-0.1
04/88	3.2	5.7	4.5	7.5	6.1	6.1	1.2	1.7	2.8	0.4
APPAREL										
93/88	1.1	10.4	3.9	12.7	4.0	12.5	2.8	2.0	2.8	1.9
95/93	0.5	26.0	-8.1	22.9	-2.0	28.7	-8.6	-2.5	-2.5	2.1
99/95	14.1	28.8	12.5	28.9	8.7	26.5	-1.3	0.1	-4.7	-1.8
00/95	12.7	25.4	13.6	28.3	7.9	23.7	0.8	2.3	-4.2	-1.4
03/00	-9.4	-10.7	-6.4	-6.7	-7.8	-11.4	3.3	4.5	1.8	-0.8
03/93	3.2	13.4	2.7	15.6	1.0	12.8	-0.4	2.0	-2.1	-0.5
04/88	1.9	11.3	2.7	13.6	2.0	12.2	0.7	2.0	0.1	0.8

Source: Puyana and Romero 2007

Maquila was the most dynamic generator of employment in the whole manufacturing sector. In 1988 it accounted for 9.9 per cent of manufacturing jobs, this figure rose to 30.1 % in 2004. The growth of employment in *maquila* manufacturing did not hold the expansion of informal employment. That fact could suggest that *maquila* demand for labour is not filled by unskilled labour or by persons linked to informal activities. *Maquila* neither absorbed the surplus labour coming from the agricultural sector, nor have a “vent of surplus” effect (Lewis, 1954), with net gains for the economy. *Maquila* employed a relatively more skilled labour in jobs requiring lower technical skills, at lower wages. These suppositions are based on the weak relation between the growth of *maquila* exports and the employment and real average wages in the manufacturing sector. (Puyana and Romero, 2006). As we explained, wages can increase as a result of sustained gains in productivity, but *maquila* productivity is lower and remained almost static. In 2004, productivity per worker reached \$ 21,850 in constant 1993 pesos, an increase from the \$ 20,000 registered in 1989. One percentage growth in *maquila* exports corresponds to 0.01 of a percentage point increase in productivity, and one per cent in employment induces a 1.9 per cent in average wages but only 0.8 per cent in

productivity. These results are in line with Arndt, S. and Kierzkowski H. (2001) on the effects of fragmentation of the productive process on productivity, growth and wages.

The share of maquila wages in value added, which indicates the labour cost per unit of produce, limits its productivity growth. In *maquila*, labour costs accounted for close to 74 per cent of the value added in 1993 and it escalated to 97 per cent by 2004. Therefore, in *maquila*, only increases in value added per worker could allow better salaries and higher retributions to capital. For that, investments are needed.

One factor that attracts manufacturing activities is the ratio of wages to productivity. Low wages are neither the only incentive nor the more important. With so low productivity of the maquila sector, it is not surprising that wages had to be contained to face international competition. Mexican maquila exports faced fierce competence from China and many other countries. During the last years, many factories have been transferred to China, a move suggesting that Mexico lost its “absolute comparative advantage”: shorter distance and lower transport costs.

Trends in the Agricultural sector. NAFTA was a key element in the policy of “modernizing” Mexican agriculture that had begun with the reform of Article 27 of the National Constitution, the measures adopted on joining GATT, and all those implemented in the framework of the structural adjustment programs. Sectoral policy instruments were to induce the changes necessary to raise productivity through: i) increased cultivation of fruits and vegetables and reduced that of basic grain and oil-seed plants; ii) reduction of sectoral employment, while ensuring a rise in aggregate wages; iii) increasing imports of basic grains and oil-seeds and exports of fruit and vegetables. As we shall see, some of these effects have indeed materialized.

In 2002 the external coefficient of the agricultural sector (67.1 per cent) is larger than for the total economy. Imports contributed more to increase openness and came to represent 50 per cent of GDP. Exports concentrated the 17 per cent. With such intense openness, one would expect a more closed relation between domestic and external prices and a strong impact from external prices on productivity, location of factors and income. Liberalization did link domestic and international prices more closely and induce a decline in producers’ internal prices of both exportable and importable goods, such as grains, beans, fruits and vegetables (Yúnez-Nauade, A, and F. Barceinas Paredes, 2002; Puyana y Romero, 2005b and Lederman, D. Maloney, W.W. and Servén, L, 2003). What is puzzling is the decline of internal producer prices of the exportable goods (tomatoes,

vegetables and fruits) in which Mexico has comparative advantage and is a world exporter. These domestic prices were supposed to raise closer to the international standards and benefit producers and exporters.

To preserve income, producers increased the volume of produce and improved yields, which did not entirely contribute to maintaining the value of production and income since the adjustment of prices outstripped the adjustment in quantities (Puyana and Romero 2005c.). Therefore, despite all their efforts maize producers and other grain producers are losers of the liberalization process.

Maize producers, even small “minifundio” producers, in rain feed areas, introduced new techniques and increased yields to counterbalance the effect of declining prices upon their income. This achievement contradicts all assumptions about their incapability of improving production or taking risks.

As discussed, agriculture lost participation in total GDP and employment, with little, if any, gains in productivity. The strategy that the Mexican authorities instrumented to increase productivity was shredding employment¹³ and not by increasing product, which could reverse the premature decline of agriculture. During 1960- 1981 its share in total employment fell by 50% while productivity grew at annual rate of 4.1 per cent. During 1981-2006 relative employment decreased by 37 and the share in GDP dropped 50 percent, to four per cent, resulting in a productivity growth of just 1.6 per cent.

The productivity gap with Canada and USA continues to widen. In 1994 the USA agricultural productivity was 10 times larger than the Mexican and in 2005 was 14 times. Competing with USA becomes harder as time passes by and the USA consolidates its lead as agricultural exporter, increasing competitiveness with generous policy instruments, which, as the Farm Bill, affect international prices. It is important to have in mind that, in the majority of agricultural Mexican products Mexico exports to the USA, such as tomatoes, oranges, grape fruits, vegetables, Mexico competes with USA production then, if productivity does not grow faster, Mexico will lose terrain to both domestic producers and foreign competitors.

The trajectory of the agricultural sector so far registered, shows stagnating productivity per worker and stagnating or falling production per inhabitant. The external supply of internal consumption increased and the per capita consumption of many goods fell. Besides the growing sectoral trade deficit, Mexico is losing shares in USA world

¹³ At the time of negotiations it was assumed that labour expelled from agriculture will be employed in more productive rural non agricultural activities and in manufactures. It did not happen that way.

imports of the most important exports, such as tomatoes, strawberries vegetables and many others, (Puyana and Romero, 2005, p: 158-160). Besides low productivity growth, the reason for is that the tariff preferences Mexico received in NAFTA have been practically eliminated by the several agreements the USA have signed since NAFTA.

One of the reasons of the low productivity growth in agriculture could be the shabby investments per worker, which by decades have remained around to 4 hundred constant pesos of 1993 per annum, (Puyana and Romero, 2005a, p: 79).

As expected, the structure of production changed. Exportable products, such as fruits and vegetables, won the terrain lost by cereals. While production of fruits and vegetables has increased, the proportion of the land occupied has remained stable (Puyana & Romero 2005, p: 150). To extend these crops to new areas has high initial costs and many require a long period between planting and the first marketable harvests. Lack of investment in irrigation limits the potential for cultivating vegetables, as does the insufficiency of transport networks for enabling highly perishable products to reach points of sale.

Not the least of the problems is the poor functioning of the markets. The domestic markets are not competitive; they are dominated by oligopolic and monopsonic structures: no more than 27 agents control the maize market. In other grains, concentration is even greater and reduces the proportion of the final price that producers receive to less than 30 per cent of the wholesale price. The same is true for fruits and vegetables: the avocado market is controlled by 7 wholesale traders, that for oranges by 5, and that for tomatoes, by only 8 buyers. Producers receive no more than 30-35 per cent of the final price (World Bank, 2001).

From 1993 to 2002 external agricultural trade grew, in real terms, at a slower rate than external trade. The livestock sector registers a trade surplus; but the agricultural and livestock sector as a whole, registered in 2002 the biggest trade deficit since 1980. Agricultural, livestock and food external trade is highly sensitivity to changes in the real exchange rate. In 1995 imports diminished and exports increased, as a consequence of the devaluation, registering thereby a significant sectoral trade surplus.¹⁴

¹⁴ During 1993 a reduction of the trade deficit was noted, accompanied by a strong appreciation of the peso, which indicates that the real exchange rate is not the only factor explaining the flow of trade; differing growth rates in income between countries also explains to a large extent these results.

Mexico has not been able to maintain the fraction of the US market that it occupied in 1993. Mexico has reduced its presence in the US market or being pushed aside by external competitors as indicated by our calculations of Revealed Comparative Advantage or index of specialization.¹⁵ In 2005, products qualified as examples of Mexico's success as an exporter registered lower indices of specialization when compared with those for 1990. For example, tomatoes lost 60 per cent of the value of their specialization index and that other exporters are gaining ground in this field. The same, although to a lesser extent, is happening in the case of other fruits, such as melons, grapes and vegetables in general. The fact that products already established on the market and enjoying a majority share in US foreign purchases are unable to make further advance may be an indication of the difficulty of gaining new ground or maintaining that already gained, despite trade preferences. There is the need of permanent increases in productivity.

Effects on rural employment and income. A clear objective of the opening of the agricultural sector was to make a large part of the rural workforce redundant and to abandon the sector, which will in turn induce the reduction in wages and incomes, (De Janvry, 1998 p: 34-35). The reduction in the weight of agricultural employment has been dramatic, from 22.7% of total employment in 1994, to 16,9 in 2006. Because of the changes in the structure of agricultural production since the opening, there has been a loss of 700,000 jobs which would have been generated if these changes had not taken place López (2000). Polasky (2003, p: 16) places the loss of jobs at over a million. It has not been absorbed by the more productive sectors such as manufactures or by maquila but by the less productive activities in the informal tertiary. Real wages in the agriculture and livestock sectors fell noticeably during crisis of 1994-1995 and have not yet recovered. In 2004, average wages in agriculture were 17 per cent lower than in 1993. Average incomes in the livestock sector were 5.1 per cent higher, despite the nil growth of productivity.

All in all, the effects of the fall in prices of food products induced by liberalization has been discussed intensely, it being stated that there are undeniable positive effects for urban consumers and for the rural poor who are net purchasers of foodstuffs. Such affirmations are highly dubious if not simply mistaken since they do not take into

¹⁵ Revealed Comparative Advantage (RCA), or Specialization Index (B. Balassa, 1967).

consideration “the effects that are obtained when other prices, relevant in terms of well-being, and the quantities, respond to changes in food prices” (De Gorter, *et al.*, 2004).

By stimulating the production of foods and the demand for agricultural labour, high food prices can benefit the poor rural population, even those who are net food purchasers. This effect takes place via the response of wages. To understand this effect it is necessary to analyze the many different prices that affect the income of rural households, considering the elasticity of demand for labour and that of salaries with regard to food prices. It is reasonable to expect that higher food prices and higher rural employment increases rural demand for services, retail trade, and infrastructure.

Work income of Mexican small poor corn growers fell by 19 per cent during 1990-2000 even after taking into account other incomes, such as transferences from the government and remittances. The fall can be imputed in large measure to NAFTA: “Based on this evidence, we conclude that the change in farmers’ income from corn farming is directly tied to the changes in the price of corn at least partially brought on by NAFTA”, (McMillan, P. *et al.*, 2005, p: 28). No less than the 60 per cent of the poorest corn growers do participate in market and have been negatively hit by the fall in world prices induced to the Farm Bill and other USA support policies, (*Idem*, p: 27).

The 100 per cent liberalization, already applied on almost all products and which will apply to the whole sector in 2008, induces benefits for taxpayers and consumers of 1,826 million dollars, while losses for farmers approach 2,035 million: Mexican society as a whole suffers welfare losses although small. Mexican farmers belonging to the five deciles of lowest earnings are net losers. Losses oscillate between 7 (in the first decile) and 22 per cent (for the second and third deciles). Rural consumers gain between 3 per cent (for the first decile) and 1 per cent (for deciles 3, 4 and 5). The net effect is negative with a variation between -4 per cent (in the first rural decile) and 20 per cent (in the second and third deciles). The non-agricultural sectors gain between 2 per cent in the first decile and 1 per cent in the 4 remaining deciles. The biggest losers are the small and commercial producers, for whom income fell by 22 per cent (M.D. Ingco *et al.*, 2004 p: 161, table 7.5; Puyana 2007, pp: 32-40).

IV. Employment, Wages and Incomes

Mexican unemployed are forced to quickly find work of any kind due to the lack of unemployment insurance and low incomes. In consequence, Economically Active Population, EAP, and the Occupied Labour Force, OLF, are almost identical. The rate of

unemployment, around 3 %, close to the “natural” unemployment rate, would suggest that any increase in the growth rate of the economy would induce inflationary wage pressures or demand significant increases in productivity. Nevertheless productivity stagnated and real wages declined. Low “open” unemployment hides the precarious employment in the booming informal sector.

Some important changes in the labour market are taking place: increasing participation, especially female workers; growing supply of better-qualified workers; high unemployment amongst young and female workers and the declining rate of employment in agriculture and manufactures, matched by growing informal employment.

In the absence of relevant productivity growth, larger labour participation explains the growth of total GDP. The total rate of participation grew by 3 percent points in 16 years, while the participation of female labour expanded by 14 percent points, to 47 per cent in 2005 and male participation to 60 per cent. What is surprising, and deserves a closer analysis, are the increases in the rate of participation of older women, primarily those older than 50 years. The participation of males older than 50 is also high. The lack of social security is forcing elder people to remain at work after the retirement age, and many others to enter the labour market for the first time. Workers at that age, confront harsh working conditions, particularly if new entrants, (Puyana, 2007 b).

Unemployment amongst young people almost duplicates the total rate and is over represented in precarious and low-income employment. This evolution could be linked to the growth in the share of micro and small firms in total commercial establishment. (Berg, J. Ernst, C and Peter, A. 2006).

Due to the deceleration of the capacity to create formal employment in manufacturers and other urban activities, large numbers of the new workers, that join the labour market year after year, find jobs in the informal sector or in tertiary activities of lower productivity and poor salaries, such as transports, trade and construction. During 1991-2004, a total of 14.4 million persons joined the labour market, out of which 56 per cent engrossed the informal sector, which in 2005 represented 87 per cent of total wage earners and 66 per cent of total employment.

Poor salaries. Minimum wage has been systematically eroded from its record level of 1993-94. From 1995 to September 2006 it has lost 25 per cent of its value. (Puyana, 2007 b). Wages in manufactures descended 12 percent from 1993 and remunerations in commerce followed a similar path. Despite almost nil increases in productivity wages in

the Maquila sector did get bigger by 8 percent. Maquila and construction are the only sectors that in 2006 registered higher wages than in 1994. Table IV.1. Medium wages deteriorated despite increases in public sector average remunerations.

TABLE IV.1
Mexico: Real Wages per Worker. Constant pesos 1994

PERIOD	Minimum wage	Average wage manufactures	Average wage in maquila	Average wage in construction	Average wage in commerce
1990	15.9	82.3	52.8	37.5	62.5
1995	12.2	88.0	50.7	37.1	46.9
2000	10.8	87.3	54.1	30.9	47.1
2006*	11.1	94.2	63.0	40.2	57.5

* Information to september

Fuente: 1990-1997, 5to. Informe de Gobierno, 1999; 1998-2006 Estadísticas laborales, STyPS.

Public sector payroll as percentage of total national payroll has remained stable during the post reform period at around 36 per cent. This stability contrast with the (a three points) in the share of public sector employees as percentage of total¹⁶. Therefore relation of public sector medium wages to total medium wages escalated from 1.8 in 1986 to 2.6 in 2005. It is possible to assume that the government has increased wages to attract the best professionals available to guarantee the highest efficiency in public administration. Increases in public sector total wages are positively related to increases in oil prices and oil public revenues, Puyana (2003). No causality relation is suggested only that both have similar path but it could suggest that civil servants are capturing part of the oil rent¹⁷ and that as such are not interested in changing the actual PEMEX status. Mexican labour force is today more educated than ten years ago. Investments in education, especially in primary and tertiary education have been large despite the adjustment policies. Three significant changes took place: the reduction in workers without education, a modest growth in those with secondary education, and expansion of workers with more than 13 years of education. While the EAP with less than five years of education fall from 21.7 per cent of the total EAP in 1991, to 14.3 per cent in 2005 that with more than 13 years increased from 15 to 22 per cent. In education, Mexico is behind Argentina and Chile but is better than Brazil.

What is disappointing is that the stagnation of average wages and the consequent reduction of the labour share in total income took place in spite of the improvements in the educational level of the employed work force. Therefore, it would appear that the

¹⁶ Carlos Elizondo suggested me to include this point. Public sector wages are highly differentiated. The president of the National Supreme Court earns 65 thousand dollars a month.

¹⁷ The share of PEMEX payroll as percentage of the total increased by 3.9 per cent annually between 1999-2004 while the corresponding share of employees remained fairly stable.

supply of qualified labour expanded faster than the demand for it and salaries of the workers with more than 13 years of education decelerated. (Puyana, 2007b). The evolution of workers wages and the returns on capital could be interpreted as if in Mexico exists a “limitless” supply of labour, which prevents the increase of wages and results in a rise in average returns on capital and a growing informal sector.

The control of inflation has been the first aim of the monetary, fiscal and exchange policies. Restrictive monetary policy and overvaluation of the peso had induced the revaluation of the real exchange rate which has two main effects: first, the substitution of domestic production, domestic value added and employment, by imports and, second, the increased income elasticity of imports and the intensification of the external constraints limiting the potential growth of the economy. With an import elasticity of GDP near 3.5 per cent, the economy cannot grow above 1.7 per cent without increasing the deficit in the current account. In order to incorporate all the annual increases of the labour force it has to grow at least at 6 % (Romero, 2003, p: 90).

Finally we have to ask ourselves what effects have the observed trajectories of the economy and the labour market inflicted upon the incomes of the population.

In constant pesos 1993, national monetary income per household decreased during the NAFTA period, from 8.1 to 6.0 thousand constant 1993 pesos. In rural areas households income decreased from 3.7 to 3.1 thousand constant 1993 pesos. The income of the most impoverished rural and national households belonging to the deciles I and II deteriorated more than that of the deciles VII to X. Table IV.2

TABLE No. IV.2
Mexico: Monetary real Income by Household, by deciles

NATIONAL					RURAL AREAS				
Quartely monetary real income by household					Quartely monetary real income by household				
	1992	2005	AARC	Change		1992	2005	AARC*	Change
	pesos	of 1993	(%)	2005/1993		pesos	of 1993	(%)	2005/1993
				(%)					(%)
Total	8,097.58	5,986.0	-2.30	-26.08	Total	3,707.83	3,139.4	-1.27	-15.33
I	1,255.94	657.0	-4.86	-47.69	I	1,213.48	634.1	-4.87	-47.74
II	2,213.60	1,512.8	-2.89	-31.66	II	2,177.46	1,506.5	-2.79	-30.81
III	2,995.97	2,173.7	-2.44	-27.44	III	2,991.76	2,164.5	-2.46	-27.65
IV	3,801.61	2,806.5	-2.31	-26.18	IV	3,769.10	2,811.4	-2.23	-25.41
V	4,646.58	3,502.8	-2.15	-24.62	V	4,658.95	3,489.7	-2.20	-25.10
VI	5,760.45	4,310.0	-2.21	-25.18	VI	5,789.15	4,278.1	-2.30	-26.10
VII	7,222.46	5,396.1	-2.22	-25.29	VII	7,173.11	5,400.1	-2.16	-24.72
VIII	9,210.22	7,003.1	-2.09	-23.96	VIII	9,282.83	6,946.9	-2.21	-25.16
IX	12,969.44	9,656.6	-2.24	-25.54	IX	12,284.46	9,574.8	-1.90	-22.06
X	30,899.48	22,841.6	-2.30	-26.08	X	26,317.74	18,823.5	-2.55	-28.48

Source: INEGI. Encuesta Nacional de Ingresos y Gastos de los Hogares 1992 and 2005.

* Average Annual rate of change

After constant improvement during 1960-1980, the distribution of income, measured by the Gini coefficient, deteriorated from 1983 to 1992. Since then, it shows, with ups and downs, some improvement. Nevertheless, in 2004 the GINI was 55 per cent, which, according to a World Bank study, this GINI puts Mexico amongst the Latin American countries with the highest income concentration. (Matsuda, 2007, p: 75). The Gini coefficient does not provide an accurate measure of the concentration of income. The very few Mexican billionaires registered in Forbes, concentrate 6.5 per cent of the GDP, much more than in France or Japan and similar to the UK and the USA. In Mexico they have more market and power political and able to influence the main economic decisions and to affect the electoral results. (Matsuda, 2007, pp: 75-77)

In the conditions described above, there is no place to wonder why migration had increased despite all the hopes put on NAFTA. "NAFTA will allow us to export goods instead of persons" was advocated on both sides of the border. During 1996-2006 net migration grew from 294 to near 350 thousand persons and remittances expanded accordingly. The Consejo Nacional de Población, CONAPO, estimates that due to difference between the rate of growth of migration (0.7) and of labour force (2.9) migration does not have a significant impact on the structure of the Mexican labour market. (CONAPO, 2000). In 2006, remittances reached US\$22 billion dollars up from 4.8 billion in 1996. As the new model advanced, poverty and inequality intensified and migration accelerated. Remittances indirectly convey the worsening economic conditions. This is true not just for Mexican workers, but also workers from other Latin American countries, such as Colombia, Salvador or Ecuador, and all those countries in which remittances became an important source of income.

Summing up, the winners, as predicted, have been, in the first place, capital owners: large companies linked to FDI, banks large importers and retailers, and large producers and exporters of fruits, vegetables and other agricultural goods, amongst the principal. On the losing side, first, wage earners, mainly low paid workers and young new entrants enmeshed in the informal sector. Agricultural, small

The government established several programmes to alleviate the effects of structural reforms upon the lower income groups, all of them inspired by the strategies to create safety nets. Others were aimed to support agricultural producers of grains and other products which were expected to be replaced by imports. For the industrial sector, actions were oriented for the small and medium size firms, programmes of active employment policies and Programas de Competitividad.

Salinas government established the Solidaridad programme, which evolved into the Zedillo's Progresas and was converted to Oportunidades, by president Fox. These programmes are example of well-focalized conditioned cash transferences to families under the extreme poverty line. The coverage has extended to four million families. More recently the central government established a pension's scheme for elder persons under extreme poverty.

For the industrial sector, the government implemented different initiatives, for instance, the Programas de Promoción Sectorial (PROSEC) or "Programmes for Sectoral Development, established since 2002 with the objective of helping industrial producers to respond to the new conditions created by Article 303 of NAFTA by which the special provisions that stimulated the expansion of ensemble manufactures were eliminated. Another important line of action is the Active Policies for Employment. These programmes (eight in total) do not consist in transferences to increase income or to provide unemployment benefits. They are oriented to increase the employability of unemployed. All of them have been evaluated with mixed results (Samaniego, N. 2002; Aportela, 1999; Calderon and Trejo, 2001). Their impact is main hampered by low financial resources, limited coverage, short term objectives frequently changed and lack of interest from the private sector. The programmes have one positive element: they effectively help to find jobs, but with no clear evidence they help to increase income.

The evaluations of all social development and poverty programmes suggest that they contribute to reduce extreme poverty but have had little or no impact in income concentration. Scoot, (2005). One of the main concerns about the general driving force that directs the Mexican social policy is its aid character and its little effort to create permanent income opportunities for low income groups or training programmes for changing employment.

To create these conditions it is required to provide people with capital: land, financial capital, knowledge, and productive equipment. That would mean, to reduce the extreme concentration of property and create competitive domestic markets. In other words, it means to solve one of the problems of the reforms: they eliminated the market constraints derived from the actions of the state, but left untouched the constraints derived from the concentration of private capital, see for that point Lipton, (1991).

V. CONCLUSIONS

The Mexican economy changed rapidly from the industrialization model led by the state, to an exports model, highly intensive in imports and the multiplier effects of the external

sector. The reforms were carried out by means of liberalizing trade and capital accounts. The effects of these reforms have not been entirely favourable in terms of economic growth, as measured by the Mexican per capita GDP, which has been virtually stagnant for the last two decades. So has been productivity and employment.

The evaluation of the effects of this commercial liberalization, should, as in the case of any public economic policy, take account of the net volume and quality of employment generated, the increase of productivity and income. Growth of exports, control of inflation, and reduction of public debt are not ends in themselves; they are tools towards ensuring the greater wellbeing of the entire society. From this point of view, the results registered to date are not entirely positive.

Due to the aggressive liberalization of the Mexican economy, the compromises acquired in NAFTA, and the 40 or more trade agreements signed with all types of countries, there is very little margin left in the frame of trade policy. To overcome the lack of productivity growth, the stagnation in productive employment, the symptoms of the Dutch Disease and the high import elasticity of imports, action should be taken in the arena of public investments, and to induce vertical integration of production in order to increase the value content of total production and of exports. Active sectoral policies have to be instrumented, which means that the government has to renounce the principle it has applied during the last two decades and a half that: “the best sectoral policy is no sectoral policy at all”.

Long lasting overvaluation could be one of the major reasons behind the lack of strong positive linkages between the formidable expansion of manufactured exports and sectoral and overall economic growth. Maintaining a competitive exchange rate is not an easy task when the capital account has been fully liberalized as Mexico did almost twenty years ago. Even more difficult is the presence of strong flows of foreign currency such as remittances from Mexicans workers abroad, and of oil bonanzas. Nevertheless a planned correction in the relative value of the peso to the dollar has to be put in motion if the stagnation of the economy and the growth of external restrictions of the economy are to be overcome.

Mexican public investment in social and physical infrastructure has been as dramatically reduced as the economy was liberalized, reducing the competitiveness of the economy and limiting the capacity of the country even to assimilate new technologies, let alone to develop them.

Mexico is one of the oil exporting countries with the lowest non-oil fiscal income generated in direct and indirect taxation. The petrolization of the fiscal accounts makes the economy extremely dependent on the path of international oil prices. Furthermore, it is one of the reasons of the low savings and investments ratio to GDP, both public and private. Mexico has to increase investments in tradable sectors and in infrastructure.

At the Mexican level of development a more active and aggressive public investments policy is needed since the experience during the last two decades has shown that private investments have not fully replace the fall of public investments, contradicting the crawling out effect of private investments.

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