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NAFTA and the Mexican Economy: Analytical Issues and Lessons for the FTAA

J. Ernesto López-Córdova

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NAFTA AND THE MEXICAN ECONOMY: ANALYTICAL ISSUES AND LESSONS FOR THE FTAA

J. Ernesto López-Córdova *

I. INTRODUCTION

The Free Trade Area of the Americas (FTAA), currently under negotiation, would bring together the economies of 34 nations inhabited by over 800 million people.¹ The diversity of incomes, factor endowments, and comparative advantages of these nations raises the question as to what the impact of the FTAA would be in their economies. The question is particularly relevant for the developing countries of the Americas, since the FTAA would require a considerably larger commitment toward liberalizing their economies. What would be the economic impact of eliminating trade and investment barriers among developing and developed countries? While some predictions can be ventured based on existing economic theories, they would need to be tested against actual economic integration experiences between a developing country and the industrialized world. In this light, the Mexican experience in the North American Free Trade Agreement (NAFTA) is of particular relevance. NAFTA has been in place for seven years now. During this period, Mexico has not only undergone a severe financial crisis -with important ramifications to the real economy- but has also deepened other kinds of structural reforms and economic policies. Although both the crisis and the structural changes may obscure a balanced assessment of NAFTA's impact on the Mexican economy, one must attempt to exploit the existing evidence in order to draw lessons relevant for the rest of the hemisphere.

In this paper I survey some of the issues that we must grapple with in order to gain a better understanding of how the Mexican economy has been shaped by NAFTA. To the extent possible, I present data that motivate some of the topics or that provide some evidence of the agreement's effects. When that is not possible, I rely on theoretical arguments and the existing economic literature to motivate the relevant issues. While I try to strike a balance between comprehensiveness in the topics included and depth in their analysis, space and time constraints prevent me from looking at all economic dimensions on the subject -e.g., the relationship between trade, environmental protection, and economic performance. Such shortcomings should not be deemed as implying lesser importance of those topics. Summing up, the reader must bear in mind that the aim is at motivating the issues and at suggesting areas for further and more detailed analysis.

The rest of the paper is organized as follows. The next section provides the background for the paper, contrasting the Mexican economy to the rest of North America and arguing that the agreement should have a greater impact on the former. Section III looks at four dimensions in which NAFTA may be analyzed: its impact on optimal economic policies, on economic performance, on income distribution, and on labor market integration. In Section IV I discuss the institutional consequences of NAFTA under the premise that institutions matter for economic outcomes. Section V presents some lessons for the FTAA negotiating countries.

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¹ For more on the FTAA negotiations, see IDB [2000].

II. THE MEXICAN ECONOMY PRIOR TO NAFTA

The NAFTA is arguably the most far-reaching economic policy measure adopted by Mexico in recent decades. The agreement opens up Mexico's economy to its biggest trade partner, the United States, which accounted for 75 percent of Mexico's total trade in goods during 1993. NAFTA has also deepened Mexico's liberalization strategy as it fostered foreign investment and trade in services with the North American nations. Perhaps as important, the agreement required revamping, or creating anew, institutions that, directly or indirectly, affect trade and economic activity (e.g., intellectual property, standards, anti-trust).

NAFTA generated a heated debate in the three North American countries, stimulating academic analyses of its likely impact on the region. Nevertheless, a casual bibliographic search would suggest that most of the analyses focused on NAFTA's impact on the U.S. economy, despite the likelihood that its impact on Mexico will be deeper.

There are several reasons in support of the latter claim. First, the economic asymmetries between Mexico and its partners are substantial. NAFTA is said to have been the first trade agreement between the developed world and a developing nation. In 1994, Mexican real GDP per capita stood at only 34 percent of the U.S. level, a number lower than the real GDP per capita in Ireland, Greece, Portugal, and Spain relative to the richest European country at the time these countries entered the European Economic Community (EEC); see Figure 1.² Although Mexico's real GDP is about the same as Canada's, the disparity in income per capita suggests profound differences in factor endowments and implies that patterns of trade under NAFTA will have a considerable impact on factor prices.

FIGURE 1
REAL GDP PER CAPITA AS A FRACTION OF THE LEADING REGIONAL ECONOMY'S GDP



Source: World Bank, *Global Development Network Growth Database*.

² Ireland joined the EEC in 1973, year in which France had the highest real GDP per capita in the EEC. Greece joined in 1981, whereas Spain and Portugal did so in 1986; Germany was the richest EEC country in both of these years. Data taken from World Bank, *Global Development Network Growth Database*, <http://www.worldbank.org/research/growth/GDNdata.htm>.

Second, factor endowments differ greatly in the three countries. In particular, Mexican workers are endowed with substantially less capital than their counterparts in Canada and the United States. In 1992, a Mexican worker had access to an equivalent of 38 percent as much capital as a U.S. worker had. In contrast, Canadian workers were endowed with 25 percent more capital than U.S. workers.³ Human capital is also scarcer in Mexico. In 1990, average years of schooling among the population 25 years or older were 5.87, 10.34, and 12 years in Mexico, Canada, and the United States, respectively.⁴ According to economic theory, large factor endowment differences imply that pre-NAFTA relative prices in Mexico differed considerably from those that existed in the rest of North America. Thus, by removing trade barriers, relative prices in the smaller Mexican economy should undergo a significant adjustment in the medium-run, implying a reallocation of factors across economic sectors and substantial changes in factor prices.

Third, not only is income per capita lower in Mexico, but income disparities in Mexico are considerably greater than in its NAFTA partners. Gini coefficients in the early 1990s were higher in Mexico, around 50, relative to Canada and the United States, with coefficients close to 28 and 38, respectively.⁵ As discussed below, trade liberalization has a theoretically ambiguous impact on income inequality, but there is empirical evidence that in Mexico it might have resulted in increased wage inequality, with skilled workers reaping the benefits of the reforms. If that continues to be the case, NAFTA could worsen an already difficult situation and have an adverse impact on the social and political stability of the country.

Fourth, the Mexican economy was, and still is, more heavily protected than the Canadian and U.S. economies. Average tariffs in Mexico stood at 11.6 percent in 1994, compared to 8.7 and 6.4 percent in Canada and the United States, respectively (Garay and Estevadeordal [1996]). As such, NAFTA requires sharper tariff reductions in Mexico than in its partner countries. Given that the smaller Mexican economy relies on North American trade more heavily than the United States', the implication is that Mexican producers should be subject to strong competitive pressures as a result of the agreement. That should be particularly true in the agricultural sector, especially in the production of maize and other grains, which had been previously shielded by strict import licensing requirements, but that NAFTA will completely open up to U.S. and Canadian producers by 2007, at the latest.

Fifth, NAFTA should have a greater impact on the geographical location of economic activity inside Mexico. The inward orientation of the Mexican economy prior to the mid-eighties implied that manufacturing production located near the biggest domestic populations centers -i.e., Mexico City and central Mexico-. As Mexico shifted to an export-led development strategy, production shifted to states in the North, nearer the U.S. markets. Figure 2 shows that the share of manufacturing employment in Mexican states along the U.S. border has gradually increased, from less than 20 percent in 1970, to over 27 percent in 1998. At the same time, manufacturing employment in central Mexico⁶ declined from 54 to 44 percent of the national total. Similarly, from 1993 to 1998, real GDP grew by almost 24 percent in the border states, compared to 14 percent in central

³ Figures taken from Penn World Table 5.6.

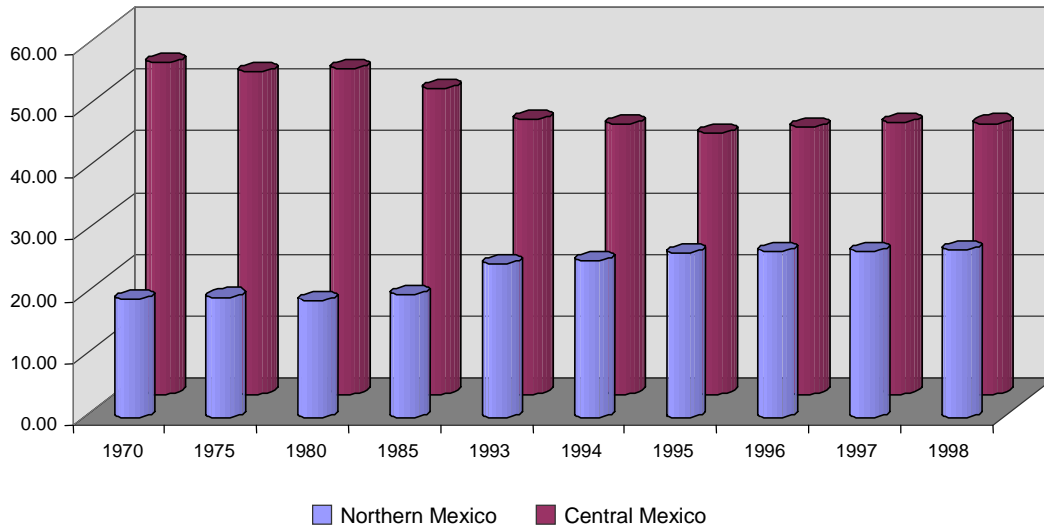
⁴ Figures taken from Barro and Lee [1996].

⁵ Figures taken from Deininger and Squire [1996].

⁶ Central Mexico is here considered to include the following states: Mexico State, Puebla, Querétaro and Mexico City.

Mexico.⁷ One expects this trend to continue over the next years given the increased orientation of Mexican manufacturing to the U.S. market.

FIGURE 2
MANUFACTURING GDP'S GEOGRAPHICAL DISTRIBUTION
 (Percent of national total)



⁷ Author's calculations using figures from INEGI's *Banco de Información Económica*. State growth rates are weighted by 1998 real GDP.

Undeniably, Mexico's participation in NAFTA will have important consequences for the United States and Canada as well. NAFTA is likely to accelerate the restructuring of U.S. industry. Labor-intensive processes (e.g., apparel production) have relocated to Mexico since the 1970s, and the trend seems to have accelerated since NAFTA was put in place. Nevertheless, Ross Perot's warnings of a "giant sucking sound" as low-wage jobs relocate to Mexico have not materialized. The impressive expansion of the U.S. economy during the 1990s has more than offset any job losses generated by the agreement. Burfischer, Robinson and Thierfelder [2001, p. 129] share similar views: "the evidence on labor markets post-NAFTA indicates that, while NAFTA has had some effect, the effects in the U.S. economy are indeed small and are overwhelmed by other U.S. macroeconomic trends such as a rapidly growing economy". In fact, NAFTA might have helped the U.S. economy to cope, indirectly, with labor shortages, as the relocation of labor-intensive industries across the border would offer some relief to the tight U.S. labor market. But the shifting of economic activity to the U.S.-Mexico border region could have some undesirable side effects. As the demands on infrastructure and natural resources along the border increase, particularly on the Mexican side, cross-border pollution and environmental deterioration would likely worsen.⁸ Nevertheless, such worsening would be expected to occur mainly in the short run, for rising incomes in Mexico that result from trade should be accompanied by heightened demand for environmental protection (Grossman and Krueger [1994]).

The dislocations that NAFTA might bring upon the Mexican economy could also spill over the border in the form of increased emigration to the United States, particularly from the countryside. Prior to NAFTA, some observers warned that the agreement would lead to greater migration to the U.S. in the short run, but that in the long run such flows should taper off (Cornelius and Martin [1993] and Martin [1993]). Again, at least from a strictly economic point of view, migration to the United States would most likely be beneficial in an era of tight labor markets.

Thus, as I have argued, we should expect NAFTA to be of greater economic significance to Mexico than to its trading partners. Such conclusion receives further support when the institutional requirements that the agreement has placed on Mexico are considered. Trade liberalization and NAFTA, especially, have been followed by creating or revamping those agencies administering standards, anti-dumping measures, competition policy, intellectual property, and the like, which are essential for the proper functioning of an open economy. While some observers -e.g., Rodrik [2000a,b]- might argue that trade liberalization, by imposing such institution-building requirements, may divert scarce resources from more fundamental forms of institutional innovation, Mexico's level of development, arguably, might be high enough that the alleged costs would be modest.

⁸ For views along these lines, see GAO [1999].

III. NAFTA ISSUES

As I have argued, the greatest challenges and opportunities arising from NAFTA are those that the agreement imposes on the Mexican economy. In this section I look at some of the dimensions that we must take into account when studying the impact that the agreement is having on Mexico's economy. I focus on four dimensions: (i) economic policy; (ii) economic performance; (iii) income distribution; and (iv) labor market integration. I further explore some of those dimensions by analyzing different issues concerning them. Regarding economic policy, I look at both trade policy and macroeconomic and monetary policy.

Discussion on economic performance focuses on the manufacturing and agricultural sectors, and also on the general issue of economic growth. Labor market integration refers to both how the Mexican labor market is affected by developments in the U.S. market, as well as to the topic of Mexico-U.S. migration. Last, in discussing NAFTA and its relationship to income distribution the general topic and also wage disparities and geographical factors are addressed. Admittedly, it is impossible to establish a clear-cut separation of the aforementioned issues, as they are inextricably intertwined.

NAFTA and economic policy

The far-reaching implications of NAFTA on Mexico's economy will have important consequences for economic policymaking. If existing policies are viewed as a political equilibrium between different socioeconomic players -trade unions, industry lobbies, etc.- then, to the extent that NAFTA alters the payoffs to those groups of the different policy alternatives, the agreement will likely result in a new equilibrium. That is likely to be the case not only in the realm of trade policy, where authors have long documented the interplay among competing lobbies in determining the level of protection, but in areas such as exchange rate policymaking.⁹ Moreover, to the extent that NAFTA integrates the Mexican economy to the rest of North America, the desirability of alternative exchange rate regimes and fiscal policies will change. In what follows I explore some of the implications that NAFTA will have on trade, exchange-rate, and fiscal policies.

Trade policy

The emergence of multiple customs unions and free trade agreements during the last decade has given rise to a heated debate among economists regarding the impact of these preferential trading arrangements (PTAs) on the multilateral trading system. Skeptics argue that PTAs constitute "stumbling blocks" in the quest for global free trade because they may alter the political support for extending regional trade preferences to the rest of the world. At the opposite extreme, more optimistic analysts consider that PTAs are not only compatible with the multilateral trading system but that indeed they are "building blocks" in the cause for free trade, as they lock in unilateral liberalization and help build export constituencies that support further opening to trade.

Following Bhagwati [1993], when analyzing this issue, one must go beyond the traditional static analysis *à la Viner* [1950] and consider, in addition, the long run implications of FTAs. Thus,

⁹ See for instance the discussion in Frieden [1991], Frieden [1997] and Eichengreen [1995].

Bhagwati's [1993] dynamic time-path question must underlie an analysis on the subject: even if an FTA results in an immediate loss in global well being, is welfare in the long run higher or lower than it would have been had the FTA not been adopted? A narrower statement of the dynamic time-path question asks whether an FTA moves the economy closer to global free trade by creating incentives for continued unilateral tariff reductions, or whether the opposite holds.

Among the skeptical observers, Bhagwati [1993] presented an early warning about the potential negative effects of the emerging PTAs on the international trading system. He suggested that a country, responding to pressures from domestic interest groups benefiting from trade diversion, would see the incentives to expand the PTAs membership reduced.¹⁰ Similarly, Panagariya and Findlay [1999] argue that PTAs shift lobbying resources to sectors that compete with third-country imports, thus raising MFN tariffs. Moreover, in explaining the choice between an FTA and a customs union, Richardson [1999] argues that since in an FTA lobbies can concentrate their efforts on the home government only, whereas in a customs union they must lobby a larger policymaking body, FTAs are more likely to allow MFN tariff increases than customs unions.

In a more optimistic assessment, Richardson [1993] argues that an FTA, by favoring sectors with a comparative advantage in bilateral trade, will lead to the contraction of sectors with a comparative disadvantage and, in turn, to a reduction in external tariffs in the latter sectors. Moreover, Richardson [1995] argues that FTAs will lead to MFN tariff reductions as signatories of the agreement compete for external tariff revenue: countries will have an incentive to reduce tariffs in order to induce exports to the FTA partner's market while meeting its own demand with imports from the rest of the world, thereby collecting tariff revenues. As the countries engage in this type of behavior, tariffs will fall. Similarly, Levy [1998] shows that when the members to an FTA set tariffs cooperatively, the agreement may result in either increases or reductions in the level of protection, depending on the FTA partners' characteristics. Last, starting from the observation that countries in an FTA retain autonomy over their trade policy -in contrast to the members of a customs union- López-Córdova [2000, Chapter 2] analyzes the post-FTA optimal tariff in sectors under trade diversion and trade creation. In both cases the agreement results in a subsequent elimination of MFN tariffs.

How well does the international experience with actual free trade agreements conforms to the disparate analytical findings described above? To my knowledge, there have been few econometric efforts to study the determinants of the observed tariff changes that have followed the adoption of an FTA, so at this stage it is difficult to reach any definitive verdict about the applicability of the different analytical approaches.¹¹ This gap in our understanding of the relationship between preferential trading arrangements and the international trading system might be explained by the fact that FTAs have mushroomed only recently, so that the data required for empirical work are just becoming available. In addition, distinguishing between the influences that stem from FTAs and those that come from other forces that explain tariff changes poses a challenge to empirical researchers. Finally, a satisfactory answer to Bhagwati's dynamic time-path question requires a comparison of the observed tariff changes against the counterfactual tariff rates that would have been levied in the absence of the existing agreements.

¹⁰ Bhagwati's views have received analytical support in the work of Levy [1997] and Krishna [1998].

¹¹ One exception is Foroutan [1998].

Despite these limitations, some support for the view that FTAs foster further tariff reductions is found in Canada's and Israel's respective experiences with FTAs. Israel has established free trade agreements with the European Community (1975), the United States (1985), and the European Free-Trade Association (1992). The result of these agreements has been to liberalize bilateral trade, including, with respect to the U.S., all agricultural trade. Importantly, Israel embarked in a unilateral process of tariff reduction on an MFN basis. Indeed, as pointed out by GATT [1995, p. 3], "since 1991, Israel has complemented its free-trade agreements by autonomously reducing barriers against imports from third countries. These reforms have opened its markets to competition from countries not covered by FTAs and reduced potential trade diversion". The trade liberalization program initiated in 1991 included the tariffication of import licensing requirements and the gradual reduction of the resulting tariffs to between 8 and 12 percent by the year 2000, down from levels ranging from 20 to 110 percent in 1991 (GATT [1995]). Similarly, Canada's negotiation of its free trade agreement with the United States (1988), NAFTA's predecessor, seems not to have reduced Canada's unilateral tariff reductions. According to the WTO ([1996] p. 95), "changes in Canada's tariff regime since 1992 have been numerous, and have led to a decrease in tariff protection in the economy." Average MFN tariffs on manufacturing imports fell from 9 percent in 1994 to 6.6 percent in 1996.¹² Moreover, as a result of the Uruguay Round, tariffs will be reduced by approximately one third to around 5 percent (WTO [1996]).

How has Mexico's trade policy evolved during the NAFTA years? According to some authors, Mexico's post-NAFTA tariff policy serves as evidence that FTAs do give rise to protectionist responses against third countries (Panagariya [1996]; Bhagwati, Greenaway and Panagariya [1998]; Bhagwati, Krishna and Panagariya [1999]). Indeed, in 1995 Mexico increased tariffs on leather products, textiles and apparel, and footwear. Furthermore, in 1998, faced with mounting fiscal pressures after the fall in international oil prices, the government raised tariffs across the board by three percent points. Nevertheless, an alternative explanation could be advanced for the tariff increases by pointing to the findings in empirical studies on endogenous trade policy (e.g., Trefler [1993] and Lee and Swagel [1997]), which suggest that surges in import penetration are an important explanatory variable behind the observed levels of protection. In this light, the sharp inflow in textile, apparel, leather products, and footwear imports prior to 1994, and not the subscription of NAFTA, would be the driving force behind the observed tariff hikes. In addition, Mexico has implemented several tariff reductions that could support the opposite argument, namely, that NAFTA has fostered further trade opening. For example, the number of duty-free harmonized-system tariff lines increased from 300 in 1992, to approximately 1,600 in 1996 (WTO [1998] p. 45). Finally, the recently negotiated FTAs with the European Union and the European Free Trade Area, as well as NAFTA-like agreements with other Latin American countries, could be portrayed as one way in which Mexico continues to reduce trade barriers, albeit in a discriminatory fashion, as a direct response to NAFTA. Thus, arguing that recent Mexican tariff increases are a direct consequence of NAFTA is unconvincing as long as more detailed analyses, encompassing other potential explanations, are absent.

¹² WTO [1997]. Figures refer to simple averages. Trade-weighted average MFN tariffs on manufactures stood at 14.4 percent in 1975 and 11.2 percent in 1985 (GATT [1991] Table AV.16, p. 400).

Macroeconomic and monetary policy

NAFTA will not only have an effect on the most obvious and immediate realm of trade policy, but on macroeconomic policy as well. An economy open to trade is more vulnerable to external shocks, as demand conditions in foreign markets have domestic spillovers. The loosening of capital controls exposes the economy to capital-flow reversals and may pit tax authorities in different localities, scrambling to attract foreign investment, against one another. As a result, openness imposes a different set of constraints on governments, which shape monetary, exchange rate, and fiscal policies.

Monetary and exchange-rate policy Prominent among the debates on Latin American macroeconomic policy nowadays is the appropriate choice of an exchange-rate regime. According to academic economists,¹³ the feasible options lie at the opposite extremes of the spectrum of available regimes: on the one hand, a floating exchange-rate regime and, on the other, a rigidly and credibly fixed rate, either in the form of a single currency like the euro or through the outright adoption of another country's currency, most commonly the U.S. dollar.

At the core of the policy choice lies a trade-off between monetary autonomy for stabilizing the economy, on the one hand, and inflation-fighting credibility, on the other. As it is well known, under a flexible regime a country maintains its ability to use monetary policy to offset economic shocks. Nevertheless, economic agents understand that there will be a temptation to use monetary policy to obtain short-term unemployment reductions at the expense of higher inflation rates. In turn, economic agents adjust their expectations accordingly, resulting in high equilibrium inflation rates (Barro and Gordon [1983]). In order to reduce the ensuing welfare costs that stem from this so-called dynamic-inconsistency problem, authorities must design institutions -e.g., central bank independence, while maintaining the flexible exchange-rate regime- or adopt rules -e.g., a fixed exchange rate- to anchor people's expectations and to reduce inflation. There are costs associated with each solution to the problem. First, even with an independent and politically insulated central bank, with a reputation for fighting inflation built over time, the nominal exchange rate in a floating regime will exhibit wide fluctuations in response to economic shocks. It is argued, as recent evidence by Rose [2000] suggests,¹⁴ that exchange rate volatility discourages international trade. The reduction in trade flows has welfare costs and reduces growth rates.¹⁵ At the other end, under a rigid exchange rate that effectively ties the monetary authorities' hands, economic shocks are accommodated via employment fluctuations with enormous economic and political shocks. On the positive side, monetary unions promote international trade.¹⁶

From a normative point of view, the case for or against monetary unions rests on Mundell's pioneering work on optimum currency areas (OCAs), which pairs the benefits of unification against its costs. Briefly stated, the benefits (costs) are higher (lower) the more (less) symmetric economic shocks are across the countries involved. Shocks will be more symmetric the more integrated two economies are in terms of trade and factor markets. For example, a small open

¹³ See for example Obstfeld and Rogoff [1995] and Eichengreen [1999].

¹⁴ See also Devlin, Estevadeordal, Giordano, Monteagudo and Sáez [2000].

¹⁵ Frankel and Rose [2000] show that monetary unions foster economic growth, via increased international trade.

¹⁶ See Rose [2000] and López-Córdova and Meissner [2000].

economy such as Belgium, which trades heavily with the rest of Europe, will benefit from eliminating exchange rate volatility through the new euro, while a European-wide monetary policy will not come at a great cost to the country.

Importantly for my discussion is the possibility that, just like the OCA criteria are endogenous -in the sense that a single currency will encourage trade flows which in turn increases business cycle correlation across countries, justifying, ex post, the single currency's existence (Frankel and Rose [1998])- trade arrangements that increase economic integration will build the case in favor of an OCA. That is, to the extent that FTAs, especially second- and third-generation agreements that go beyond tariff preferences, result in goods, service, and factor market integration, the desirability of adopting a single currency strengthens. With this in mind, is North America *becoming* an OCA as a result of NAFTA?

In a similar spirit, Del Negro and Ponce [2000], using 1971-1995 data, asked whether North America was an OCA, but did not find evidence in support of that view. NAFTA may change the answer to that question. As I discuss below, manufacturing production in Mexico is increasingly geared toward the larger North American market. Also, as we have seen, GDP growth in the Northern states has outpaced that in central Mexico, supporting the argument of a shift in focus from the domestic to the North American market. Last, labor market integration between Mexico and the United States is substantial, as explained below. All of the above considerations suggest that NAFTA may be creating conditions that will justify closer monetary cooperation in the region.

Recent comments by Mexico's president, Vicente Fox, suggest that there is some recognition that, indeed, the case for North American monetary integration will strengthen over time.¹⁷ As Mexican industry relies more heavily on exports to the U.S. markets, macroeconomic shocks should become more symmetric. In that event, maintaining an independent monetary policy becomes less important and the gains from a monetary union greater.

Fiscal policy Aside from exchange rate management, an additional aspect regarding macroeconomic policy concerns the need for a greater degree of fiscal policy harmonization. With increased capital mobility, different regions, both within and across national borders, may compete for attracting scarce investment via tax incentives. At the international level, that trend makes relying on capital taxation more difficult and supports arguments for taxation at the level of the individual -through income, value-added, or sales taxes.

In the case of Mexico, there is at the same time a trend toward a deepening of federalism and devolution of responsibilities to local governments. As new responsibilities are bestowed upon local authorities, the revenue needs of the latter increase accordingly. But, to date, state and municipal governments have limited taxing capabilities that they can rely upon to satisfy those needs. Consequently, in the midst of an environment with an intense international competition to attract investors, there is a pressing need to find revenue sources in the face of mounting fiscal demands.

Should local governments provide incentives to attract foreign investors? Would that result in heightened inter-jurisdictional competition that would, ultimately, evaporate any benefits to the communities involved? Can state governments tax footloose manufacturing activities, such as

¹⁷ See his article on The New York Times, "A New Kind of Neighbor", 25 August 2000.

maquiladora plants, in order to fill their coffers? How can the need to invest in education in order to create a competitive workforce -both from a national and global perspective- be reconciled with the limited taxing authorities of local governments? The options available to local authorities for addressing those issues must be assessed against the backdrop of greater North American integration: just as Alabama must compete with Michigan or Tennessee in attracting auto firms, for example, the economic integration brought about by NAFTA implies that it must also compete with Coahuila or Puebla.

NAFTA and economic performance

At the core of classical trade theory lies the conviction that the unhampered exchange of goods and services improves global welfare. As it is well known, from a static point of view, classical theory states that free trade achieves an efficient allocation of scarce resources, while at the same time expanding a country's consumption possibility frontier. In a dynamic setting it follows that free trade should result in higher growth rates. Although recent growth theories suggest that trade's impact on growth is ambiguous, depending on the assumptions one makes, and despite the fact that well-respected economists have recently questioned the empirical evidence concerning the link between trade and growth,¹⁸ most mainstream economists consider that link to be positive.¹⁹ Of course, the above views refer to multilateral trade liberalization and not to preferential trade opening and, as Bhagwati points out, adopting "free trade" is not equivalent to establishing a "free trade area".

Has NAFTA had a positive impact on Mexico's economic performance and on its growth prospects? To shed light on that question, I follow a recent World Bank study (Collier, Schiff, Venables and Winters [2000]) in dissecting the economic impact of NAFTA by looking at its *competition and scale* effects and at its *trade and location* effects. On the one hand, competition and scale effects refer to the competitive pressures faced by domestic producers as protectionist barriers are dismantled, as well as to the possibility of exploiting economies of scale, either internal or external, as market size increases from national to regional (i.e., North American). On the other hand, location and trade effects refer to changes in the patterns of trade and the location of production brought about by the agreement. Preferential agreements will affect commerce patterns by either creating or diverting trade. Trade opportunities stemming from the agreement affect, in turn, where producers locate within the FTA region.

In view of the higher trade barriers that existed in Mexico prior to NAFTA and of its relatively small market size, the agreement's competition and scale effects should be felt more strongly in that country. In addition, large factor endowment differences between Mexico and its partners suggest that trade and location effects will also have a greater impact on the Mexican economy. The reasons are that, since large factor endowment differences result in inter-industry trade, while small differences are accompanied by intra-industry trade, trade patterns between Mexico and its partners are more likely to be influenced by NAFTA than Canada-U.S. trade patterns were affected by their bilateral agreement. Also, factor endowment differences imply substantial differences in factor prices, suggesting another reason for reallocating production activities in Mexico. I now

¹⁸ See for example Rodríguez and Rodrik [1999].

¹⁹ Ben-David, Nordstrom and Winters ([2000] Annex Table 1) summarize a number of empirical studies on the subject.

turn to analyzing how these effects will shape the manufacturing and agricultural sectors in Mexico, followed by a brief discussion on NAFTA's growth implications.

Manufacturing

Manufacturing has been one of the most dynamic sectors in Mexico during the NAFTA era. As shown in Table 1, manufacturing GDP grew by almost 36 percent, in real terms, from December 1993 to December 1999; in contrast, aggregate GDP grew by 21 percent and agricultural GDP by less than 10 percent. Manufacturing growth took place despite the fact that the 1995 crisis resulted in a four-percent contraction in the sector.²⁰

TABLE 1
REAL GDP GROWTH, 1994-1999

Year	Total	Agriculture	Manufacturing
<i>Annual growth rate</i>			
1994	5.2	1.6	4.7
1995	-7.0	0.8	-4.1
1996	7.1	3.0	12.4
1997	6.7	-3.0	10.2
1998	2.6	3.1	4.2
1999	5.2	3.9	4.8
<i>Cumulative growth from 1993</i>			
1994	5.2	1.6	4.7
1995	-2.2	2.4	0.4
1996	4.8	5.5	12.9
1997	11.7	2.3	24.4
1998	14.7	5.5	29.5
1999	20.7	9.6	35.7

Source: Author's own calculations using data in INEGI, *Banco de Información Económica*.

One of the driving forces behind manufacturing performance has been, undoubtedly, the dynamic growth in exports. Table 2 shows that manufacturing exports grew by almost 190 percent in real terms over the 1993-1999 period, above total export growth (140 percent) and triple the cumulatively percent increase in agricultural exports. As a result, manufacturing increased its participation in total merchandise exports by 10 percent points, reaching 84 percent in 1999. As a fraction of GDP, manufacturing exports went from 6.0 to 12.5 percent over the period.

²⁰ All figures taken from INEGI's *Banco de Información Económica*.

TABLE 2
MERCHANDISE EXPORTS, 1994-1999

Sector	1994	1995	1996	1997	1998	1999
<i>Value (millions of 1993 pesos)</i>						
Total	106,044	147,452	174,554	188,642	199,864	223,204
Manufacturing	78,612	116,456	140,521	152,181	162,717	187,600
Agriculture	6,663	9,420	8,869	8,879	9,864	10,911
<i>Annual real growth rate</i>						
Total	13.9	39.0	18.4	8.1	5.9	11.7
Manufacturing	20.3	48.1	20.7	8.3	6.9	15.3
Agriculture	-1.8	41.4	-5.9	0.1	11.1	10.6
<i>Cumulative real growth from 1993</i>						
Total	13.9	58.4	87.5	102.7	114.7	139.8
Manufacturing	20.3	78.2	115.0	132.8	148.9	187.0
Agriculture	-1.8	38.9	30.7	30.9	45.4	60.8
<i>Share of total exports</i>						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	74.1	79.0	80.5	80.7	81.4	84.0
Agriculture	6.3	6.4	5.1	4.7	4.9	4.9
<i>As percent of GDP</i>						
Total	8.1	12.0	13.5	13.7	13.8	14.9
Manufacturing	6.0	9.5	10.9	11.1	11.2	12.5
Agriculture	0.5	0.8	0.7	0.6	0.7	0.7

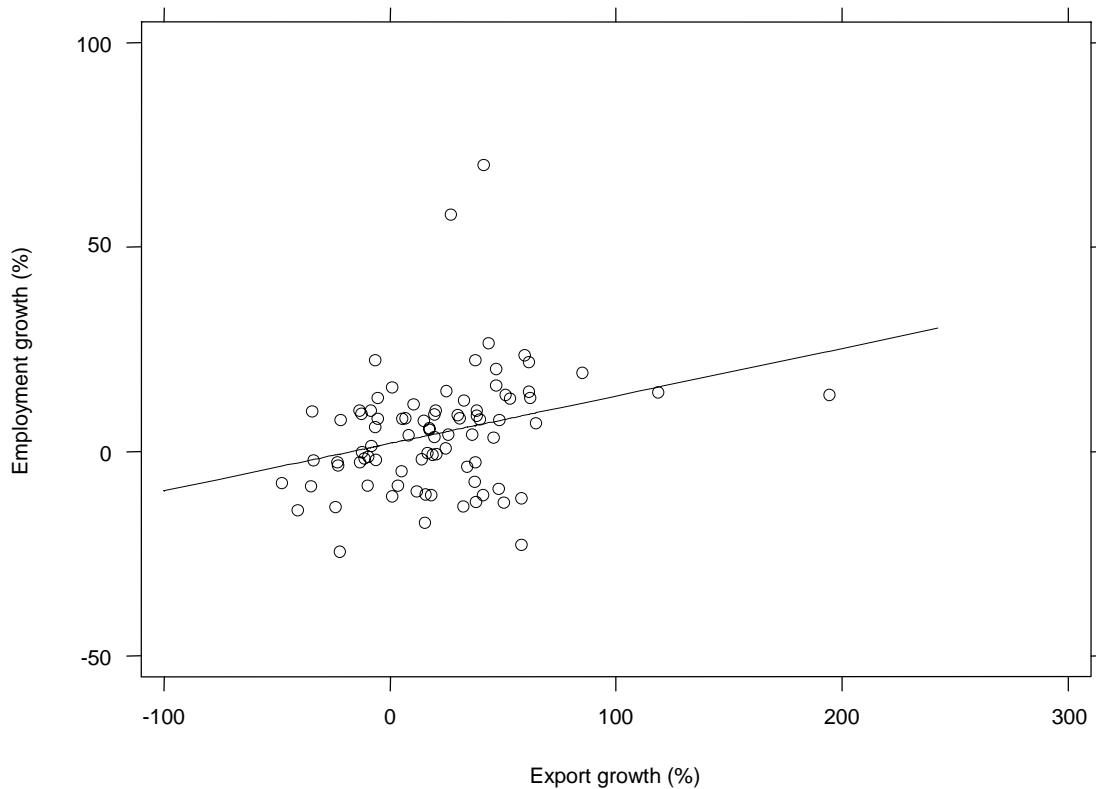
Notes: "Agriculture" includes fishing and forest products. Total exports include oil and mining.

Source: Author's own calculations based on Mexico [2000].

Preliminary evidence also suggests that export dynamism has been correlated with employment growth. As depicted in Figure 3, industries within the Mexican manufacturing sector that experienced fast export growth during the years 1997-1999, also exhibited high employment growth; the converse is also true.²¹

²¹ A word of caution is in order: while employment figures exclude maquiladora production, export figures do not. Nevertheless, a stronger correlation would be expected once maquiladora exports are excluded.

FIGURE 3
EXPORT-EMPLOYMENT GROWTH IN 84 MANUFACTURING INDUSTRIES, 1997-1999



The above growth figures, however, hide stark disparities within the manufacturing sector. For instance, while maquiladora employment basically doubled from 1994 to 1999, reaching nearly 1.3 million workers, non-maquiladora manufacturing employment grew by a mere five percent.²² Moreover, some authors also point out that manufacturing export growth is concentrated in a handful of large and/or foreign-owned firms, while the bulk of the manufacturing sector, and in particular small and medium-sized firms, have been left out of the process. For instance, Dussel Peters [2000] argues that maquiladoras and the largest exporting firms, while accounting for only 5.6 percent of total employment (not just manufacturing employment) account for 93.4 percent of all exports in the period 1993-1998. According to a government report quoted by Mexican newspaper *El Financiero*, micro, small, and medium firms in Mexico account for only 6.7 percent of all exports, whereas in Argentina, Canada, and Italy they contribute with 10, 9.3, and 40 percent, respectively.²³

In addition, according to the most recent industrial census, large firms account for the bulk of manufacturing employment growth in Mexico. Table 3, shows manufacturing employment figures for 1993 and 1998, with breakdowns according to plant size.²⁴ Employment in large firms with over

²² Based on figures from Mexico [2000].

²³ *El Financiero*, "Marginal participación de miniempresas en exportaciones", 28 November 2000. Of course, while these figures suggest that small firms in Mexico may lack competitiveness in the international arena, an alternative interpretation is that large Mexican firms are relatively competitive.

²⁴ Mexico's Censo Industrial does include maquiladoras.

250 workers grew by 46.5 percent during the period, well above the 29.1 percent total growth in the sector. In contrast, small- and mid-sized firms, employing between 16 and 250 workers, grew significantly less than the sector as a whole, while the smallest (1-15 workers) establishments' labor force grew in tandem with the sector as a whole. As a result, large firms' share of manufacturing employment increased from 42.5 to 46.5 percent. Remarkably, large firms accounted for over 60 percent of the almost 950,000 net manufacturing jobs created during the five-year period.

TABLE 3
MEXICO'S MANUFACTURING EMPLOYMENT, 1993 AND 1998

<i>Plant size</i>	Employees				Growth		
	1993	%	1998	%	Absolute	%	Contribution to total (%)
0 to 15	738,625	22.6	954,851	22.7	216,226	29.3	22.8
16 to 100	659,795	20.2	743,038	17.6	83,243	12.6	8.8
101 to 250	480,190	14.7	557,854	13.2	77,664	16.2	8.2
251 or more	1,385,156	42.5	1,957,823	46.5	572,667	41.3	60.3
<i>All firms</i>	<i>3,263,766</i>	<i>100.0</i>	<i>4,213,566</i>	<i>100.0</i>	<i>949,800</i>	<i>29.1</i>	<i>100.0</i>

Source: Author's own calculations using INEGI [2001].

The uneven performance across firms has led critics to question the benefits of trade liberalization in general and NAFTA in particular. Although such criticisms are undoubtedly important, one would want to arrive at conclusions about NAFTA's impact on manufacturing performance after a more detailed look at the existing evidence, rather than simply using aggregate data. What has been NAFTA's impact on average establishment size? Do small and medium firms face other factors that explain most of the difficulties or does NAFTA bear some responsibility? Has productivity and efficiency increased during the NAFTA years? Ideally, we should find answers to those questions using firm-level data, but to my knowledge studies of that nature are non-existent as of today. Nonetheless, some tentative answers can be posited based on related studies on other countries or time periods.

From a theoretical point of view, NAFTA's competition and scale effects should force inefficient manufacturing firms out of the market, thereby raising productivity in the sector. Furthermore, NAFTA could allow firms to exploit economies of scale as exporters gain access to the larger North American market. In turn, one would see an increase in average firm size. In contrast, by reducing monopoly power among Mexican firms, NAFTA should reduce market concentration and, as a result, firm size. Thus, trade impact's on average plant size is ambiguous. Moreover, there are other reasons why small firms may be prevalent in developing countries such as Mexico (e.g., regional market segmentation due to poor infrastructure). Also, small firms may be at a disadvantage due to reasons other than trade liberalization (e.g., lack of access to credit markets).²⁵

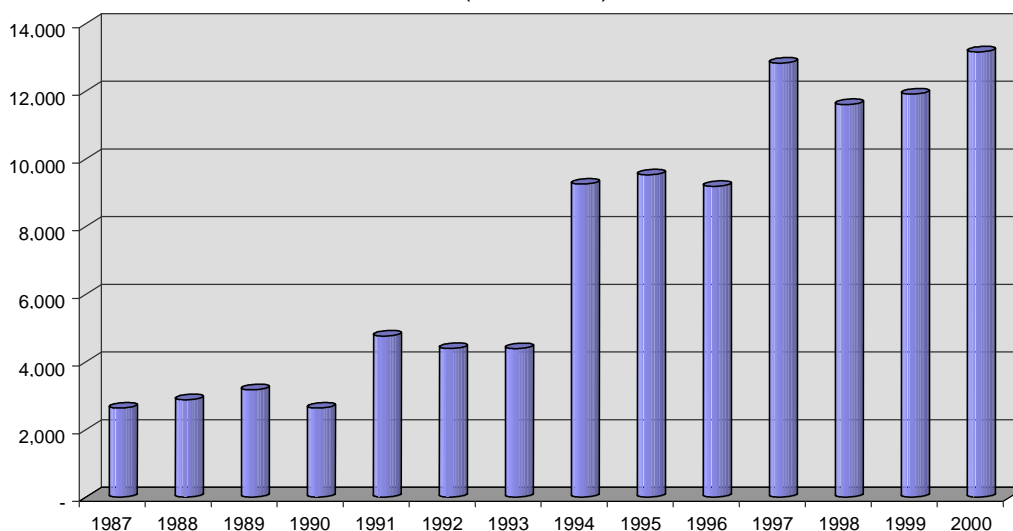
²⁵ These and other factors are discussed by Tybout [2000].

In a survey of studies on manufacturing performance in developing countries, Tybout [2000] concludes that trade liberalization results in price-cost mark-up reductions and rising productivity, but that there is little potential for exploiting internal or external scale economies.²⁶ Along these lines, Tybout and Westbrook [1995] studied Mexico's trade liberalization prior to NAFTA and concluded that productivity increased across most manufacturing industries. Using plant-level data, the authors argued that productivity gains occurred both in exporting and import-competing firms.

Although NAFTA's impact on Mexican manufacturing efficiency has not been studied in detail, evidence for Canada suggests positive effects occur in the long run. Using industry level data, Trefler [2001] argues that in Canada, even though NAFTA's tariff elimination reduced employment, output and the number of plants in the short run, labor productivity, wages and skill-upgrading rose in the longer run. He further argues that labor productivity increased due to plant turnover in favor of more efficient firms and because of rising technical efficiency.

With regard to the agreement's trade and location effects, over the last six years we have witnessed a dramatic increase in foreign direct investment (FDI) in Mexico: on average, annual FDI flows rose from 3.5 billion, in the 1987-1993 period, to 11 billion in the post-NAFTA era (see Figure 4). As percent of GDP, FDI flows jumped from 1 percent to 3 percent during the period. These figures are remarkable because there were no major privatization projects during the period that may explain the rise in FDI, as it was the case in Argentina and Brazil, for example.²⁷ It should also be noted that the participation of Canada and the United States on total FDI flows has increased since 1994, from 53 percent during that year to 65 percent in 1999.²⁸

FIGURE 4
FOREIGN DIRECT INVESTMENT FLOWS INTO MEXICO, 1987-2000
 (Billion US\$)



Source: Banco de México, *Indicadores Económicos y Financieros*.

²⁶ Bartelsman and Doms [2000] survey international studies, mainly in industrialized countries, using longitudinal microdata.

²⁷ Mexican FDI flows in 1998, as percent of GDP, lagged behind those of Brazil, Chile and China.

²⁸ Based on figures from Comisión Nacional de Inversiones Extranjeras [2000].

To what extent does NAFTA explain the surge in FDI flows into Mexico? To be sure, there are a number of other factors that may explain FDI inflows, such as a more liberal foreign investment law adopted by Mexico in 1993 and rising FDI flows to emerging markets (at least prior to the 1998-1999 Asian crises), among others. But NAFTA could have influenced the location of production in Mexico in at least five ways. First, tariff preferences granted to Mexico under the agreement might have allowed North American producers to exploit Mexico's comparative advantage in labor intensive processes, thereby explaining the relocation of activities such as apparel production. Second, tariff preferences could have induced producers to locate in Mexico instead of producing in other developing countries. Third, NAFTA's rules of origin would have induced some input suppliers to move to Mexico, as well as Canada and the United States, to enjoy the elimination of tariffs. Fourth, the eventual elimination of duty drawback mechanisms, under which Mexico's maquiladoras operated until 2000, would have increased the incentives to move to Mexico and North America intermediate good production. Last, the agreement's investment provisions offer more certainty to foreign investors with regard to their Mexican assets.

With regard to tariff elimination, NAFTA has given producers located in Mexico an advantage over their competitors in other countries, especially in East Asia. By January 2000, Mexican goods entering the U.S. markets faced a decline in trade-weighted tariffs from 4 percent, in 1994, to 0.4 percent (USTR [2000]). Those reductions are more pronounced in particular industries, especially in relation to the tariffs faced by other countries. In 1998, for example, U.S. effective tariffs -the ratio of paid import duties over the value of imports- on apparel imports from Mexico were only 0.9 percent; in contrast, effective tariffs on imports from China, Hong Kong and the Dominican Republic, were, respectively, 12.7 percent, 17.5 percent and 7.4 percent. In electronics, Canadian and Mexican goods faced an effective tariff of 0.1 and 0.3 percent, respectively, while Chinese goods paid a 2 percent tariff. Imports in the automobile industry from Mexico paid 0.4 percent in tariffs, while German goods faced a 2.7 percent effective tariff.²⁹ As argued earlier, such tariff differentials in all likelihood gave Mexico an advantage as a production center.

The tariff advantages received by Mexico and the incursion of Mexican goods in the North American market have raised fears that FDI flows are the result of NAFTA-induced trade diversion. In that scenario, Mexico, would have replaced more efficient producers from the rest of the world simply as a result of the agreement's tariff preferences, which in turn would have attracted FDI to Mexico. There is some anecdotal evidence supporting that view. For example, Mexico has jumped from being the fifth to being the first most import apparel exporter to the United States, displacing China in the process (see Table 4). At face value, the data suggest that Mexico has made inroads in the North American market at the expense of Asian producers in other products as well. Out of 227 SITC 3-digit categories for which data is available,³⁰ Mexico's share of the North American import market increased in 169 categories and fell in the remaining 58. In 104 categories, the increase in Mexico's share coincided with a decline in Asia's share, while in 65 both shares increased. In contrast, Mexico reduced and Asia increased their respective participation in only 37 categories, while in 21 both shares declined. Thus, as shown in Figure 5, the data indicates that there is a negative correlation between the change in Mexico's share of North American imports and Asia's share.

²⁹ Figures on effective tariffs were taken from CEPAL [2000].

³⁰ Based on figures from CEPAL's CAN2000 database.

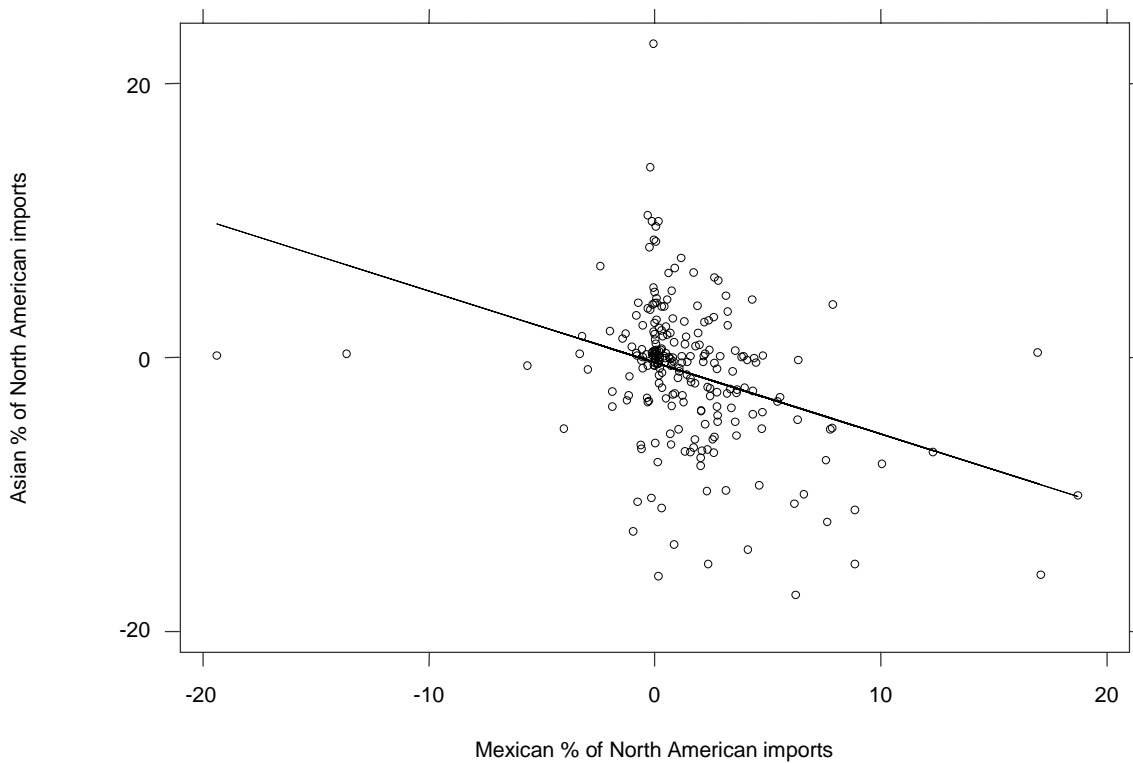
TABLE 4
U.S. APPAREL IMPORTS BY MAIN SUPPLIERS, 1994 AND 1998

Country	Imports (billion US\$)		Share		Rank	
	1994	1998	1994	1998	1994	1998
Mexico	2,063,434	7,226,294	5.6	13.6	5	1
China	5,977,659	6,494,147	16.2	12.2	1	2
Hong Kong	4,590,302	4,466,479	12.4	8.4	2	3
Dominican Republic	1,592,293	2,327,177	4.3	4.4	6	4
Taiwan	2,275,400	2,203,450	6.1	4.1	3	5
South Korea	2,075,690	1,994,194	5.6	3.7	4	6
Honduras	663,472	1,906,746	1.8	3.6	16	7
India	1,442,516	1,876,417	3.9	3.5	7	8
Philippines	1,419,843	1,765,941	3.8	3.3	8	9
Indonesia	1,120,176	1,702,823	3.0	3.2	9	10
<i>Total</i>	<i>36,999,972</i>	<i>53,255,735</i>	<i>100.0</i>	<i>100.0</i>	<i>--</i>	<i>--</i>

Note: Apparel imports refer to imports under HS chapters 61-63.

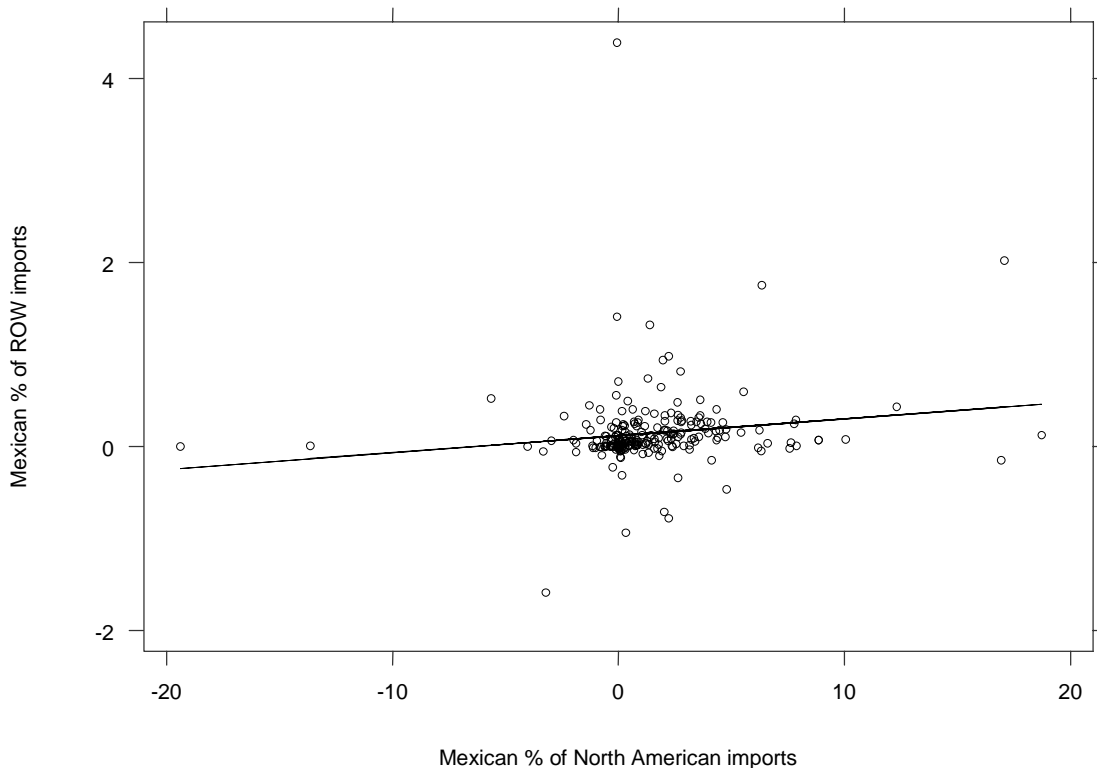
Source: Author's calculation using DATAINTAL 2.0 figures.

FIGURE 5
CHANGE IN MEXICAN/ASIAN SHARES OF NORTH AMERICAN IMPORTS, 1993-1998



Nevertheless, before concluding that NAFTA is trade diverting based on these data, we must pay closer attention to the determinants of the trade pattern changes described above. One possibility, documented by Krueger [1999, 2000], is that Mexico's share gains in North America are occurring in sectors in which Mexico is becoming competitive on a worldwide basis, ruling out the possibility of trade diversion. There is some evidence that in some sectors that is indeed the case. As depicted in Figure 6, there is a positive correlation between the increase in Mexico's import shares both in North America and in the rest of the world (ROW). Importantly, out of the 104 categories in which Mexico's share of the North American market increased while that of Asia fell -and in which trade diversion would be more likely- 91 categories included products in which Mexico also gained market shares in the ROW and, of the latter, Asian shares of ROW imports fell in 53 categories. Thus, in more than half (53 out of 104) of the SITC categories in which Mexico "displaced" Asia in the North American import market, Mexico has also become a more successful exporter to the world as a whole.

FIGURE 6
CHANGE IN MEXICAN SHARE OF NORTH AMERICAN AND ROW IMPORTS, 1993-1998



An additional possibility explaining the relative dynamism of Mexican exports to North America *vis à vis* Asia is that the countries involved differ in the types of goods they each produce. For example, Mexico could be specializing in producing, and subsequently exporting, goods in which world demand is relatively stagnant, while Asian nations could be doing the opposite. As a result, Mexico would be gaining market share in the world in stagnant industries, and losing it in dynamic ones, while the converse would be true in Asia. In this example, then, Mexico would see an increase and Asia a decline in their respective shares of world demand in stagnant industries,

while their share in dynamic industries would move in the opposite direction.³¹ It follows that the negative correlation between Mexican and Asian market shares in North America might not necessarily be explained by NAFTA, but by changes in the production structure of each country.

CEPAL's CAN2000 database allows to explore the above possibility. Out of the 104 SITC categories identified earlier in which trade diversion might be occurring as a result of NAFTA, Mexico's exports to the world indicate that the country has increased its trade share in 44 categories in which world demand is stagnant, while at the same time Asia has reduced its share in those goods. In contrast, Mexico's share of world trade in 29 dynamic categories has risen, while Asia has been unable to capitalize on the increased world demand for those products and its share has fallen. Therefore, in 73 (= 44 + 29) categories, Mexico's share of North American imports has risen and Asia's has fallen, due perhaps to changes in the specialization of the countries in question. Only in 28 of the 104 categories did Mexico and Asia increased their share of world imports simultaneously, suggesting that NAFTA could be a factor explaining the inroads made by Mexican producers in the North American markets.

The previous discussion suggests that the probability that Mexican exports to Canada and the United States have resulted in trade diversion is small. What about North American imports into Mexico? Table 5 shows that the combined Canada-US ("North American") share of the Mexican import market has increased by more than four percent points since 1993, while Japanese and European Union shares have fallen during the same period, opening up the possibility of trade diversion. Nevertheless, one should note that EU import shares have fallen since 1990 and do not seem to have accelerated under the NAFTA. Yet, in many goods, North American products are a good substitute for EU products, as there is a negative correlation between share changes at the Harmonized System 4-digit level (see Figure 7).

TABLE 5
MEXICAN IMPORTS AND REGIONAL SHARES, 1990-2000
(Permanent import figures, in billion US\$)

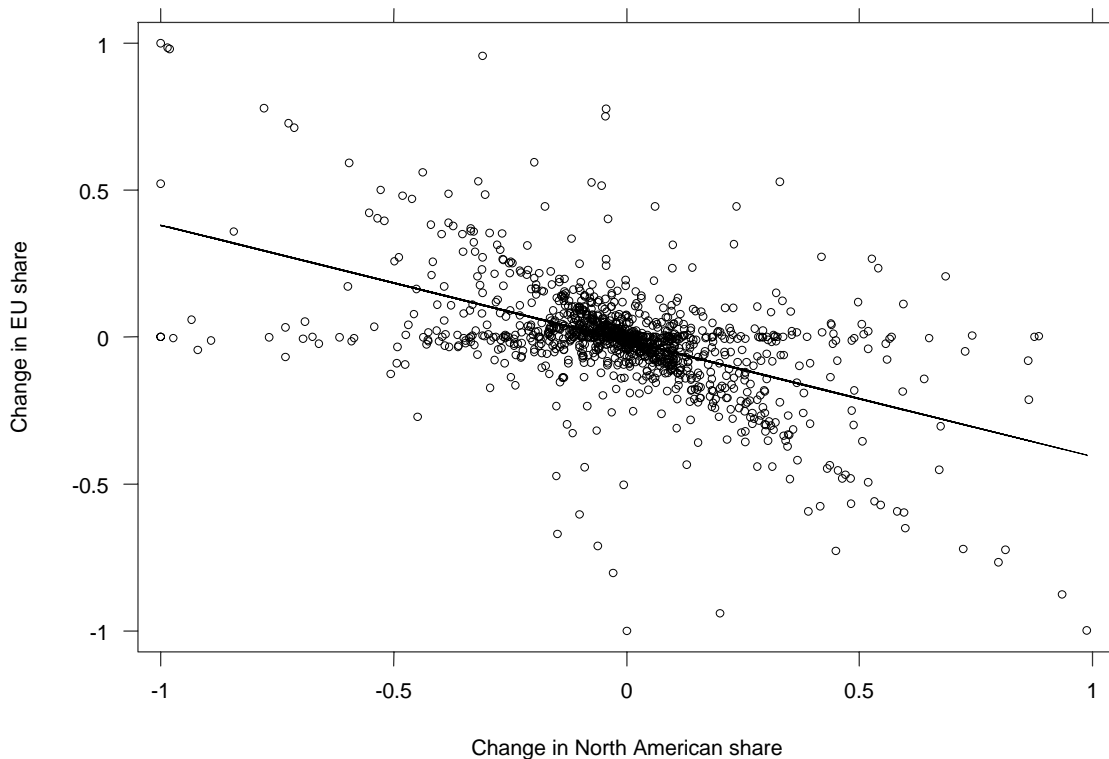
Value/shares	Year										
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000 (a)
<i>Total imports (US\$bn)</i>	22,400	31,000	39,800	43,900	47,000	30,900	38,600	49,200	56,000	62,300	69,400
Share of total imports (%):											
North America	67.0	66.1	64.1	62.9	63.5	67.0	69.5	68.0	67.7	67.6	67.1
European Union	17.5	17.0	17.2	16.2	16.3	15.7	14.2	14.7	14.9	14.6	13.7
Japan	3.5	4.4	5.5	7.0	5.4	4.7	4.2	4.0	4.0	3.9	3.8
Latin America/Caribbean	5.1	5.2	5.0	5.2	5.2	4.2	3.8	4.0	3.9	4.3	5.0
Asian NICs 1 (b)	2.8	3.6	3.5	3.8	4.1	3.1	2.7	2.9	3.0	3.0	3.0
Asian NICs 2 (c)	0.4	0.9	1.8	2.0	2.4	2.3	2.5	3.1	3.1	3.1	3.6
Rest of the world	3.9	2.8	3.0	2.9	3.1	3.1	3.1	3.2	3.4	3.5	3.8

Notes: (a) January-November.
(b) Hong Kong, Korea, Singapore and Taiwan.
(c) China, Indonesia, Thailand, Malaysia and the Philippines.

Source: Author's calculations using data from Mexico's *Secretaría de Economía*.

³¹ Of course, the converse situation, with Mexico and Asia specializing, respectively, in dynamic and stagnant categories would result in Mexico gaining and Asia losing market share in those dynamic industries at the world level.

FIGURE 7
CHANGES IN EU AND NORTH AMERICAN SHARES OF MEXICAN PERMANENT IMPORTS,
4-DIGIT HS HEADINGS, 1993-1999
 (Percent points)



Agriculture

At the aggregate level, the agricultural sector under-performed relative to the economy as whole and, in particular, relative to the manufacturing sector, both in terms of GDP and export growth (Tables 1 and 2): from 1993 to 1999, the sector grew by less than 10 percent and its exports by approximately 60 percent, compared to 37 and 190 percent, respectively, for the manufacturing sector. As a result, the sector's economic weight fell. Nevertheless, NAFTA has allowed Mexican agricultural products to capture a larger share of the U.S. market -9 percent in 1993 versus 11 percent in 1999, only behind Canada- as Mexico's export growth to the United States in the sector during the period exceeded that of traditional agricultural exporters such as Canada, Australia, New Zealand and Argentina (SAGAR and SECOFI [2000]).

A close look at the agricultural sector reveals a degree of dualism similar to the one in the manufacturing sector, with efficient fruit and vegetable exporters coexisting with traditional subsistence farmers of corn and other grains. Table 6 breaks down output performance across selected agricultural products. In general terms, grain and oil-seed production was less dynamic than production of fruits and vegetables, although there are differences even within these categories. There are several forces that may explain such differential performance. During the 1990s, the Mexican government introduced reforms that facilitate investment in and sales of

communal lands (*ejidos*) and replaced minimum prices for corn and other products with cash subsidies. Both measures should encourage farmers to shift their production to more profitable crops. Thus, it is difficult to pinpoint how NAFTA has impacted the sector.

TABLE 6
AVERAGE OUTPUT OF SELECTED AGRICULTURAL PRODUCTS, METRIC TONS

Crop	Period ¹		% change
	Pre-NAFTA	Post-NAFTA	
Grains and oil-seeds			
Rice	355,709	412,458	16.0
Beans	1,168,008	1,242,024	6.3
Corn	15,985,386	18,145,120	13.5
Wheat	3,798,656	3,577,164	-5.8
Sesame seeds	35,570	26,092	-26.6
Cotton	314,914	613,628	94.9
Safflower seeds	88,119	138,678	57.4
Soybeans	597,860	220,651	-63.1
Barley	540,658	452,219	-16.4
Grain sorghum	4,555,062	5,373,383	18.0
Other cyclical crops			
Peppers (excluding green peppers)	1,066,753	1,412,475	32.4
Strawberries	91,580	112,639	23.0
Tomatoes	1,712,893	1,893,736	10.6
Perennial crops			
Avocados	725,131	813,354	12.2
Alfalfa	18,603,652	20,548,266	10.5
Cocoa beans	46,453	44,387	-4.4
Coffee beans	1,789,057	1,757,307	-1.8
Sugar cane	40,706,775	44,150,529	8.5
Copra	198,097	217,983	10.0
Limes	726,127	1,023,308	40.9
Mangoes	1,104,862	1,325,045	19.9
Apples	529,979	465,431	-12.2
Oranges	2,511,251	3,604,461	43.5
Bananas	2,044,484	1,956,794	-4.3

Note: ¹ Pre-NAFTA (1990-1993 average); Post-NAFTA (1994-1998).

Source: Author's calculations based on figures from Centro de Estadística Agropecuaria [2001].

Despite that difficulty, one would expect that, in the long run, NAFTA should result in Mexico specializing in those crops, such as many fruits and vegetables, in which it has a comparative advantage relative to the United States and Canada. Indeed, according to SAGAR and SECOFI [2000], Mexico has become the number one supplier to the United States in more than 10 percent of all agricultural tariff lines, including goods such as lettuce, tomato, lime, zucchini, celery, garlic, among many others. The flip side of such developments is that Mexican output in sectors with a

comparative disadvantage, such as some grains, should fall. For example, Mexico is clearly less competitive than the United States in corn production. While corn yields in Mexico are 2.3 tons per hectare, in the United States they are close to 8 tons per hectare, and even the most efficient Mexican corn producing states do not surpass U.S. average yields.³² Comparing Tables 6 and 7, it is interesting to note that import-penetration increases after 1994 are fairly high in those agricultural goods in which Mexico's output growth has been slow, and that most imports originate in Canada or the United States. Although a causal link cannot unambiguously be established between NAFTA, import penetration and output reductions with the figures presented here, they suggest a pattern of specialization that coincides with our prior expectations.

TABLE 7
IMPORT PENETRATION IN SELECTED AGRICULTURAL PRODUCTS, 1994-1998

Product	Year				
	1994	1995	1996	1997	1998
<i>Import penetration</i> ¹					
Rice	49.2	48.1	54.4	49.2	48.3
Beans	4.4	2.1	8.7	8.6	13.8
Corn	13.1	12.7	8.1	12.6	22.6
Wheat	25.8	28.7	37.7	35.6	44.7
Sesame seeds	0.0	35.0	18.5	401.0	49.2
Safflower seeds	1.0	0.5	0.2	0.1	0.1
Soybeans	82.7	92.2	98.2	94.9	95.9
Barley	13.9	12.3	33.9	26.9	37.7
Grain sorghum	48.4	33.4	22.6	27.7	32.4
<i>NAFTA share of imports</i>					
Rice	80.6	98.8	99.9	99.2	99.5
Beans	100.0	99.4	98.6	99.3	97.9
Corn	100.0	100.0	88.4	99.9	100.0
Wheat	100.0	100.0	100.0	100.0	100.0
Sesame seeds	6.2	5.9	6.9	1.1	2.7
Safflower seeds	100.0	100.0	100.0	100.0	100.0
Soybeans	87.2	100.0	100.0	97.0	92.1
Barley	100.0	100.0	98.2	100.0	90.1
Grain sorghum	100.0	100.0	93.4	100.0	98.2

Note: ¹ Import penetration = Imports/(Output+Imports-Exports).

Source: Author's calculations based on trade figures from DATAINTAL 2.0 and production data from Centro de Estadística Agropecuaria [2001].

While specializing in producing high value-added and more labor intensive crops, such as fruits and vegetables, would be a positive development in Mexico, poor access to credit and insurance, lack of experience in international marketing, deficient irrigation and transportation infrastructure, among other factors, may prevent poorer farmers from benefiting from the agreement. Whether

³² See Centro de Estadística Agropecuaria [2001].

those farmers and their families gain or not depends on removing such structural obstacles or, alternatively, creating opportunities elsewhere for the younger generations. In turn, the latter depends on the ability of the Mexican economy to grow. In the next section I discuss briefly how NAFTA may affect the growth prospects of the Mexican economy.

NAFTA and growth

Will NAFTA boost Mexico's economic growth and development? In order to reach a conclusive answer to the preceding question we must wait for a number of years to pass, as the agreement's impact on growth will be felt only in the medium- to long-run. Nevertheless, one could argue that NAFTA will likely have a positive impact on economic growth based on evidence suggesting that (i) trade promotes growth, (ii) that regional trade agreements promote trade, and (iii) that economic integration arrangements result in "upward" income convergence.

As indicated before, there is a widespread consensus among economists indicating that international trade promotes growth. For example, in a recent article, Frankel and Romer [1999] find that trade has a substantial impact on income growth, with a one-percent increase in the trade-to-GDP ratio associated with a one-and-a-half to two- percent rise in income per capita. Based on this finding, then, to the extent that NAFTA allows Mexico to trade more with North America -through bilateral liberalization- and with the rest of the world -through increased productivity and availability of intermediate goods- income per capita in that country should rise. In fact, cross-country studies show that preferential trade arrangements (PTAs) increase bilateral trade flows, supporting the previous claim.³³

A further consideration is that regional trade arrangements may promote income convergence toward that of the richest country. We can see that in Figure 1 above. Ireland joined the European Economic Community in 1973, when its GDP per capita stood at less than 70 percent of France's, the leading European economy at the time; by 1997, Irish GDP per capita was almost at par with that of German citizens, the richest in Europe. Similarly, when Portugal and Spain joined the EEC (1986), income per capita was less than 50 and 60 percent, respectively, than German income per capita; by 1997, they stood at roughly 60 and 75 percent. In contrast, Greece did not seem to close its income gap with respect to Germany. Importantly, according to work by Venables [1999], income convergence may occur only within members of North-North or North-South agreements, but agreements among developing countries (South-South) may actually lead to income divergence, to the detriment of the poorest nation.

The above considerations suggest, as indicated before, that NAFTA will allow the Mexican economy to catch up to the rest of North America and increase income per capita in Mexico. Nevertheless, it must be kept in mind, as the Greek case illustrates in the EU context, that trade integration is not a sufficient condition for growth. As studies in growth theory indicate, investment in human capital and improvements in governance performance (e.g., the rule of law, corruption fighting), among other factors, are inextricably linked to economic performance. Also, while NAFTA might improve the growth prospect for Mexico as a whole, it may have an asymmetric impact on

³³ See for example Frankel ([1996] Table B6.7a, p. 310).

different socioeconomic groups. Thus, the next section talks about the agreement's implications for income distribution.

NAFTA and income distribution

Economic reforms implemented in Mexico and elsewhere since the mid-80s have come under increasing scrutiny. Observers argue that many of those reforms benefited a handful of affluent socioeconomic groups, while the bulk of the population paid for the costs of the reforms. Indeed, income distribution in Latin America and in Mexico seems to have worsened over the last decade.³⁴ A deterioration in the distribution of income presents problems to the stability of nations in the form of increased crime and political turmoil. Also, it poses problems for the implementation of further economic reforms. Most important, it may be associated with lower standards of living for the poorest sectors of the population.

Has NAFTA been an important factor driving income inequality? What has been the evolution of wages in Mexico? How do wages compare in exporting and importing sectors or firms? How have agricultural workers fared? Is there evidence of increased wage inequality? How has NAFTA affected the demand for specific skills in the labor force? Has there been a response on the supply side? Has regional inequality increased? While there have been attempts at answering these questions, there is still search for adequate answers.

A casual application of the Heckscher-Ohlin-Samuelson model of trade to the Mexican case would suggest that income inequality would fall. That would follow because Mexico would specialize in producing unskilled labor-intensive goods while importing skill-intensive goods from the United States and Canada. In turn, freer trade should increase Mexican unskilled workers' wages while reducing those of skilled workers, thereby reducing income disparities. In fact, Harrison and Hanson [1999] find that wage disparity in Mexico has increased, contrary to the HOS prediction. A more careful examination, however, suggests that rising income disparities and, more precisely, wage inequality may be consistent with the Stolper-Samuelson Theorem. Robertson [2000a] argues that, prior to liberalization, Mexico protected unskilled labor-intensive industries more heavily, suggesting that, in a global context, the country is not richly endowed with unskilled labor. Then, liberalization reduced relative prices in the latter industries more sharply than in skilled labor-intensive ones. The change in relative prices translated into higher skilled labor wages. Robertson [2000a] argues further that trade liberalization in Mexico was accompanied by technology upgrading as FDI flowed into the country and because exporting firms were more likely to invest in technology products to compete abroad. Since technological improvements increase the demand for labor skills, skilled-worker wages rose relative to unskilled wages, widening the wage gap.

The previous arguments apply to trade liberalization in general, but do they carry over to NAFTA in particular? In the North American context Mexico is undoubtedly abundant in unskilled labor, leading to an increase in the latter's wages according to the HOS model. Nevertheless, with more than two skill levels, wage inequality may still increase. For example, jobs that intensively require intermediate skill levels may relocate to Mexico. The corollary would be that the demand for

³⁴ For example, Behrman, Birdsall and Székely [2000] find that economic reforms in Latin America have had a short-run negative effect on wage inequality during the 1990s.

intermediate skills in Mexico, relative to low skills, would rise, while in the United States, relative to high skills, would decrease: wage inequality would rise in both cases. Feenstra and Hanson [1997] find evidence of such effects by looking at Mexico's.

Another possibility is that NAFTA might have deepened the income divide that separates the Northern border states and the poorer South. Messmacher Linartas [2000] argues that even after controlling for the different industrial structure across states -which, as a result of the manufacturing sector's dynamism and its relative concentration in the North would imply that the latter's income increased more rapidly- one finds that regional income disparities increased since 1993. At best, the author concludes there is no evidence that regional income disparities have been reduced under NAFTA.

In sum, NAFTA may deepen existing wage and income inequality in Mexico as the demand for skilled workers increases over its first years in place. How well Mexico copes with mounting inequality depends crucially on the ability to match the labor skills being demanded by industry in an open economy, with the skills that low-income groups have to offer. It is striking that whereas some urban centers, especially in the Northern states, have experienced labor shortages recently, rural migrants still cross the border in search of jobs in the United States. While it is unlikely and, most of all, unfortunate, that older unskilled workers and farmers will be able to adjust favorably to the challenges posed by trade liberalization, younger generations must be given the opportunity to improve their ability to participate in the more dynamic sectors of the economy through education and training.

NAFTA and labor market integration

At the end of the previous section, in mentioning Mexican migration to the United States, I touched upon yet another dimension of regional integration that NAFTA is likely to alter: labor market integration. Importantly, one must realize that labor markets are not only integrated through international migration, an emotional subject in both countries. As Robertson [2000b] suggests, capital movements and trade in goods are additional channels through which labor markets integrate across borders.

Robertson [2000b] studies U.S.-Mexico labor market integration by asking how wage changes in the United States affect Mexican wages, both in border cities and in the interior. In his model, a rise in U.S. wages raises the demand for Mexican labor in border locations as U.S. capital moves to the region; at the same time, Mexican labor supply in the border decreases as workers find migrating in search of U.S. jobs more appealing. Moreover, the increased demand for labor in border cities attracts Mexican workers from interior location. Thus, changes in U.S. wages will have an impact on Mexican wages, both in the interior and along the border.

Robertson [2000b] finds that the U.S. and Mexican labor markets were highly integrated, even prior to NAFTA. Not surprisingly, the author finds that border cities are more integrated to the U.S. labor market, with some cities like Tijuana exhibiting a higher degree of integration to the United States than to the Mexican interior. He argues that migration is the dominant channel through which the Mexican labor market responds to U.S. wage shocks.

Interestingly, Robertson [2000b] concludes that NAFTA actually slowed down the rate at which Mexican wages respond to U.S. shocks. He argues that NAFTA might have created opportunities in Mexico that could have reduced the incentives to migrate to the United States, thereby reducing the wage responsiveness to U.S. wage shocks in Mexico. Nevertheless, the author acknowledges that his period of analysis (1987-1997) might not be long enough to yield conclusive evidence on the effect of NAFTA. Not only was the period subject to the 1994 peso crisis, as the author points out, but the years prior to NAFTA were characterized by slow growth and falling wages which could have induce more Mexicans to migrate to the United States. Moreover, as it has been seen, foreign direct investment in Mexico has surged after NAFTA was introduced and that a good deal of those flows have occurred in export sectors, suggesting that foreign capital may gain prominence in labor market integration.

To summarize, while NAFTA may reduce the importance of some of the mechanisms through which the U.S. and Mexican labor markets are intertwined, other mechanisms -export production, FDI- might come to the forefront as a result of the agreement. The extent to which NAFTA creates a unified regional labor market has important implications. In line with the discussion on monetary policy, labor markets that respond in tandem to shocks strengthen the case for coordinated monetary policies and the adoption of a common currency. Also, they support recent calls to establish a guest worker program for Mexican nationals in the United States.

IV. THE INSTITUTIONAL CONSEQUENCES OF NAFTA

Economists' traditional discussions on the benefits and costs of regional integration, and of trade liberalization in general, typically concentrate on the extent to which commercial policies remove domestic price distortions and, consequently, their implications for trade patterns, industrial structure, labor markets, and other similar economic areas. While that analysis is valuable in understanding, albeit in part, the economic consequences of trade policy, it is nevertheless incomplete as long as the particular institutional setting of the country at hand is not properly factored into the analysis and, moreover, no account is given regarding how the institutional setting will evolve *ex post*. Indeed, recent economic thinking has come to reconsider how the prevailing institutional environment shapes economic outcomes. The reconsideration is based on the premise that institutions matter and that they are susceptible of rigorous economic analysis.³⁵ For example, researchers have found that the existence of a democratic political regime is an important determinant of economic growth, that economic volatility is lower in democratic countries, and that wages are higher in those countries.³⁶ With respect to trade, then, "the yardstick that matters is the degree to which trade reform contributes to the construction of a high-quality institutional environment at home" (Rodrik [2000c] p. 2).

With that perspective in sight, the question emerges as to how economic integration shapes existing institutions, both at the national and supranational level. In the particular case of NAFTA, has the agreement allowed Mexico to create "high-quality" institutions? How did it influence the country's reform tract? Do the new institutions respond to Mexico's needs or are they a simple transplantation of U.S.-style institutions? Has NAFTA favored regional cooperation and regional institution building?

An attempt at answering the previous questions must start by recognizing that NAFTA itself is an institution. The agreement "governs and shapes" the economic interaction among economic agents, both across and within borders. For instance, NAFTA disciplines are in effect a constraint that Mexican policymakers must take into consideration when choosing among alternative trade instruments, just like the WTO rules. In addition, interest groups in Mexico understand that the agreement has altered their ability to influence trade policy (e.g., tariff changes on intermediate goods have a direct impact on the competitiveness of final goods in the North American market). Moreover, greater economic integration has increased the benefits of binational cooperation regarding the environment, migration, and other issues that were not at the center of the agreement. Naturally, the constraints imposed by NAFTA have been perceived in both positive and negative ways. Some authors have argued that among the agreement's accomplishments is the ability to lock in the host of economic reforms implemented by Mexico since the late 1980s (Tornell and Esquivel [1995], Lin and Nugent [1995] p. 2351). On the other hand, critics have argued that some of the agreement's provisions -such as those regarding foreign investor rights in Chapter 11- negatively impinge on national governments' ability to adopt socially desirable policies.³⁷

³⁵ Williamson [1996] offers a collection of important essays in the so-called New Institutional Economics. See the survey, with particular reference to development economics, by Lin and Nugent [1995]. Lin and Nugent ([1995] p. 2306) define institutions as "... a set of humanly devised behavioral rules that govern and shape the interaction of human beings, in part by helping them to form expectations of what other people will do".

³⁶ See Kaufmann, Kray and Zoido-Lobatón [1999] and Rodrik [1997], as well as the references therein.

³⁷ For a brief account of the controversies surrounding NAFTA's Chapter 11 see IDB [1999, 2000].

But NAFTA has also created subsidiary institutions needed in order to manage the agreement and the deepening economic integration. Over 25 committees and working groups have emerged to manage trade relations and settle the inevitable disputes that come with them. NAFTA members have gone beyond establishing trade and investment disciplines. They adopted the North American agreements on environmental cooperation and on labor cooperation. The United States and Mexico have established the North American Development Bank and the Border Environmental Cooperation Commission. In addition, the three countries have increased cooperation in other areas, such as the adoption of the North American Industrial Classification System, ongoing talks to facilitate migration flows and to create a regional energy market. Inside Mexico, NAFTA gave an impulse to the revamping of agencies in charge of competition policy, intellectual property protection, and standards, among others.³⁸ In addition, the negotiation of NAFTA seems to have increased the trade negotiating capacity in Mexico and has eased communications between the private and public sectors regarding trade policy. Mexico's trade negotiators are considered among the most capable in the hemisphere. As a result Mexico has expanded its network of trade agreements to encompass other countries -developed and developing- reducing the possibility of damaging trade diversion.

Last but not least, NAFTA might have supported the political transition to democracy in Mexico. In all fairness, the political landscape in Mexico had been in a state of flux since as early as 1968, a year of heightened student activism and subsequent repression, gradually opening up and culminating in the 2000 election, for the first time in over 70 years, of an opposition candidate. Thus, NAFTA is but one potential factor, at best, explaining the political changes that took place in Mexico over the last decade. While keeping this in mind, it is interesting to note that some observers have seen a direct link between North American free trade and democratization in Mexico. For example, Thomas Carothers, vice president for studies at the Carnegie Endowment for International Peace, a Washington Think Tank, recently wrote that "bringing Mexico into the North American Free Trade Agreement created a broader context of integration that reinforced pressure on the Mexican political elite to move ahead with liberalization".³⁹ Even U.S. President George W. Bush has suggested such relationship:

*"When we promote open trade, we are promoting political freedom. Societies that open to commerce across their borders will open to democracy within their borders, not always immediately, and not always smoothly, but in good time. Look at our friends, Mexico, and the political reforms there. Look at Taiwan. Look at South Korea. And some day soon, I hope that an American President will end that list by adding, look at China. I believe in open trade with China, because I believe that freedom can triumph in China."*⁴⁰

More detached academic observers have made similar arguments. For instance, Lin and Nugent ([1995] p. 2336) have argued that the incompatibility between authoritarianism and the economic growth brought about by increased trade would eventually result in a more open political regime:

³⁸ Once again, while some of the functions performed by these agencies are unambiguously benign (e.g., curtailing monopolistic power), the benefits that stem from others are debatable (e.g., intellectual property protection in a developing country).

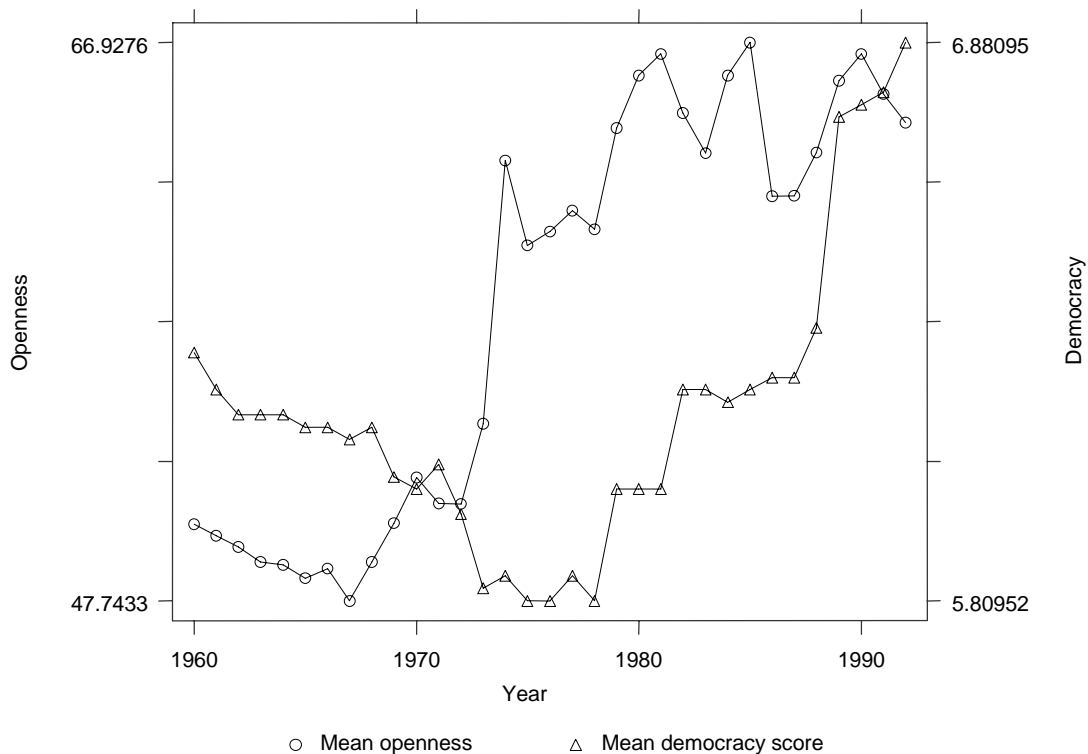
³⁹ See The Washington Post (29 January 2001).

⁴⁰ Quotation taken from Office of the Press Secretary [2001].

"...a dictatorship or authoritarian regime may not be compatible with long-run economic growth. The more successful is such a state in achieving economic development, the more likely it is that the state will face a legitimacy crisis. This is because both a financially independent middle class and the integration of the domestic economy with the world economy are at the same time both necessary conditions for and natural effects of economic success in the modern world. As a result, democratic ideology of [developed countries] may penetrate the middle class and undermine the legitimacy of the regime. These pressures may also force the state to cut its own power of intervention in order to make credible its commitment to such reforms. Thus, authoritarian states may gradually be transformed into democratic states, as seems to be happening in Korea, Taiwan and Chile."

It will perhaps be difficult, if not impossible, to ascertain whether NAFTA has been a major force in the Mexican transition to democracy. But there is at least an intriguing positive correlation between trade openness and the level of democracy around the world since the 1960s, as depicted in Figure 8.⁴¹ The hypothesis that international trade and trade agreements help promote democratic values immediately emerges. Aside from the social and political implications that proving such hypothesis would have, it would certainly meet Rodrik's [2000c] "yardstick" for assessing trade reform: building a high-quality institutional environment. Indeed, Rodrik [2000b] has argued that "democracy is a meta-institution for building good institutions".

FIGURE 8
DEMOCRACY AND OPENNESS, 1960-1992



⁴¹ Figure 8 plots mean trade openness (the ratio of exports plus imports to GDP) and a democracy score for a sample of countries around the world. The data on openness comes from the Penn World Table and that on democracy from the Polity IV data set described by Marshall and Jagers [2000].

V. LESSONS FOR PROSPECTIVE FTAA SIGNATORIES

Given the account of how NAFTA has impacted the Mexican economy and its institutions, what lessons may be drawn for the developing countries of the hemisphere participating in the impending FTAA? Without striving for comprehensiveness, in what follows I provide some thoughts on those lessons.

First, the fact that Mexico's unique geographical position -its contiguity to the United States- provides it with unique opportunities and challenges unavailable to most countries in the hemisphere cannot be over emphasized. Take the case of foreign direct investment. FDI flows into Mexico, both from North America and elsewhere, have occurred, to an important degree, as producers try to take advantage of preferential access to the U.S. market at minimal transport costs. Those conditions might only exist in the Caribbean and Central American nations; countries in South America may be unable to attract FDI looking for an export platform to the United States. The FTAA agreements on investment, as well as the agreement's ability at providing more certainty to investors, might still result in substantial FDI flows seeking to serve the domestic or regional markets (e.g., investment in Brazil to serve the MERCOSUR region). That type of investment, to the extent that it embodies more sophisticated or capital-intensive processes, might be preferable to low-wage assembly operations like the maquiladoras in Mexico. The point is that geography prevents us from extrapolating lessons for the rest of the hemisphere in a straightforward manner.

Second, the FTAA should not be perceived as permanent preferential access to the United States. Preferential access to the U.S. market in labor intensive commodities may be short-lived: as production moves south and those industries dwindle in the United States, pressures for protection will be reduced. Eventually, tariff cuts on a MFN basis are likely to occur. The FTAA itself, by eroding Mexico's NAFTA preferences *vis à vis* the rest of the Americas, is proof of that possibility. As such, the hemisphere should not content itself with achieving access to the U.S. market, but should continue their active participation in multilateral trade fora.

Third, and related to the previous point, hemispheric integration is no panacea. At best, integration is a necessary but not sufficient condition for development and growth. The contrasting experiences of Greece and, say, Ireland within the EU suggest that income convergence to US and Canadian levels depend on a host of other factors and reforms. Paraphrasing Rodrik [2000a], hemispheric trade integration should not, and cannot, substitute for a development strategy.

Fourth, the dislocations that the FTAA will bring might pose important challenges with regard to human capital formation, equitable income distribution, etc. The Mexican experienced highlights the possibility that whereas some regions and socioeconomic groups have experienced high-income growth, others are struggling in the face of increased foreign competition. Countries must find ways to facilitate the reallocation of resources away from previously protected sectors, to provide safety nets such as education and retraining for displaced workers and farmers, and to incorporate the younger generations into the more dynamic export sectors.

Fifth and last, an FTAA would shape the institutions that exist within each country and may result in heightened cooperation in the hemisphere beyond the commercial sphere. The FTAA and the

expansion of trade in the Americas could result in an ideological consensus in favor of regional peace and democracy. It is reassuring that the heads of state of the continent (except Cuba), in their recent Declaration of Quebec City (22 April 2001), acknowledged that "the values and practices of democracy are fundamental to the advancement" of their objectives for hemispheric progress, including the establishment of the FTAA.

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