

DEPARTMENT OF AGRICULTURAL AND RESOURCE ECONOMICS
DIVISION OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF CALIFORNIA AT BERKELEY

WORKING PAPER NO. 807

NAFTA AND AGRICULTURE: AN EARLY ASSESSMENT

by

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CALIFORNIA AGRICULTURAL EXPERIMENT STATION
GIANNINI FOUNDATION OF AGRICULTURAL ECONOMICS
APRIL, 1997

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Abstract

While the effects of NAFTA will not be known for quite sometime, an early appraisal can be made (1) using an econometric decomposition of trade patterns with and without the agreement and (2) assessing NAFTA as a learning process. Results show that the Agreement helped increase Mexican imports from the U.S. when Mexican incomes were rising and helped prevent a further fall in imports when incomes were falling. As a learning process, the most promising aspect of the Agreement is reliance on tri-national civil society as the warrant of implementation of the clauses of the agreement and of each country's labor and environmental laws. This is inducing the active participation of a thickening web of corporatist and non-governmental organizations that cut across national boundaries. Political sustainability of the Agreement requires to deal not only with the transitory poverty created by economic adjustments, but also with the deeper problem of social exclusion from the benefits of globalization.

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NAFTA and Agriculture: An Early Assessment¹

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Part I. Challenges and gains from North American trade integration

The North American Free Trade Agreement is a unique initiative in that it will bring a developing country, Mexico, with a per capita GDP of US\$2,500 at the 1995 exchange rate, into free trade with two of the world's most advanced industrial economies, with per capita GDPs of \$20,000 for Canada and \$26,000 for the United States. With this income gap are also associated sharp differences in technological levels, factor endowments, labor productivity, institutional structures, administrative capabilities, and styles of governance. Success will consolidate one of the largest free trade areas in the world, of approximately the same magnitude as the European Union, with a current Gross Product of nearly US\$5 trillion.

NAFTA is a programmed transition to free trade designed as a series of steps that will lead to full trade liberalization only after an extended transition period initiated in January 1, 1994. For agriculture, this transition is codified under three separate agreements. Between the U.S. and Canada, the remaining 10 years of the transition to agricultural free trade that had been defined in the Canadian-U.S. Free Trade Agreement were incorporated into NAFTA. Between Canada and Mexico and between the U.S. and Mexico, two separate bilateral agreements define transitions over a 15 year period. Commodities are classified into categories that became duty-free immediately in 1994, and others that will be freed in five, ten, and fifteen years. Commodities were assigned to these different categories according to the countries' differences in domestic policies, implications of the GATT negotiations, and to political sensitivities among activities and countries. Non-tariff barriers have been tariffed. Canada's supply managed commodities were essentially excluded from these two agreements and remain codified by their GATT legal import quotas, implying that free trade will not be achieved in these commodities in the same 15 year horizon codified by NAFTA. And special safeguards against import surges and severe price effects are present under the form of tariff rate quotas which allow a return to full pre-Agreement tariffs when imports exceed predetermined physical volumes.

Much of the social concerns with promoting free trade in the North American region originate in the large income and productivity gaps between the two Northern countries and Mexico. When countries like the United States and Canada engage in free trade (as under the 1964 U.S.-Canada free trade agreement in automobiles and the 1989 Canadian-U.S. Free Trade Agreement), the main benefit derives from capturing firm-level economies of scale. The result is a major boost in intra-industry trade, with greater plant specialization, lower production costs, greater product variety, and lower prices, but with little impact on income distribution, except for the path-dependent hazard of plant location. By contrast, when two countries with large wage and productivity gaps engage in freer trade, the boost is not only in intra-industry trade as a result of FDI but also in inter-industry trade, based on specialization according to comparative advantages. Both types of trade have large income distribution effects. Intra-industry trade in this case is importantly motivated by the quest for cheap labor and hence can induce systematic plant relocation toward Mexico. Inter-industry trade redefines and relocates the nature of economic activity, and it thus hurts the owners of the relatively scarce factors in each country, in this case principally unskilled manufacturing labor in the Northern countries, and the owners of low productivity agricultural land and manufacturing capital in the South. While there are aggregate economic gains to be derived from trade by every country, it is these expectedly large income distribution effects that create strong opposition to integration from specific economic and social sectors.

¹ Paper for presentation at the Trilateral Research Symposium, "NAFTA and Agriculture: Is the Experiment Working?", San Antonio, Texas, November 1-2, 1996.

The other reason why integration with Mexico creates concerns is because of differences in institutional structures, administrative capabilities, and styles of governance with the other two countries, most particularly in the capacity to enforce contracts with a weaker legal system, and the ability of government to implement its own laws, particularly regarding labor and environmental standards.

Finally, processes of economic integration, like many economic transformations in the long history of economic development, tend to have negative effects on preservation of the diversity of local cultures, on the ability to protect values associated with attachment to place, and on the long evolved social equilibria of local communities, whatever positive and negative aspects these social arrangements may contain (Streeten, 1996).

Before engaging in a detailed analysis of the early effects of NAFTA, it is important to take the long view in the relation between the three countries. Inspection of the relation between GDP per capita (GDPpc) in Mexico (to measure income effects) and Mexico's real exchange rate (to measure price effects on tradables) and the United States' balance of trade with Mexico shows that the U.S. does well in terms of surplus in its balance of trade with Mexico whenever Mexico does well for itself in terms of rising per capita income and falling relative price of tradables (Figure 1). The same effect is observed in Canada's trade relations with Mexico. This shows that robust economic growth in Mexico generates effective demand for imports from the U.S. and Canada in excess of exports, with the difference for Mexico made up by a surplus in the balance of capital accounts.

Running a trade surplus with a country based on increasing exports is an almost certain source of employment creation (unless imports displace activities which are more labor intensive than exports). For instance, however exaggerated the figures may be, Department of Commerce calculations used the relation of every one billion US\$ of trade surplus creating 14,500 new U.S. jobs. It is thus in the best interest of the U.S. and Canada to assist Mexican economic growth, help prevent economic instability, assist in economic recovery after shocks (hence the importance of the Mexican bailout after the December 1994 peso crisis), and promote broad-based income growth, in particular through agricultural and rural development.

In conclusion, North American trade integration raises particularly difficult challenges due to the great disparities that exist between Mexico and the other two countries. However, the long history of mutual gains from trade shows that there are high pay-offs from pursuing trade integration, making the challenge very much worth meeting.

Part II. How to appraise NAFTA?

A trade agreement should in principle be assessed against the gains from trade and the income distribution effects that it creates. With NAFTA, this is difficult to do for three reasons. One is that, with the long transitions that have been programmed, most of the expected gains from increased trade specifically created by the Agreement will only materialize in the long run, not in the first two and a half years of implementation. The second is that free trade and FDI movements to Mexico were already well in place before the advent of NAFTA. Hence, much of the gains from trade that have already been achieved cannot be directly attributed to NAFTA. Finally, the two and a half years since NAFTA started have been marked by huge macroeconomic shocks that dwarf the efficiency and welfare effects that may have been caused by NAFTA and obscure the role of NAFTA from direct observations. Nevertheless, careful econometric analysis allows us to start disentangling some of the effects that can specifically be attributed to NAFTA. This is a first line of assessment that we will pursue in what follows.

The other aspect of NAFTA that deserves assessment is the very process of implementation, further definition, and improvement of the Agreement as an evolving set of institutions and practices. Indeed, NAFTA does much more than define rules that govern trade and investment. It provides a policy commitment device, a conflict resolution mechanism, an array of institutions for management and governance, and incentives for cooperation and harmonization among the three countries in policy matters, not only with respect to trade and investment but also to labor welfare and environmental protection. In that sense, it is an evolving regime that should be appraised as a

learning process in terms of its ability to internalize information from successes and failures that can be attributed to implementation of the Agreement. This is the second line of assessment that we will pursue in what follows.

2.1. Trade liberalization, trade expansion, and increased FDI preceded NAFTA

NAFTA is part of a broader process of globalization and freer trade that is occurring at a world scale. GATT currently has 117 member nations and the number continues to increase. Latin America as a whole has moved from heavy protectionism to industrialization by import-substitution to trade-oriented growth strategies, and most countries have joined regional free trade areas. These arrangements have had little trade diverting effects, whereby export markets for non-members are reduced and replaced by imports from member countries. This is due to the fact that Latin American countries are relatively similar in technological development, and thus need to continue to import goods from outside their trading blocks, particularly intermediate, manufactured, and final consumer goods. In addition, trading blocks have reduced tariffs with the rest of the world compared to pre-integration tariff levels. Differentially higher population growth compared to the North and rising levels of per capita income have offered the North rapidly expanding markets. Hence, trade has increased rapidly not only among the three North American countries but also between these and the rest of Latin America. Fluctuations in real exchange rates, following the debt and the Mexican peso crises, have, however, created a great degree of instability in the trade flows toward these markets.

For Mexico, trade with the U.S. expanded rapidly starting in 1986, the year it joined GATT (Figure 1). In that year, Mexico reduced its average trade weighted import tariffs unilaterally from 25 to 10%. NAFTA further reduced average Mexican tariffs from 10 to 5% in 1994. U.S. tariffs with Mexico were low before NAFTA, declining from 5% to 1.5% in 1994. Thus, NAFTA only reinforced an already well established process of trade liberalization.

Many of the commodities in which Mexico has comparative advantages were already under a free trade regime by the time NAFTA came about, providing little new tariff advantages. This is the case for Mexico's horticultural exports to Canada, half of which were already entering duty-free prior to NAFTA (Cook, 1994). This is also the case for horticultural exports to the U.S. For instance, trade liberalization under NAFTA has played a minor role in tomato trade because tariffs were already very low, averaging only 4% during the winter season. Thus, even if pre-NAFTA tariffs are "snapped back" when exports exceed quotas, as during the second half of February of 1996, tariffs are minimal.

Analysis of monthly trade data since 1990 in Figure 2.1 shows that, after de-seasonalization, the annual growth rate in U.S. imports from Mexico in constant dollars (deflated by the price index of U.S. imports) was growing at the rapid average annual rate of 13% between 1/1991 and 12/1993. Between 1/1994 and 6/1996, under NAFTA, this rate was 14.3%. Hence, there was no statistically significant difference between pre- and post-NAFTA in the growth of imports from Mexico. Using turning points in the real exchange rate and real GDP under NAFTA (Figure 2.3) gives discontinuities in December 1994 with the beginning of the peso crisis and in October 1995 with initiation of economic recovery. The growth rate in real U.S. exports to Mexico was growing at the average annual rate of 12.8% before NAFTA (1/1990 to 12/1993), slowed down to 2.7% in the first year of NAFTA (1/1994 to 11/1994), and collapsed to an average annual rate of -27.8% during the peso crisis (12/1994 to 9/1995). Between October 1995 and June 1996 export show a very rapid recovery with an average annual growth rate of 33.2%.

NAFTA is an agreement that codifies not only trade but also investment. Like trade, FDI had increased rapidly starting in 1989 (Figure 3). The record year was achieved in 1993, before NAFTA, with 15.6 Billion US\$. New FDI declined in 1994 and 1995, but is accelerating again in 1996 as the economy recovers. From a long term perspective, more important than trade in goods is the role of NAFTA in inducing joint ventures and attracting FDI. There are complex relations between trade and FDI. The latter supports trade when it uses Mexico as an export platform, enhancing intra-industry trade, and when it serves to establish facilities for exporters for after-sales services, distribution, marketing, and assembly. FDI is a partial substitute for trade when it uses Mexico as an

expanding source of effective demand. Figure 3 shows that FDI tracked GDP per capita well, suggesting that expanding domestic market opportunities are an important driving force behind FDI in addition to intra-industry trade. Hence, here again, FDI did well when Mexico did well, supporting the thesis of mutual benefits.

2.2. NAFTA and the fallacy of spurious correlations

Because the potential economic, income distribution, and environmental effects of NAFTA are serious and contentious issues, many of the negative occurrences in the three North American countries since 1994 have been blamed on NAFTA. It is clearly difficult to separate the effects of NAFTA from those of other events that have occurred irrespective of NAFTA. However, blaming NAFTA without attempting to disentangle causalities leads to accusations against NAFTA that are clearly unwarranted. Here is some of the blame cast against NAFTA that are part of the abundant material available on the Internet :

Quotes:

“Under NAFTA, the U.S. trade surplus with Mexico has turned into a trade deficit.”

“The trade deficit with Mexico under NAFTA has led to the loss of almost one million jobs in the U.S.”

“U.S. real wage levels have continued to fall since NAFTA.”

“In the U.S., consumer prices are not lower and food safety has not increased since NAFTA.”

“Mexican economic and social conditions have deteriorated since NAFTA.”

“Mexico’s environmental and health conditions have worsened since NAFTA.”

Not only are some of these statements inaccurate, like the estimate on job losses, but NAFTA causality is highly dubious for those which are correct. The peso crisis was on the making before NAFTA. It was created by unsustainable monetary policies and by mismanagement of the exchange rate adjustment when it had to be done. It was also created by reliance on short term speculative capital inflows with insufficient complementary mobilization of domestic savings, creating a Dutch Disease syndrome that undermined profitability in the tradable sectors of the economy. For the US, any effect of NAFTA on the overall level of real wages is an exaggeration when one recalls that the size of the Mexican economy is only 5% of the US’s. In addition, trade is not a zero sum game where any job created in Mexico would be at the expense of a job lost in the United States or Canada. And much of the economic dislocations associated with the reordering of economic activity and redefinition of types of jobs is part of the broader and unavoidable process of globalization of economic competition, not of NAFTA per se (The Economist, 1994). This of course does not mean that there are not serious issues that remain to be addressed with NAFTA, as we will see further, both in the management of the transition and in the enforcement of provisions which are part of the NAFTA agreement. But NAFTA cannot be blamed for the list of evils mentioned above. In fact, quite to the contrary, careful econometric analysis separating the effects of NAFTA from the effects of exogenous shocks shows that most of these evils would have been worse in the absence of NAFTA. In all cases, the role of NAFTA must be assessed against the counterfactual of no-NAFTA, not against the counterfactual of no economic instability in Mexico and no downsizing in the US and Canada. We now turn to this analysis.

2.3. NAFTA’s impact on trade: a decomposition analysis

What difference did NAFTA make in Mexico's ability to manage the appreciation of the peso in 1994 and the sharp depreciation in 1995? Observing changes in trade patterns in 1994 and 1995 is misleading since these changes are dominated by macroeconomic events extraneous to NAFTA. To disentangle NAFTA from macroeconomic effects, we construct a counterfactual by adjusting an econometric equation that explains Mexican imports from the United States using population (or a time trend), per capita income, and the real exchange rate for the pre-NAFTA period, between 1970 and 1993. As can be seen in Figure 4.1, the correspondence between observed and predicted values is very close. We then use this equation to predict the level of imports that would have prevailed without NAFTA, based on the observed population, per capita income, and real exchange rate levels that prevailed in 1994 and 1995. We see that US exports to Mexico would have been stagnant in 1994 without

NAFTA when, with NAFTA, they increased by a significantly different 18%.¹ In 1995, US exports to Mexico would have fallen by 28% without NAFTA, when they only fell by 14% with NAFTA. The Agreement thus helped avoid 52% of the fall in exports to Mexico due to the peso crisis. This supports the assertion that NAFTA helped increase trade under favorable income and price conditions for Mexico and helped prevent a sharp fall in trade when income and price effects became adverse, helping Mexico mitigate the cost of the peso crisis.

A similar counterfactual can be performed on U.S. imports from Mexico in Figure 4.2. These imports are explained by a time trend, the real exchange rate, and income per capita in the United States for the 1970-1993 period. Again, the fit is good. Predicting imports with this equation for 1994 and 1995 gives us the value of imports under the no-NAFTA counterfactual. It shows that imports from Mexico would have been significantly lower: without NAFTA, they would have increased by 5% in 1994 instead of the observed 19% and would have fallen by 3% in 1995 instead of increasing by 17% as observed. Hence, again, NAFTA facilitated imports from Mexico during these two years.

Using monthly data allows the analysis to be extended through the first six months of 1996. Results in Figure 5 show that U.S. exports to Mexico respond to GDP in Mexico, the real exchange rate, and a time trend. They start increasing after June 1995. The NAFTA effect is significant for exports at the 93% confidence level: during the NAFTA years, there would have been 4.2% less annual growth in exports under the no-NAFTA counterfactual. U.S. imports from Mexico respond to the real exchange rate and a time trend, but the NAFTA effect is not significant. These results evidence an asymmetry in the role of NAFTA on trade between the U.S. and Mexico, boosting U.S. exports to Mexico but leaving imports from Mexico unaltered.

Part III. Agriculture and the transition to comparative advantages

3.1. Patterns of change and the role of NAFTA

The expected pattern of agricultural comparative advantages promoted by NAFTA is one where:

- The United States would increase its exports of grains, oil seeds, and meat products that are land and capital intensive, and of stone and pome fruits that are better produced in Northern latitudes.
- Mexico would increase its exports of labor intensive vegetables, fruits, and nuts, plus non-competitive exports such as coffee and tropical fruits.

The first two years have seen confirmation of this pattern of specialization, but trade has been seriously affected by movements in the real exchange rate, in real incomes in Mexico, and by voluntary export restraints and import restrictions.

In 1994, with an appreciated real exchange rate and rising per capita income, U.S. agricultural exports to Mexico (in constant dollars) rose by 23.7% while U.S. imports from Mexico rose by only 4.1% (Table 1). In that year, the United States ran a farm trade surplus of \$1.7 billion. This situation was reversed in 1995. The real exchange rate depreciated by 62% and per capita real income in Mexico fell by 8.7%. This created both a terms of trade and an income shock against imports from the United States, which fell by 24.7%. Agricultural exports to the U.S., by contrast, responded to low peso prices and to low domestic demand in Mexico, increasing by 27.8%. This resulted in a farm trade deficit for the U.S. of \$260 million in 1995. With some recovery of per capita incomes and of the peso in real terms, and continuing drought in the Northern states, the U.S. has been running again a positive balance of agricultural trade with Mexico every month since July 1995 (Crawford, 1996). Thus, even without supply response, trade is highly responsive to relative movements of effective demand on one side or the other of the border, toward Mexico in 1994 and toward the United States in 1995.

¹ The confidence interval around predicted values is at the 95% level. If observed values in 1994 and 1995 fall outside this interval, observed trade under NAFTA is significantly different from predicted trade without NAFTA.

Categories of goods that responded most to changes are those that are most price elastic in the United States (coffee, animal products, tomatoes, and peppers) and that are both highly price and income elastic in Mexico (animal products and processed foods) (Table 1). By contrast, exports of staple foods to Mexico continued to post gains or not decline even during the peso crisis, particularly, wheat (58% increase), rice (45%), and corn (0.4%).

Horticultural trade expanded rapidly in 1995-96. U.S. imports from Mexico rose from 1.5 billion in January–June 1995 to 1.7 billion in January–June 1996, a 12% increase in constant dollars. In 1995, tomato exports increased by 54% in volume (USDA, 1995) and by 67% in value in January–June 1996 compared to the same period in 1995. While Mexico benefits from cheap labor and climatic advantages (in the December to April season), yields and labor productivity for many crops are significantly lower than in the United States, and transactions costs are too high to reach US consumers at the right time and with the right quality produce (Cook et al., 1991). Mexico is thus, to date, not a major competitor in table grapes (except in the Spring season), fresh broccoli, cauliflower, processing tomatoes, strawberries, and melons. It is by contrast a major competitor in tomatoes, cucumbers, bell peppers, and asparagus. The experience of tomatoes is quite remarkable since Mexican producers were able to combine their traditional seasonal and cheap labor advantages with new technologies in production, adoption of extended shelf-life varieties, and use of a strong producers' organization able to manage the supply of new technologies and impose market discipline (CAADES in Sinaloa). None of this is directly related to NAFTA since technological change had been in progress for several years and import tariffs averaged only 4% during the winter period. What NAFTA offers, however, is a policy commitment device and a conflict resolution mechanism, and conflicts will likely remain prevalent as Mexican imports are highly competitive with Florida production. This example shows that Mexico can be highly effective in reaching and competing on US markets, but that success requires a combination of factors which are quite demanding on multiple fronts, including technological and institutional innovations, and hence which are not going to be achieved in other crops and seasons without significant attention to current bottlenecks.

Mexico's domestic market has also been a quickly expanding source of effective demand for high value crops. This is seen in the destination of Mexican tomatoes. As Figure 5 shows, total production of tomatoes has in fact no upward trend since 1984. What has changed is the destination of production between the domestic and the international market according to domestic per capita income and the real exchange rate, increasing with changes in the first and falling with changes in the latter. The share of total output going to the domestic market is large, never falling below 63% of total output. Thus, for tomato growers, the domestic market may well be a faster source of future growth in effective demand once economic recovery has been achieved. FDI attracted to Mexico for tomato production will likely find expansion of the domestic market to be the most important opportunity for new investments.

How much of the changes in agricultural trade observed during the last two years can be attributed to NAFTA as opposed to macroeconomic changes? We can again use econometric estimations to predict what would have been the level of import demand for US grains and oilseeds in the absence of NAFTA. Figure 6.1 shows that the balance of agricultural trade between the US and Mexico follows closely changes in GDP per capita in Mexico and in the real exchange rate, although not as closely as the total balance of trade. Econometric fits for agricultural exports and imports for the 1973-1993 period using these exogenous variables and a time trend are given in Figure 7. Predicted values show that, in 1994, US agricultural exports to Mexico would have been stagnant without NAFTA, when they actually increased by 24%. In 1995, NAFTA helped mitigate the fall in exports to Mexico, which fell by 25% instead of a predicted 46% without NAFTA. The Agreement thus helped prevent 54% of the fall in US exports that would have occurred in its absence. U.S. agricultural imports from Mexico increased in 1994 and especially in 1995, but these import levels were not significantly different from what would have happened without NAFTA as observed values fall within the 95% confidence interval around predicted values. We thus conclude that NAFTA played an important role in facilitating trade in an asymmetric fashion, helping US agricultural exports to Mexico more than US agricultural imports from Mexico.

3.2. Supply response and heterogeneity in Mexican agriculture

Mexican agriculture suffered a severe profitability crisis between 1990 and 1994 as the peso appreciated, subsidies were sharply curtailed, and government services were reduced. This is seen in the contrast between output of the ten major crops which increased at the (very low but positive) average annual rate of 1.3% while real value added in agriculture fell at the average annual rate of 5.9% (Zedillo, 1996). In 1995, prices of the major crops were still falling in real terms and credit to agriculture shrank by 22% in real terms. Hence, it is not surprising that agriculture was stagnant during the whole period 1990-95 (an average annual growth rate of 1.4%). In 1996, real prices of the ten major crops increased by 2%. Preliminary forecasts indicate that corn production would fall by 1.6% while that of the ten major crops is expected to increase by 2%, leaving open the question of how responsive Mexican agriculture is to price incentives. The fact that Mexico is not taking full advantage of NAFTA's provisions for access to the US market gives indirect evidence of low supply response. In 1995, these quotas were only exhausted in tomatoes, eggplants, and onions. Low participation remains in many products, including chile peppers (27% of quota), watermelons (41%), peanuts (41%), cotton (0%), and many dairy products, syrups, and sugar blends.

There are three explanations why the aggregate elasticity of supply response may be relatively low.

a. Mexican agricultural policy has been reorganized in 1995 to help producers respond to price incentives. New initiatives include the PRODUCE program to subsidize mechanization, investment in irrigation, and farm and livestock investments, and the "kilo por kilo" program to exchange native for hybrid seeds. Commercial banks have rapidly replaced development banks as the main source of agricultural credit. However, possibilities to modernize in or to diversify out of traditional grain production remain seriously constrained for many farmers by insufficient access to credit, technical assistance, modern inputs, and marketing facilities after government parastatals withdrew from these activities as part of the implementation of sweeping economic and institutional reforms in the late 1980s. In the ejido sector, only 33% of the households had access to credit in 1994 and, of these, 61% obtained their credit through PRONASOL in amounts that are adequate for traditional corn production, but not for diversification or modernization. Total availability of credit to the ejido sector fell by 19% in real terms between 1990 and 1994. This raises the serious issue of the dis-institutionalization of agriculture for the mass of smallholders. While commercial farmers are able to compensate for the contraction of state services by obtaining loans from commercial banks and inputs and services from private suppliers, these institutions hardly reach smallholders, leaving them unable to respond to price incentives. Even in the commercial sector, many producers still have unresolved outstanding debts incurred during the years of overvalued exchange rates (motivating the El Barzón movement), that prevent them from accessing new loans from commercial banks.

b. Competitiveness of horticultural exports depends in part on attracting foreign investment. Yet, in spite of NAFTA, there are still major barriers to foreign investment in Mexican agriculture. In the 1994-95 period, when 17 billion dollars of FDI entered Mexico, a significant 12% of this capital went to agroindustry but a negligible 0.1% to agriculture. Some of the constraints to FDI in agriculture include restrictions on land ownership, weak legal protection of property rights, an unreliable legal framework for the enforcement of contracts, volatile domestic effective demand, poor infrastructure, lack of information on potential partnerships, international competition on the U.S. and Canadian markets from other Latin American countries, continuing macroeconomic and political uncertainties, and perception of a general high level of risk (Cook, 1996). To this must now be added political manipulation of U.S.-Mexico trade in spite of the NAFTA regulations.

c. A significant sector of Mexican grain producers is not responsive to price signals as they produce for home consumption. In the ejido sector, 59% of the producers are not sellers of any marketed surplus and 38% of corn production never reaches the market.

Part IV. Social effects of NAFTA in the US and Mexico

4.1. Employment effects in the United States

For the U.S., calculations by the North-American Integration and Development Center show that the direct employment effect of trade with Mexico was positive in 1994 when the balance of trade was positive, creating 24,000 jobs, negative in 1995 as the balance of trade became negative and eliminated 45,000 jobs, and is estimated to be positive again in 1996 with creation of 19,000 jobs (Hinojosa Ojeda, 1996). The net impact of trade with Mexico during the first three years of NAFTA would thus be a negligible loss of 2,000 jobs, and job losses in 1995 were overwhelmingly due to the Mexican peso crisis, not to NAFTA. The reasons why Mexican imports have small effects on US employment, and much smaller than the Chamber of Commerce \$1 billion-14,550 jobs formula, are due to the following: (1) Imports from Mexico are often poor substitutes for domestically produced goods; (2) some of these imports divert imports from other foreign countries; for instance, in textiles, imports from Mexico displaced Taiwan and South Korea; in steel, they displaced Germany and Taiwan; and (3) a growing share of US imports from Mexico contain a large share of US intermediate goods exported to Mexico, which are processed and subsequently re-exported to the US. Hence, any increase in Mexican imports also creates an increase in demand for US exports.

Small net employment effects do not imply that workers are not being displaced from existing jobs as economies adjust to trade and new jobs are being created. An indication of this is the 43,000 displaced workers who have already been certified to receive dislocation benefits under the NAFTA-Trade Adjustment Assistance Act (TAA). While jobs affected cover a wide range of industries, some are in agroindustry. Hence, at the level of individual workers, assistance to separation from employment is a fundamental aspect of the management of transition.

4.2. Employment effects in Mexico

In Mexico, most of the negative employment effects of NAFTA are expected to originate in the loss of competitiveness of the corn sector and the potential bankruptcy of a large number of smallholders, particularly in the ejido sector, with limited opportunities for diversification toward fruits and vegetables or for modernization of traditional crops to make them competitive in an open economy. Calva (1991) thus predicted the displacement of 15 million people out of agriculture out of a total farm population of 22.8 million and an ejido population of 12.5 million. CGE predictions by Hinojosa Ojeda and Robinson (1992) have predicted the displacement of 1.4 million rural workers, 600,000 of which would migrate illegally to the United States. Taking a dynamic perspective, Martin (1995) expects that NAFTA will first induce a migration hump as the corn sector loses competitiveness, but will later, as jobs become created in Mexico, reduce migration to the United States compared to a no-NAFTA scenario.

More careful analysis of the sources of income of Mexican farm households suggests that the labor displacement effect of trade liberalization on corn producers has been exaggerated. In the ejido sector, where the large majority of smallholders is located, 31% of the households neither sell nor buy corn, and are thus not directly affected by a movement in corn prices (Table 2). Another 28% are net buyers of corn, which means that an eventual fall in the price of corn would benefit them. This leaves only 41% of these households as net sellers who would be hurt by a fall in the price of corn. For this category, however, like for most smallholders in Mexico, sources of income are highly diversified. Corn and beans production only represents 15% of total household income, so that the effect of a NAFTA price shock on income would be small. For these households, wages account for 32% of total income and migration to the rest of Mexico and to the United States for 19%. In addition, in 1994 many of these households were in irrigated corn production as a consequence of distorted pre-NAFTA price policies that rendered the corn sector differentially profitable and less risky than other activities, when this land could now be reallocated to high value crops under NAFTA-type incentives.

In any case, the negative shock on the corn sector has, as of yet, not materialized because depreciation of the exchange rate has improved real prices for corn producers and the PROCAMPO program has transferred income to historical producers of traditional crops in anticipation of a fall in the price of corn which did not happen. Hence, as far as output price incentives go, the farm sector is in a better position than it was before NAFTA. Whether the real exchange rate will appreciate again as capital starts flowing more rapidly into Mexico is an open question, but appreciation has for the moment been very modest.

The migration hump originating in the corn sector that was expected to happen due to NAFTA has not occurred. Increased pressure on the U.S. border during the last two years has been the product of macroeconomic mismanagement in Mexico and the high welfare costs of stabilization policies on Mexican households, not of NAFTA. As the economy recovers, NAFTA's promise to reduce the pressure of illegal migration should come true, particularly as wages for skilled workers rise. International migration should become diverted toward national growth poles. However, in many rural areas, migration to the United States is a deeply entrenched phenomenon that will continue in spite of NAFTA. Indeed, where migration networks are solidly established, very little can be done to reduce migration through improved local living standards (Winters, 1996). In this case, migration is like the production of coca leaves in Peru and Bolivia: there are very few substitute crops that can compete in profitability. This implies that, if initiatives to raise the standard of living in rural areas are to be effective in reducing migration, they should focus not on the areas where migration is already well entrenched, but on areas where migration networks have not yet been solidly established. This creates the policy paradox of promoting anti-migration initiatives not where migration is most prevalent, but where there is in fact little current migration, but a high future potential for migration, e.g., in Mexico's South East. Decentralizing away from the border and possibly toward these areas the economic activity generated by NAFTA should thus be an important element of a policy to reduce migration.

4.3. Participation of smallholders in the production of high value crops

With NAFTA redefining comparative advantages away from cereals toward the production of fruits and vegetables, and with concern that loss of competitiveness in corn will lead to the displacement of peasant households contributing to international migration, a central question is whether these same peasant households now vested in the production of corn can either (1) reconvert their operations toward the production of fruits and vegetables or (2) modernize their corn to the point of being competitive with imports. This is a serious consideration given the extensive rural poverty that continues to prevail in Mexico. In 1992, 47% of the rural population was in poverty and 16% in extreme poverty, with extreme poverty on the rise from 12% in 1984 (INEGI, 1993). Rural poverty is particularly concentrated in the South (65% in poverty) and among indigenous populations (80% in poverty in municipalities where more than 70% of the residents are indigenous). The ethnic dimension of rural poverty makes adjustment to changing economic activities particularly difficult because of a strong attachment to community homelands. The vast majority of the rural poor are smallholders who need to either diversify or modernize to adjust to the predicted impact of NAFTA, or face loss of access to land, particularly once the land market will become more active with implementation of the constitutional reform to Article 27 and titling of ejido land. Let us consider these two options one after the other.

Participation of smallholders in high value crops production is feasible and there are a number of success stories to support this assertion, but there are also many cases of failure and of short lived successes, indicating that such participation is difficult to achieve (Marsh and Runsten, 1994; Runsten and Key, 1995). Success is specific to particular crops and to particular institutional arrangements for accessing technology, credit, and markets, where institutional arrangements offer solutions to market failures, effective constraints, and excessively high levels of risk. Institutional arrangements include service cooperatives, joint ventures with other producers or processors, and contract farming. Through FIRA (Trust Fund for Agriculture), the Mexican government has given incentives to private entrepreneurs to engage in *contratos de asociación* with ejidatarios.

Successful examples exist in the production of processing tomatoes, frozen and canned vegetables, and organic fresh produce. In general, the comparative advantage of smallholders in the production of labor intensive fruits and vegetables is access to unremunerated family labor and to cheap labor from within the community itself, superior ability to supervise labor, and careful farming practices. Difficulties met by smallholders are in accessing credit, obtaining information about modern technology, gaining access to international markets, securing a continuing flow of new technologies, belonging to organizations effective in reducing transactions costs, and achieving bargaining power in negotiating prices with generally monopsonistic agroindustries and distributors.

The most serious constraint for success in diversification is the lack of institutional support in a context where government agencies, which were importantly vested in many aspects of financing, delivering inputs, providing technical assistance, engaging in research, and managing marketing, have been closed, descaled, or privatized. The result is an institutional vacuum that has only been partially filled by private institutions and that seriously constrains the ability of smallholders to modernize.

Lessons that have been learned from success stories in Mexico include the following:

Smallholders need a package of assistance that includes credit, technical assistance, marketing, and insurance. For credit, commercial banks have rapidly entered the agriculture sector, but they rarely reach smallholders. Government institutions such as FIRA offer special lines of financing for *contratos de asociación* between ejidatarios and private entrepreneurs. Some financial NGOs have organized group lending schemes, but this alternative financial intermediation is less developed than in the other Latin American countries. In general, there is a serious lack of long term credit that can be used to invest in the modernization of infrastructure needed to switch to the new activities. As a result, start up costs can rarely be incurred by smallholders, requiring either grants from NGOs or joint ventures with external investors.

Access to extension and technology can be achieved through contracting, but brokers are not effective for this purpose. More effective is contracting with firms that are themselves producers of the same crops or with agribusiness firms. These firms can discount the cost of technical assistance from the prices paid to smallholders, still allowing both parties to derive a profit. Ejidatarios can also contract their own technical assistance, and innovative schemes of graduated shared costs had been introduced by the Mexican government. Access to markets usually requires contracting with multinational corporations. Because markets are highly specialized, easily saturated, with high price risks, and niches difficult to identify, information, flexibility, and discipline are key. Yet, legal infrastructure for the enforcement of contract is typically lacking. And risk sharing mechanisms are rarely present. In an innovative approach to risk sharing, Jacobs Farms in Baja California organized a cooperative that offers fixed seasonal average prices while absorbing the risk in price fluctuations (Jacobs, 1996).

Mexico's ability to compete within NAFTA is seriously weakened by lack of publicly funded, relevant research, resulting in low yields (strawberries have an average yield of 24 tons per acre in California and 8 in Mexico) and by pest infestations (avocados where the weevil still prevents exports to the US) (Bivings and Runsten, 1992). With research largely a public good, it is illusory to expect that the private sector will sufficiently replace what government research agencies were formerly doing. Public funding is much needed for research in support of smallholder farming systems that incorporate high value crops.

Key to reducing transactions costs is the promotion of organizations that can mediate subcontracts and joint ventures. Determinants of successful organization include ability to monitor and enforce. These organizations can be promoted by a multiplicity of sources, including NGOs, agribusiness firms, government (e.g., FIRA), and producers themselves. The ejido itself, with a long but highly uneven tradition of cooperative behavior, can, in many cases, provide the organizational basis for these new ventures.

The second option is modernization of traditional crops. Cases of highly efficient smallholders producing these crops can be observed. Analyzing these Schumpeterian entrepreneurs reveals that keys to success include access to irrigation, education, and membership in marketing organizations (de Janvry, Sadoulet, and Gordillo, 1995).

There should, however, be no illusion that diversification toward perishable export crops can be the solution for the majority of Mexico's smallholders. These schemes are too volatile and markets tend to be saturated. For many smallholders, opportunities exist in the production of coffee, vanilla, honey, chicle, and other non-perishables. For most of them, a combination of modernization, diversification (largely toward the domestic market for fruits and vegetables and non-perishables), participation in the labor market, income generation in microenterprises, and seasonal migration will constitute their future sources of income. Rural development

initiatives must thus take a broader approach than focusing exclusively on agriculture. In that sense, NAFTA will offer only limited opportunities to the rural poor, leaving the problems of structural poverty, which remain pervasive in Mexico, to be attended to separately.

Part V. NAFTA as a process

Process under NAFTA is aimed at codifying and smoothing the transition to free trade between the three countries (CEC, 1996). It is administered through two sets of institutions:

- (1) An array of intergovernmental bodies for management and governance composed of commissions, committees, and working groups as well as the North American Development Bank, the North American Fund for Environmental Cooperation, and the Border Environment Cooperation Commission. These institutions are to provide certainty in trade rules; trade dispute resolution mechanisms; provisions for environmental, labor, and consumer safety regulations on trade; and supervision of the national enforcement of environmental and labor laws.
- (2) Individual government institutions and actions for smoothing the transition and aiding competitiveness such as worker relocation aid in the U.S. (NAFTA Transitional Adjustment Assistance); and income transfers (PROCAMPO), credit, technical assistance, infrastructure, and rural development policies in Mexico.

The key questions regarding NAFTA as a process are whether it is being implemented as planned and whether it is being pursued as a learning experience, with the ability to inform, consult, discuss, revise, experiment, and advance alternative solutions.

5.1. NAFTA as a commitment device to a free trade policy

With trade and investment already well underway between the three countries, NAFTA sought to encourage further North American trade and investment by locking in the rules of the game and creating commitment to trade policy. The NAFTA commitment has been upheld by Mexico in spite of the large exchange rate devaluation that occurred in December 1994. The typical policy response to a large unexpected exchange rate devaluation is to lower the remaining import tariffs and to increase export taxes in order to redistribute some of the rents created by real devaluation from exporters to importers, from producers of tradables to producers of nontradables, and to reduce welfare losses for consumers of tradables. This did not happen in Mexico. Trade policy commitments were upheld. This of course implies that the burden of adjustment was passed on to consumers, while allowing producers of both import substitutes (corn, oilseeds) and farm exports (fruits and vegetables, coffee) to capture the benefits of devaluation. In that sense, the agreement worked, taking classical trade policy instruments out of the package of instruments that can be used to respond to exchange rate shocks and redistribute income. However, other policy instruments can be and should be used to replace the loss of trade policy tools and mitigate the income shocks created by real exchange depreciation. Consumer subsidies serve to protect vulnerable consumers. Credit lines can be extended to importers to allow them to engage in expenditure switching from tradables to nontradables. And taxes can be imposed on producers of tradables.

From an economic standpoint, sticking to an open trade regime is of course in the best interest of medium term economic recovery. The 31% increase in exports in 1995 helped restore the balance of current accounts. Reorientation of production toward foreign markets helped prevent further job losses and reduce upward pressures on the real exchange rate. Maintaining incentives for FDI is the most effective short term source of investment when domestic savings have been sharply curtailed by the crisis, restrictive monetary policy keeps domestic credit in short supply, and foreign loans are hardly accessible. Hence, while short term welfare costs are high, and provided those are handled through other instruments, upholding the country's commitment to a free trade policy is favorable to economic recovery.

As a commitment device, the main purpose of NAFTA is to isolate trade policy from political influence and thus achieve credibility that this policy will not change in response to the political needs of the moment. Since

trade and especially FDI involve significant sunken costs, NAFTA as a credible, depoliticized commitment device is fundamental for both. The recent ruling on Mexican tomato exports to the United States which altered trade rules outside the framework of NAFTA violates this purpose. While this may be only a temporary tampering with trade policy, the very fact that this can still happen weakens NAFTA as a process.

5.2. NAFTA as a dispute settlement device

A very important feature of NAFTA is to offer an equitable and expeditious method for settling trade disputes. A number of bi-lateral trade disputes are simmering between all three countries and such disputes will remain a permanent feature of trade. In general, the dispute settlement procedures included in NAFTA are identical to those that were already in practice in the Canada-United States Trade Agreement, with the additional procedural complexity of dealing with three countries. Each country retained its own contingency protection laws under the form of countervailing duty laws (CVD) and anti-dumping laws (AD). A dispute settlement panel, chosen from a trinational roster, is responsible for reviewing CVD and AD determinations which have not been settled satisfactorily. However, by contrast to GATT, NAFTA did not engage into institution building to develop its own trade law and to serve as a binding arbitrator for trade disputes. Hence, future progress may need to be done on this front as the number and the significance of trade disputes intensifies. In the short run, existence of dispute settlement panels has served to deter conflicts, inducing parties to attempt to resolve disputes before they reach the panels.

5.3. NAFTA as a device to enforce trade rules

One of NAFTA's trade rules is the existence of quotas for preferential access to markets. Due to problems in managing information and coordinating customs offices, Mexico has had difficulties in enforcing these quotas: there have been lags in activating safeguards and, once activated, safeguards have eventually not been enforced (Consejo Nacional Agropecuario, 1996). This has led to preferential imports in excess of quantities agreed in NAFTA, for instance for potatoes, apples, instant coffee, and pork meats, and hence to excess competition for import competing Mexican producers. In response, Mexico has organized Committees for the Monitoring of Import Quotas, with participation of producers. In 1995, excess imports have been reduced, but this largely as a consequence of a fall in effective demand for imports. This implementation problem thus remains only partially resolved.

5.4. NAFTA and the enforcement of labor and environmental laws

The potential effects of NAFTA on labor and the environment were among the most controversial and politically heated aspects of the NAFTA negotiations. These issues are addressed in both the central NAFTA document and through two side agreements, the North American Agreement on Labor Cooperation (NAALC) and the North American Agreement on Environmental Cooperation (NAAEC). The main provision of these agreements is that each country should enforce its own labor and environmental laws, the definition of which is considered part of national jurisdiction. Focusing on enforcement instead of legislation is an important consideration since a country at a lower level of per capita income has a marginal rate of substitution of environmental quality for income that is higher than a richer country. Hence, it is normal for Mexico to have environmental laws that are weaker than in the United States, reflecting willingness to sacrifice more environmental quality per unit of income than in the United States. NAFTA offers a mechanism whereby the citizens of every country can oversee compliance with and implementation of these laws in any of the three countries. This process is managed by two commissions, the Commission on Environmental Cooperation (CEC) and the Commission for Labor Cooperation (CLC), which have the charge of overseeing implementation of the agreements and serving as forums for discussion and cooperation. The commissions have a Ministerial Council (composed of the ministers of the three countries) backed by a Secretariat and a National Advisory Committee. Governments, private entrepreneurs, NGOs, and individuals can file complaints with the commissions, directly on environmental issues and through a National Administrative Office for labor, although only a dispute submitted by a government can result in punitive action. These complaints

are referred to an Evaluation Committee of Experts and to Dispute Resolution Panels. Enforcement of resolutions is to be achieved through monetary and trade sanctions.

The side agreements thus proceed through institutionalization of a mix of trilateral cooperation and contention. Cooperation involves the exchange of information and technical assistance, greater consultation and understanding, and expected attempts at greater cross country coordination of labor and environmental laws. Contention is based on the provision of mechanisms for observability and enforcement.

Regarding the environment, the central NAFTA document raises three issues. First, the signers renounce luring investment by offering "pollution havens". Second, rules are established regarding the use of regulations to protect consumer, plant, animal, and environmental health. Third, priority is given to specific international treaties.

In the almost three years since NAFTA's passage, the following conclusions can be drawn:

(1) NAFTA has already fulfilled an important consciousness raising function by bringing into the public spotlight the importance of environmental laws, particularly through the public debates that preceded the Agreement. It has induced forward regulatory practices where norms and standards are increasingly designed in terms of subsequent NAFTA enforceability. Public pressure has been brought to bear on the Mexican government to better enforce its environmental policy. Seen in a historical perspective, this is one of the very significant achievements of NAFTA as a process. In the US and Canada, public pressure has focused on preserving current law. This was codified in Article 1114 that prevents governments from lowering environmental standards to secure competitive advantage or attract FDI. However, the intersection between NAFTA, the environment, and agriculture received little attention or analysis. Farm groups focused on trade issues, while environmental organizations emphasized industrial and border pollution issues. One of the few areas where these interests conflicted was in the potential threat to biodiversity, an important issue in Mexico as one of the world's Valdivia centers, that could come from expansion of agricultural land, diffusion of monocropping and simplification of varieties cultivated, deforestation for export, and the spread of chemical technologies.

(2) In terms of agriculture, the debate has focused on the use of pesticides and other chemicals in Mexico. Four issues are involved: consumer safety, unfair competitive advantage, pollution haven, and overall pesticide use.

a. The ultimate effect of NAFTA on US and Canadian consumer safety is still unclear. However, consumer safety does not appear to be threatened by increased food imports from Mexico. Pre-NAFTA studies (Newman, 1991) showed that, in general, pesticide violation rates for Mexican produce have not been much different from those for US producers or other importers. Most residues found by Federal and State programs are from pesticides commonly used in the US and at levels below EPA tolerances on other food products.

b. Non enforcement of labor (occupational health and safety) and pesticide laws does result in lower costs to Mexican producers, but any competitive advantage varies by individual crops and in most cases is small. In terms of the use of banned pesticides, Mexican exporters are limited to what is permissible by US standards on pesticide residue. An advantage does exist in terms of occupational health and safety laws as Mexican growers rarely are in compliance. However, the cost advantage is small, according to studies of the cost to protect U.S. workers (Ballenger, Krissoff, and Beattie, 1995). A very serious effect, which can and should be treated under the Agreement, is the negative impact of pesticides and agricultural chemicals on agricultural workers, agricultural communities, and natural resources in Mexico. Whether it will be treated depends on the effectiveness of the labor and environmental bodies as well as the political will of the Mexican government, all of which are still largely unconfirmed although significant organizational steps have already been taken toward this purpose.

c. There is little evidence of a NAFTA-induced influx of American producers to take advantage of a pollution haven permitted by lax enforcement of regulations. However, while there is a strong presence of American agribusiness in Mexican horticultural production, it does not appear that these companies usually bring along occupational health and safety adherence from the US. This may in part be due to the fact that agricultural

production happens through sub-contracting with local producers instead of directly. In this case, “cleaner” technology has not accompanied relocation of a company from a developed to a developing country, an argument which has been important for supporters of the notion that liberalized trade can help the environment.

d. The question of whether NAFTA will lead, overall, to more pesticide use is unclear. The use of pesticides in Mexico dropped over 40% in value terms with the advent of NAFTA, and is projected to have dropped another 30% in 1995. This had nothing to do with NAFTA, however, but was rather due to the end of government subsidies and the devaluation which increased sharply the price of imports in Mexico.

Competing agricultures on both sides of the border are heavily dependent on the use of pesticides and other chemicals, though this varies by crop, region, and technology. One study, focusing on tomatoes, peppers, and cucumbers, found that Mexican horticultural production under NAFTA will remain less chemical intensive than competing Florida production. It is thus not the case that, a priori, a shift of horticultural production to Mexico will result in higher overall pesticide use (Abler and Pick, 1993).

Lax enforcement means that a heavier pesticide burden from increased production will be borne by agricultural workers in Mexico and by the communities in which they live and work than by their counterparts in the US and Canada. NAFTA does provide, however, as described below, at least a forum to challenge the non enforcement of relevant regulations.

(3) NAFTA's impact on US consumer safety and environmental laws is still unclear at this point. These laws range from food labeling and the Delaney Clause (prohibiting carcinogens in processed food) to the Marine Mammal Protection Act (which protects dolphins in tuna fishing). The US government claimed that consumer safety and environmental laws would not be negatively affected by NAFTA. Some environmental organizations that supported NAFTA say the text is not optimal but far preferable to the language in GATT and sufficient to protect U.S. standards. Others contend that the outcome is not clear and will depend on how NAFTA is ultimately interpreted once specific regulations are challenged.

Though no challenges have yet been made, precedents exist as mutual challenges by Canada and the United States over a number of non-agricultural products under the binational FTA have resulted in dropping proposed stricter standards or lowering standards. It is worth noting, however, that important challenges to the Delaney Clause and environmental regulations, such as the Marine Mammal Protection Act, have come from Mexican challenges through GATT and from members of the U.S. Congress, not from NAFTA related trade challenges.

(4) The side agreements on labor and the environment provide at least the possibility of government or citizen challenges of lax enforcement of national labor and environmental laws as they pertain to agriculture. Though the mandate is narrow, the text still open to interpretation, and the process more complex and difficult than trade-based disputes, the new institutions should serve as a focal point for mobilization and debate.

Since its inception, the CEC has approved only one issue for review (migratory bird deaths in Mexico), and has rejected two citizen-initiated complaints that the US was not enforcing its own laws. Also, under the aegis of the CEC, three chemical pollutants have been targeted for regional phase out or reduction, PCBs, chlordane, and DDT, as well as mercury, which would represent a significant environmental achievement.

While the CEC is a unique institution by which citizen groups can possibly influence enforcement of environmental laws in a third country, it is a government controlled body with limited authority and cumbersome administrative processes that temper innovation, public challenge, and discourse. Ultimately its effectiveness will depend on the political will of the three parties to allow citizen participation, as well as the pressures that can be brought to bear by environmental, consumer, and business groups (Ballenger and Krissoff, 1995).

In conclusion, while the NAFTA institutions have barely started to perform, they offer a unique potential for creative learning, cooperation, and improvement in the implementation of the agreements. They have also come short of fulfilling their potential on several aspects:

- Recent politicization of the dispute resolution process on the U.S. side.
- Mexican government difficulties in enforcing the quota/tariff structure.
- Lack of clarity as to the usefulness of labor and environmental bodies and the weakness of enforcement capacity on the Mexican side.

Part VI. Conclusion: gains and dislocation effects of globalization

NAFTA raises important challenges that derive from the large economic, institutional, and political discrepancies that differentiate Mexico from the other two countries. At the same time, these challenges hold the promise of significant gains for the three countries, making them both unavoidable and worth meeting.

Attempting an early assessment of NAFTA after less than three years in existence is made difficult by the fact that most of the NAFTA-specific gains from trade will be achieved after long programmed transitions, that many gains from trade had already been achieved following Mexico's membership to GATT in 1986 and the U.S.-Canada free trade agreement in 1989, and that the early effects of NAFTA have been overwhelmed by macroeconomic imbalances in Mexico, creating spurious correlations that can lead to facile critiques of the Agreement for inducing adverse effects on trade, employment, and welfare that in fact are not induced by NAFTA.

In contrast to these critiques, we have seen that econometric decomposition of NAFTA and other effects shows that total and agricultural trade performed better under the Agreement than under the no-NAFTA counterfactual. In particular, the Agreement has been an effective instrument in helping Mexico mitigate the effects of the peso crisis. However, deriving full benefits from improved incentives requires increasing the aggregate elasticity of supply response of Mexican agriculture. While an impressive array of policy initiatives has been introduced by the Mexican government in 1995, many bottlenecks to response are still in place, particularly for smallholders, and this elasticity remains low.

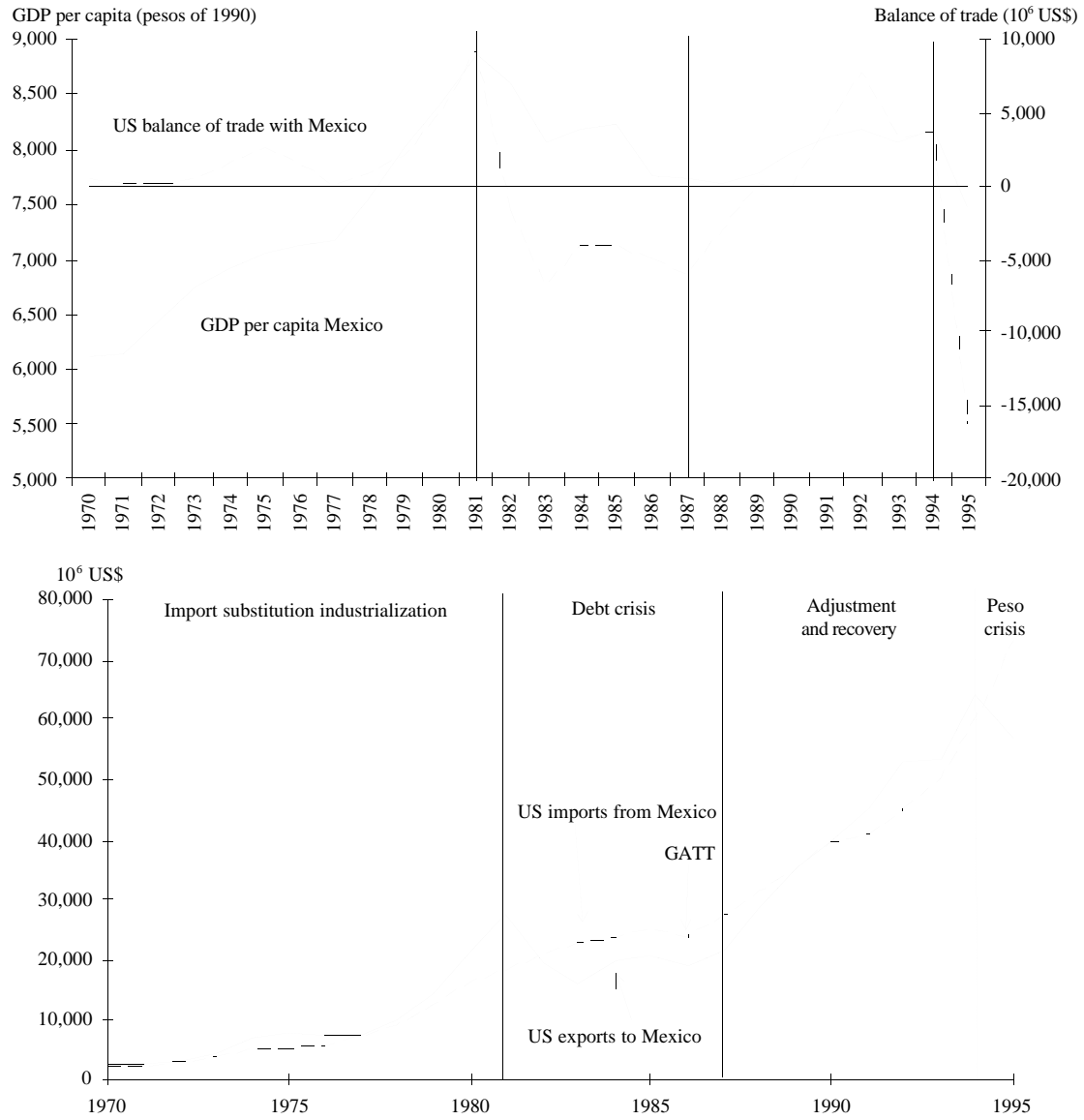
We also argued that net employment effects created by NAFTA have been small in the U.S. and that the expected large scale displacement of corn farmers in Mexico has been exaggerated and did not materialize. Workers are, however, being displaced from current employment in the U.S., and Mexican smallholders need to modernize and diversify their operations if they are to be competitive in an open economy and keep access to their land as the land market becomes liberalized. Transitional adjustment assistance is available in both countries, most particularly under the TAA act in the U.S. and the PROCAMPO program in Mexico. More importantly, from a pro-active perspective, rural development initiatives have shown that smallholders have the ability to diversify toward high value crops and to modernize the production of traditional crops. These avenues to adjustment are, however, demanding and limited to a subset of better endowed and better attended smallholders, calling upon an approach to rural development that goes beyond agriculture.

All processes of globalization have two types of negative welfare effects. One is the creation of transitory poverty associated with the redefinition of economic activity, such as loss of job, falling profitability of activities exposed to international competition, and in general devaluation of the factors that were scarce in each economy before trade opening. These effects can be attended through compensatory programs like TAA and PROCAMPO, complemented by general safety nets such as food subsidies and unemployment insurance. The other type, which is more difficult to handle, is the exclusionary effect of globalization, whereby many households and communities that were poor before NAFTA will remain marginalized from the process, and thus with increasingly distant welfare levels compared to those who capture the gains from globalization. This is particularly serious in Mexico where some of those who are marginalized from the benefits of globalization are members of ethnic communities, which restricts their mobility and exposes them to discrimination and abuse. Compensatory programs are not designed to address exclusion, since there is no direct harm involved, only a Hirschman-type "tunnel effect" that deepens

economic and social distance and creates increased resentment. Yet, these effects cannot be ignored since the political sustainability of globalization, NAFTA in this particular case, requires defusing the social tensions that it helps reinforce.

Globalization creates net social gains. It thus offers an important opportunity to tax some of the gains achieved to attack structural poverty and create options for marginalized populations to find creative niches in the process of globalization. In that sense, the very success of NAFTA requires embedding the agreement within a broader program of social and political reforms that can be partially financed by the gains from trade and that will be a fundamental determinant of NAFTA's ultimate achievements. Indeed, we should recall that trade policy is rarely a first best instrument to solve other problems, and these other problems need to be addressed through specific interventions that complement progress that is being made in the field of trade and foreign investment.

Figure 1. United States-Mexico Trade, Annual Data, 1970–95



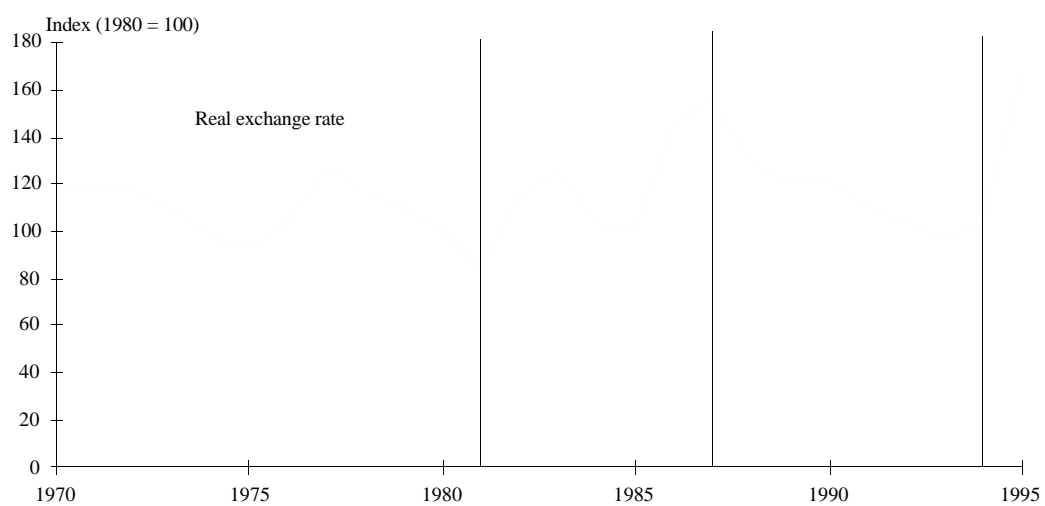
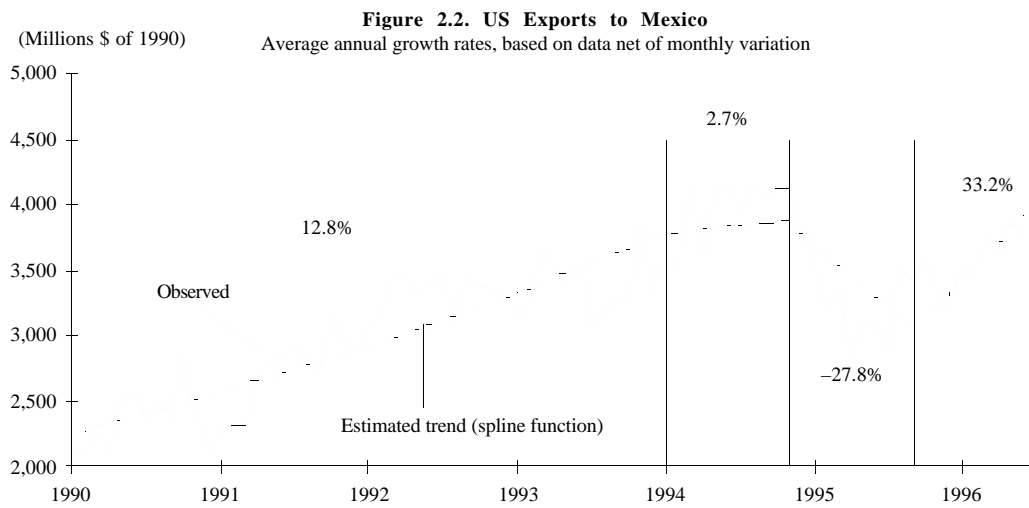
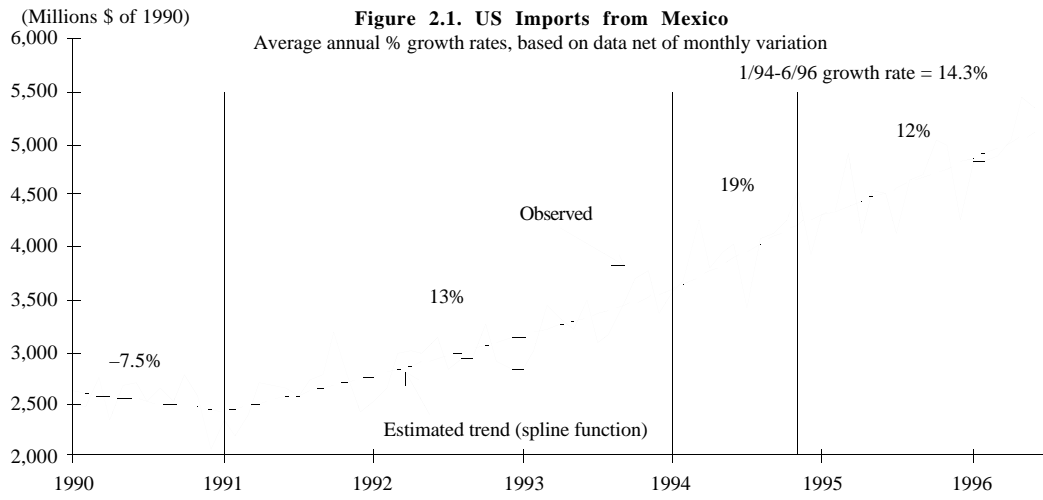


Figure 2. United States-Mexico Trade, monthly data, 1/1990-6/1996



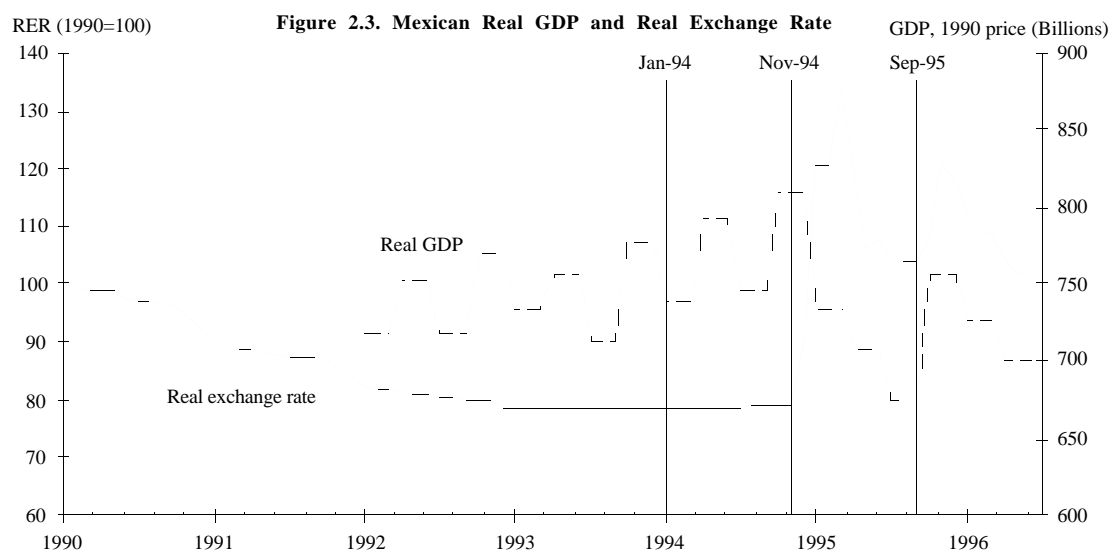
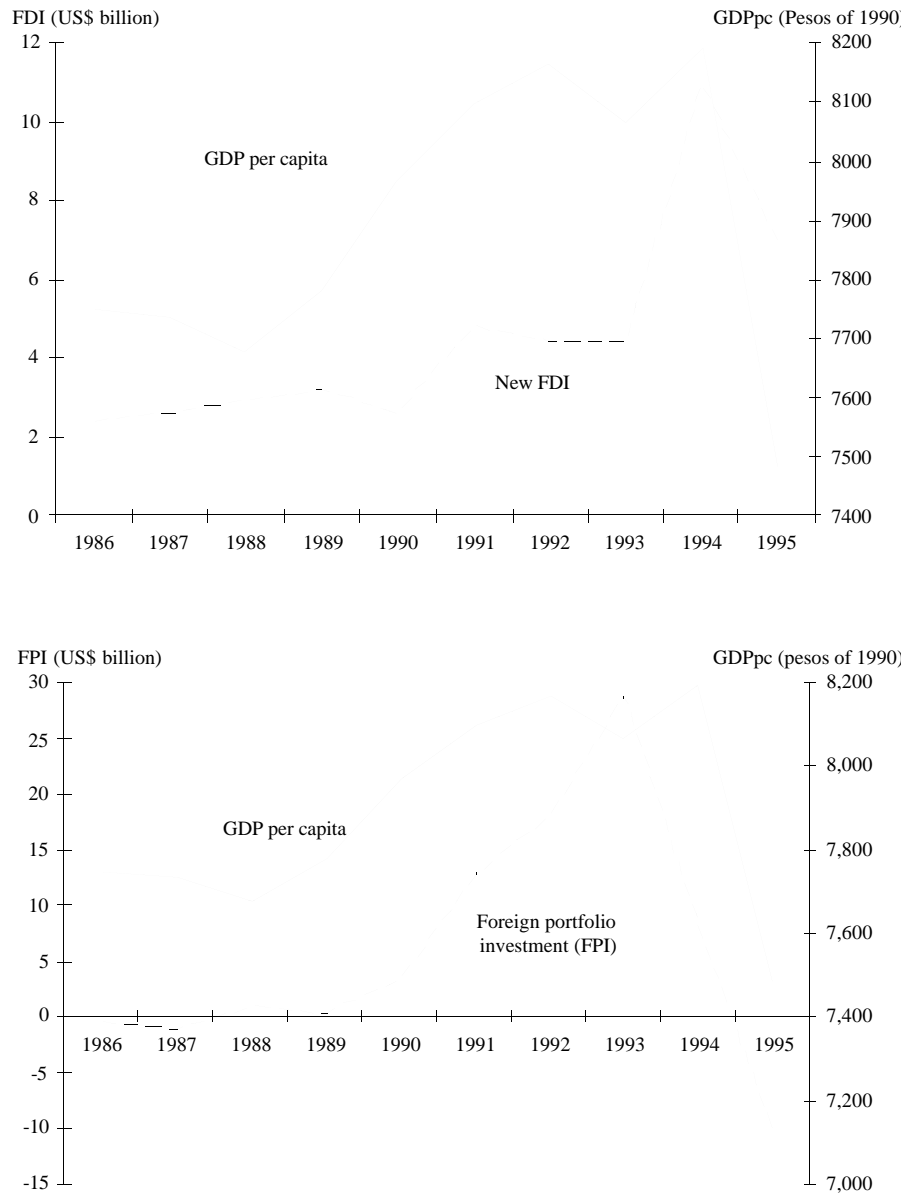
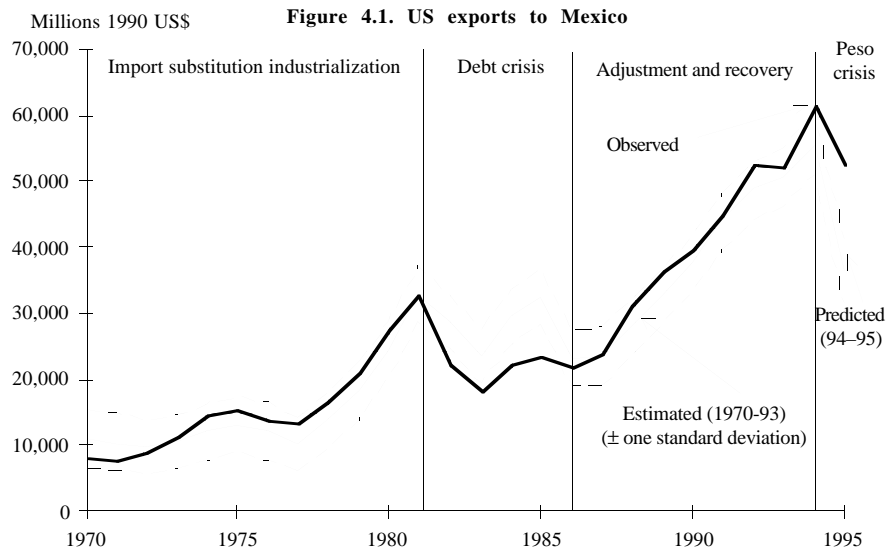


Figure 3. Foreign Investment in Mexico: FDI and FPI



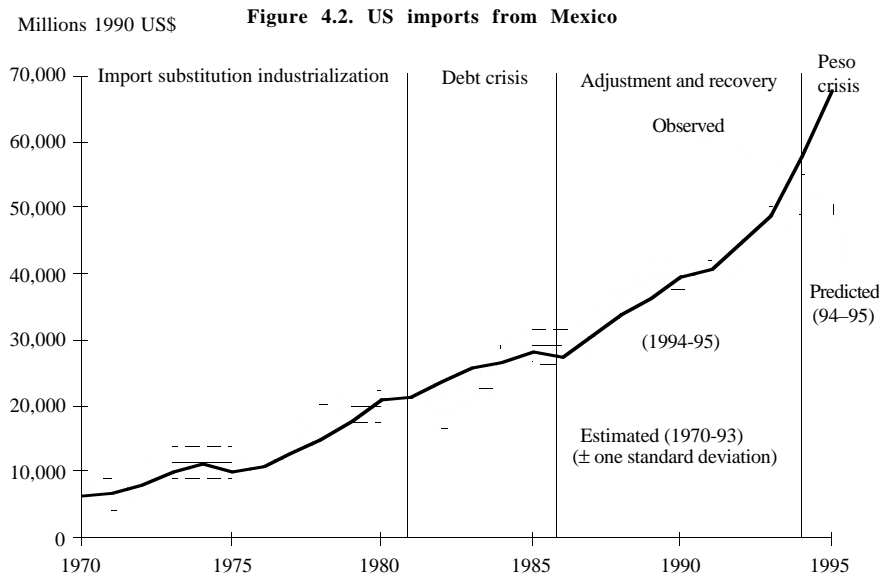
Source: Ministry of Trade and Industrial Development

Figure 4. United States-Mexico Trade, 1970–1995



Estimated model:

Exports = cst + (-232 + .305*MexGDP) MexGDP - 122 RER, R-squared = 0.92
t-stat (3.9) (5.4) (2.4) MexGDP in 10^9 1990 pesos



Estimated model:

Imports = cst + (-.048 + .0018*USGDP) USGDP - 60.8 RER, R-squared = 0.97
t-stat (0.0) (1.9) (2.1) USGDP in 10^9 1990 \$

Figure 5. United States-Mexico Trade, Monthly Data, 1/1991 to 6/1996

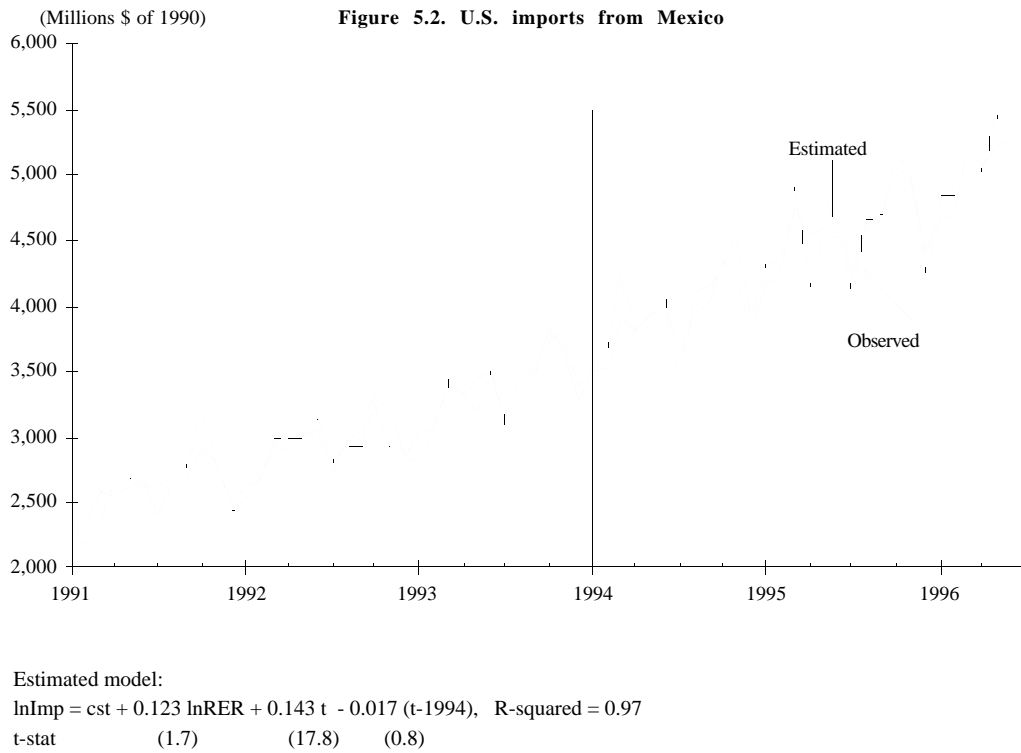
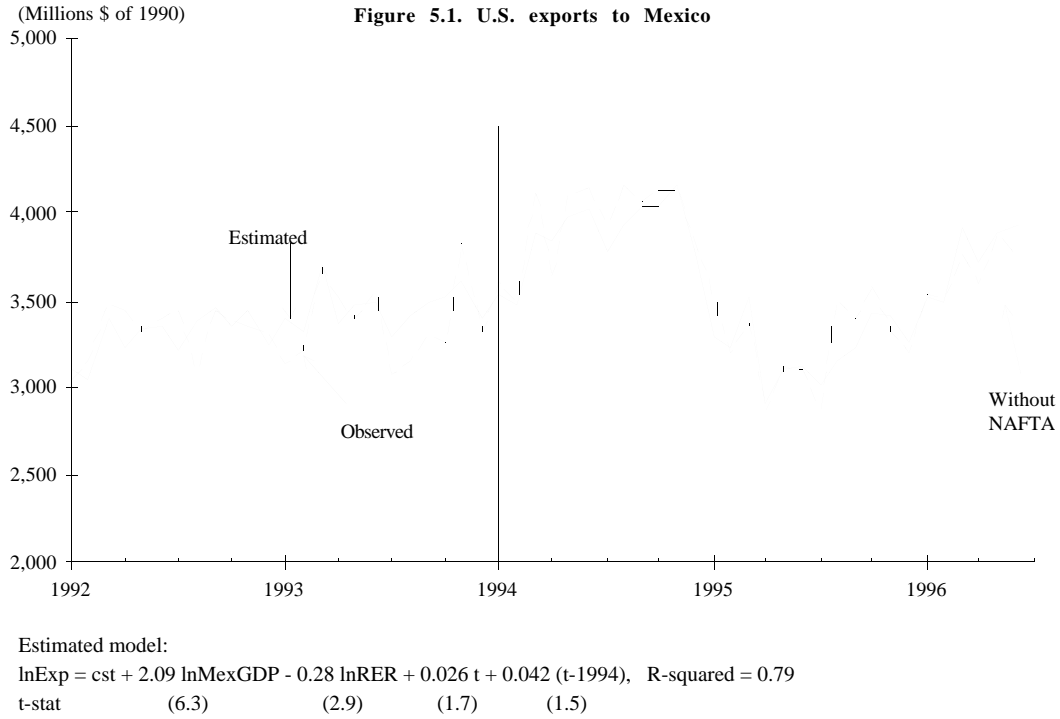


Figure 6. Mexico's Tomato Exports to the United States, 1983-95

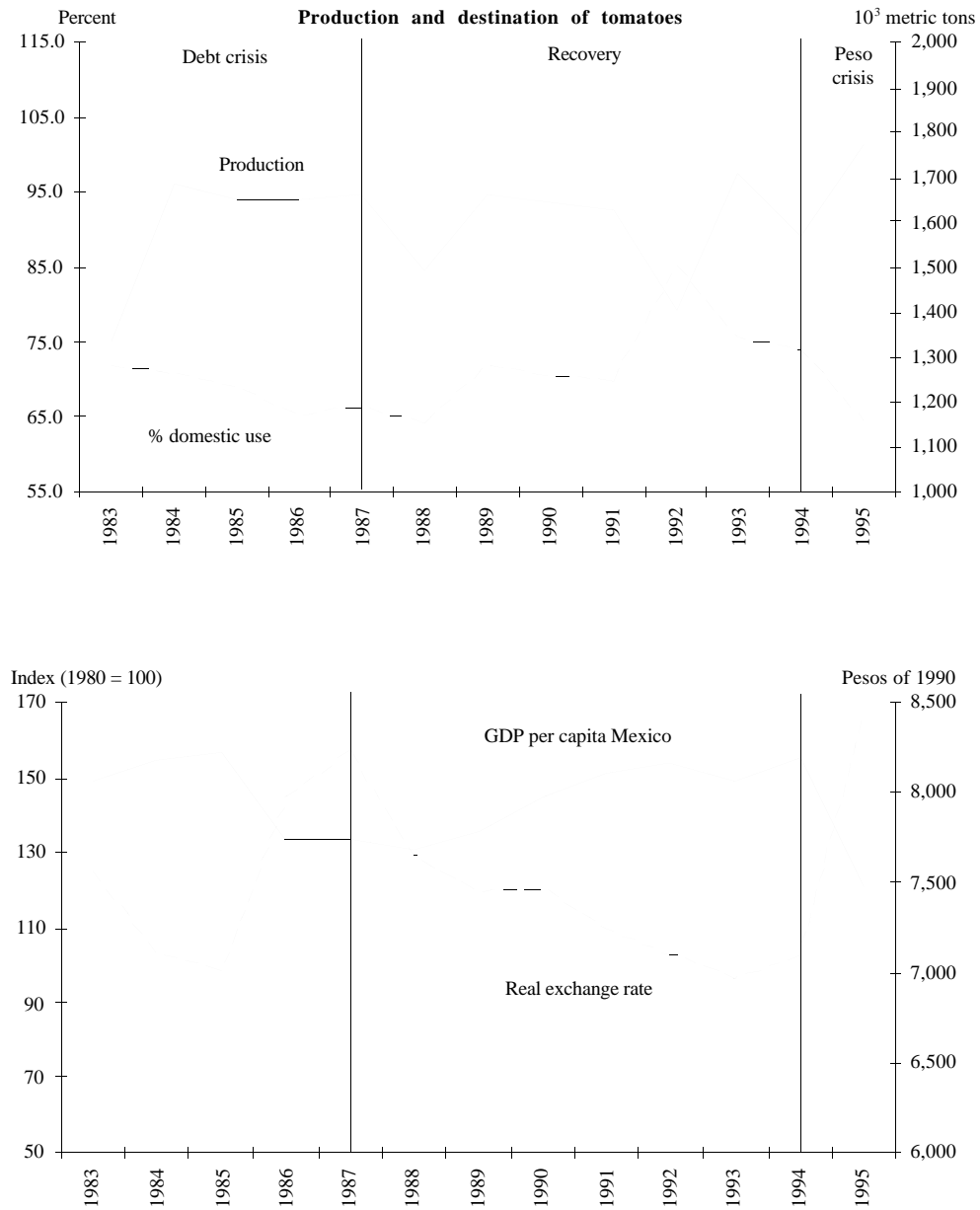


Figure 7. United States-Mexico Agricultural Trade

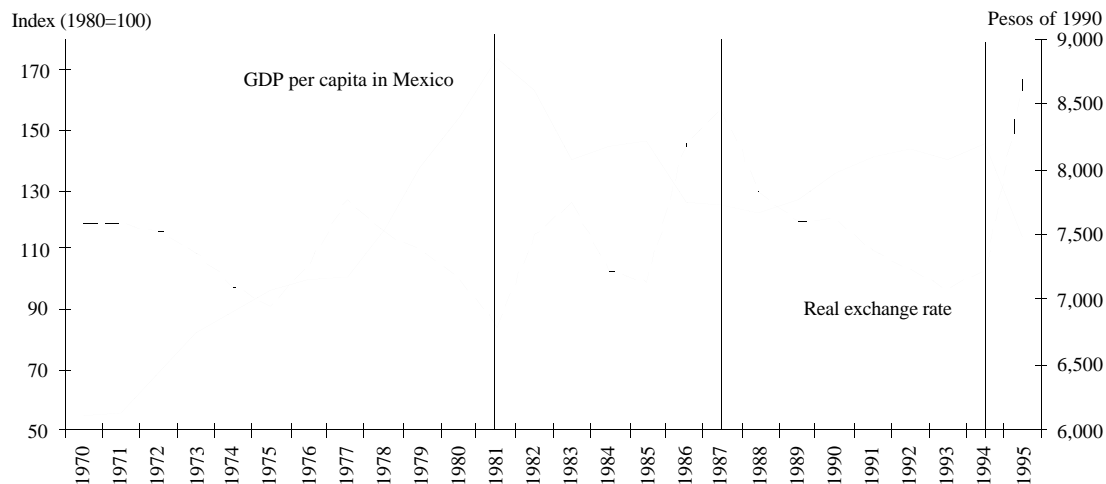
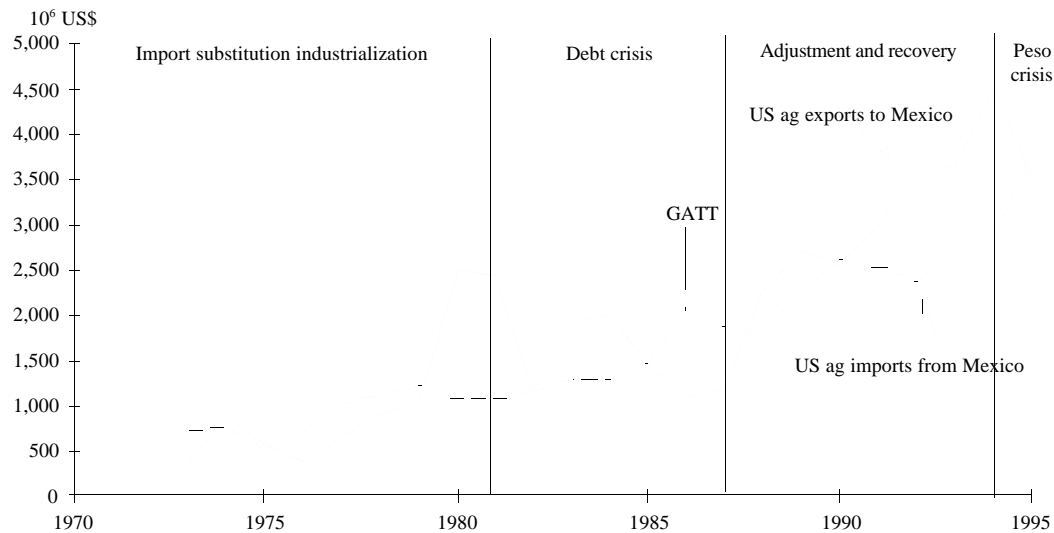
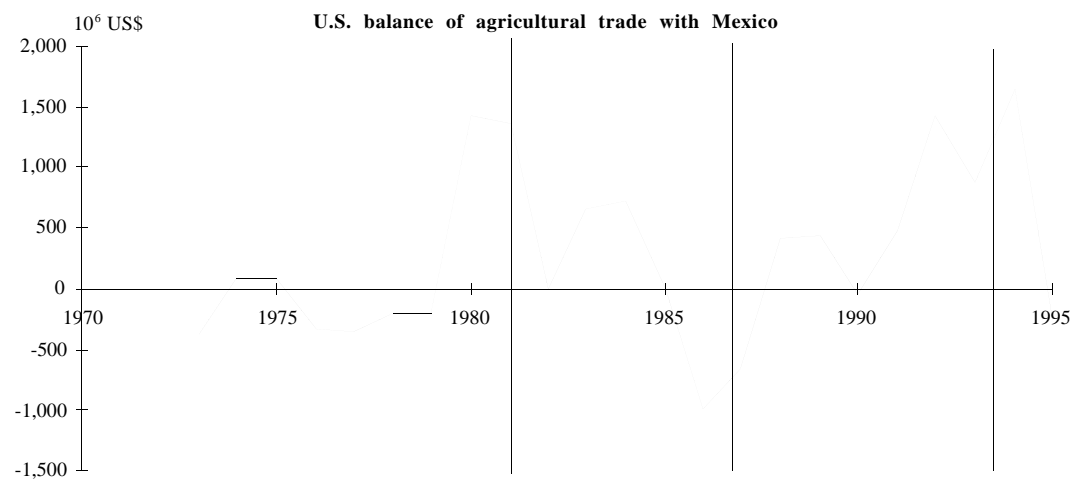


Figure 8. United States-Mexico Agricultural Trade, 1973-95

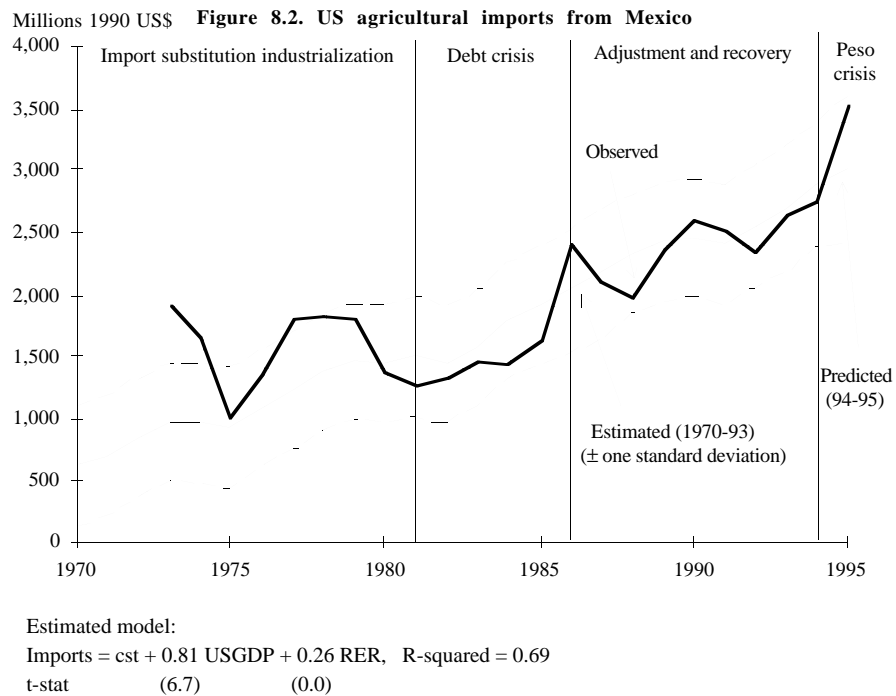
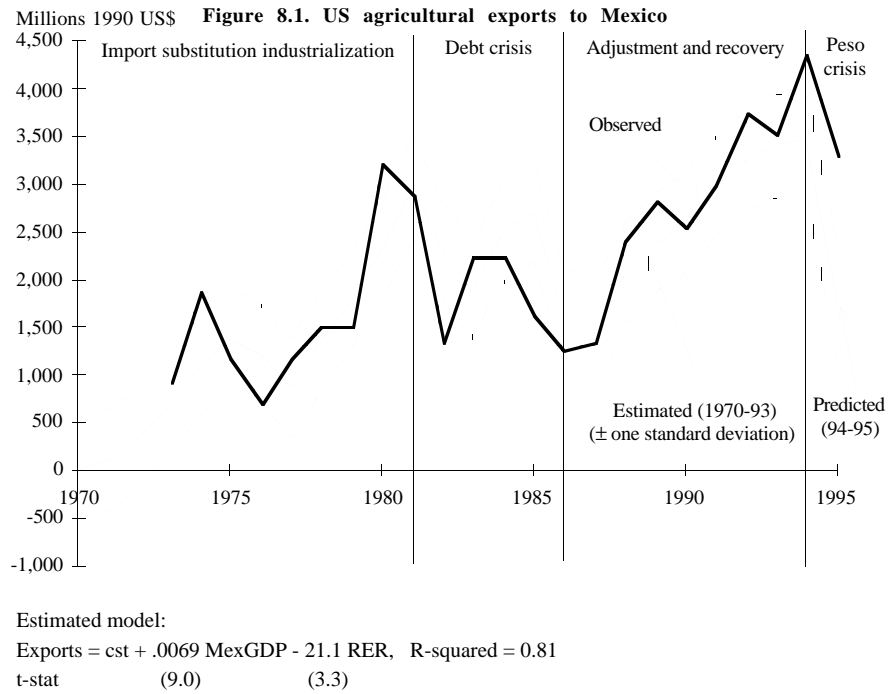


Table 1. Trade of Agricultural Products between the U.S. and Mexico, 1990-95

	Pre-NAFTA 1990-93	NAFTA 1993-94	NAFTA 1994-95	1995 Mexico's share of total US
	Average annual percentage changes in constant 1995 dollars			% share of
Real exchange rate	-6.4	6.2	62.1	
Real GDP per capita in Mexico	0.5	1.6	-8.7	
U.S. imports from Mexico	-0.3	4.1	27.8	imports
Agricultural products				
Vegetables & melons	-1.4	6.4	19.6	77.4
All crops	-0.8	6.3	30.1	22.5
Animal products				
Beef cattle	-0.8	-20.1	51.6	39.2
All animal products	-1.0	-20.2	52.7	22.8
Processed foods				
Frozen fruits & vegetables	-12.4	11.4	13.9	22.4
Malt products	-0.2	12.5	24.0	19.8
All processed foods	-0.1	11.4	15.0	6.5
U.S. exports to Mexico	12.7	23.7	-24.7	exports
Agricultural products				
Corn	-42.9	431.0	0.0	5.1
Soybeans	25.1	24.5	-11.6	8.9
All crops	3.4	29.8	-14.6	5.9
Animal products	15.4	36.1	-74.7	4.5
Processed foods	18.2	16.0	-32.6	6.2
U.S. balance of agricultural trade	1990-93	1994	1995	
with Mexico (10 ⁶ current \$)	681.4	1657.6	-260.4	

Source: USDA, ERS, 1996

Table 2. Characteristics of ejido households according to corn market integration

	<i>Buy</i>	<i>Self-sufficient</i>	<i>Sell</i>	<i>Buy and sell</i>
Distribution of households (%)	28	31	29	12
Land				
Farm size category (% of households in each category)				
0–2 ha	42	27	13	19
> 10 ha	15	19	31	27
Corn production (tons)	1.4	2.1	9.2	11.3
Sources of income (% of total income)				
Agricultural income	24	16	27	34
Corn and beans	6	8	13	21
Livestock income	12	12	15	7
Off-farm income	62	68	54	57
Wages	31	38	32	31
Migration income (Mexico and U.S.)	24	26	18	21

Source: SRA-CEPAL, 1994 ejido survey

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