

NAFTA, Trade, and Development

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Introduction

In 1990, Mexican President Carlos Salinas de Gortari and U.S. President George H. W. Bush announced their intention to sign a free trade agreement (FTA) between their two countries. After the government of Canada joined this effort a year later, the three countries began negotiations to establish what was then called the largest free trade area in the world. The mere announcement of this effort, which led to the formation of the North American Free Trade Agreement (NAFTA) in 1994, immediately sparked a series of debates along multiple dimensions. In Mexico and the United States, the domestic discussion focused on the economic impact of engaging in an FTA with a highly asymmetrical partner that could either destroy domestic industries due to its technological superiority (as was expected in Mexico) or generate massive job losses in response to lower wages across the border (as was expected in the United States). Of course, proponents of NAFTA dismissed these fears and instead emphasized the benefits of free trade in terms of efficiency, productivity, and greater variety of products for consumers.¹

At a more general level, the announcement of the creation of NAFTA also generated a heated debate about regionalism versus multilateralism in trade negotiations, since it was seen as a step forward in the creation of a large trading bloc that could affect negotiations leading towards full multilateral trade liberalization. From a slightly different perspective, NAFTA was seen as a geopolitical move that was a natural U.S. response to European integration efforts, and although it was probably was not going to have a profound impact on the U.S. economy, it could have one on the Mexican. NAFTA was also seen by many as a radical departure from the protectionist policies traditionally followed by Mexican policy makers that could eventually lead

to closing the historical development gap between Mexico and its northern neighbors. For that reason, NAFTA generated huge expectations among analysts interested in understanding the economic impact of an FTA between highly asymmetrical partners.

In this chapter, we analyze the expectations and the realities about the economic impact of NAFTA on Mexico in terms of economic convergence, trade, investment, employment, wages, and income distribution. We show that NAFTA has basically failed to fulfill the promise of closing the Mexico-U.S. development gap, and we argue that this was due in part to the lack of deeper forms of regional integration or cooperation between Mexico and the United States. We also explore other factors that could explain this negative outcome, and we briefly discuss the opportunities for both Mexico and the United States to mutually benefit from a further economic integration process.

NAFTA Expectations and Realities

The Mexican government had pinned its hopes on NAFTA not merely to boost exports to the U.S. and Canadian markets, but also to attract large amounts of foreign direct investment (FDI), create a significant number of new industrial jobs, and give the Mexican economy the growth stimulus it had been lacking since the tepid recovery from the debt crisis of the 1980s.² President Salinas famously predicted that NAFTA would permit Mexico to “export goods, not people” and to join the ranks of “first-world” nations. NAFTA’s critics in the United States predicted that it would cause a massive relocation of U.S. industries and jobs to Mexico, while fostering greater inequality in both societies by creating a “race to the bottom” in social and labor standards. NAFTA supporters in turn promised that the agreement would stimulate U.S. employment via

trade surpluses with a growing Mexican market. Paradoxically, NAFTA's original supporters and opponents seemed to agree that, whatever else it would do, this agreement would give a major impetus to Mexico's industrial development and job creation.

Of course, NAFTA did not go into effect in a vacuum, and it is perilously difficult to disentangle exactly what were the effects of this trade agreement relative to other factors in the post-1994 evolution of the two economies. NAFTA built upon the base of the much larger tariff reductions and more far-reaching market-opening measures that Mexico had already adopted unilaterally after it joined the General Agreement on Tariffs and Trade (GATT) in 1986, so not all of the effects of trade liberalization can be attributed to NAFTA.³ In addition, macroeconomic factors such as financial crises, exchange rates, oil prices, and business cycles were important determinants of what actually occurred.⁴ Subsequent trade agreements, both multilateral (the formation of the World Trade Organization) and preferential (the many other FTAs entered into separately by Mexico and the United States), reduced the significance of the tariff preferences contained in NAFTA. China's emergence as a global economic power and the rapid increase in its share of North American markets have also had an enormous impact on the region.

The fact that NAFTA was never supplemented by deeper forms of regional integration, social policies, or economic cooperation probably limited the benefits and exacerbated the costs.⁵ Domestic policies in both nations mattered, as did underlying geographic and demographic realities. U.S. efforts to stem unauthorized immigration, coupled with post-September 11 security measures, have made the border tougher, not easier, to cross, even for legal goods and services. As a result of all these factors, it is safer to analyze what happened *after* NAFTA than what happened *because* of NAFTA, but we will try to draw some inferences about causality where the evidence permits.

In fact, the trajectories of the U.S. and Mexican economies after NAFTA bear little resemblance to any of the more exaggerated forecasts on either side. NAFTA did not solve Mexico's employment problems, raise its average real wages, or reduce migration flows, and it seems to have done little to raise the country's long-run average growth rate, although it contributed to a strong recovery from the 1994–1995 peso crisis and a short-lived boom in 1996–2000. Mexico did reap gains in exports, FDI, and other indicators, especially in the late 1990s, but NAFTA did not turn out to be the panacea promised by the Salinas administration.

The United States did not suffer a catastrophic loss of manufacturing employment immediately after NAFTA went into effect, although it began to hemorrhage manufacturing jobs more severely after the Asian financial crisis of 1997–1998 and the surge in Chinese imports beginning around 2001. U.S. workers made significant real wage gains in the late 1990s in spite of increasing U.S. trade with Mexico, while Mexican workers suffered a sharp decline in real wages following the 1994–1995 peso crisis that was only barely reversed by the early 2000s. During the first seven years of NAFTA (1994–2000), North America showed signs of becoming a more integrated and competitive regional market area, but much of the progress on the regional front was reversed in the next eight years (2001–2008), as we shall see below.

NAFTA and Economic Convergence

When NAFTA was signed, one of the main objectives of the agreement (at least from the Mexican perspective) was to achieve a reduction in the historical gap of economic development between Mexico and the United States. Despite of all the anti-American rhetoric traditionally displayed by Mexican politicians,⁶ the truth is that many Mexicans have long aimed to benefit from being close to one of the biggest and richest markets in the world. Of course, this explains

not only the large flows of migrants from Mexico to the United States, but also the close trade ties that have been established historically between the two countries. In that sense, when NAFTA was signed there were huge expectations that trade and FDI could help to reduce the Mexico-U.S. economic gap. From the perspectives of both countries, this could bring about multiple benefits for everyone involved in the agreement: for Mexican workers, this would imply higher wages and a better standard of living; for Americans, this would imply having a more stable and economically sound neighbor that could also become a good client for U.S.-made products. Under this scenario, Mexican workers would have lower incentives to migrate and, since migration has always generated a heated debate in some segments of the U.S. population, this could also help to ease tensions in the Mexican-U.S. relationship. All in all, NAFTA would be a win-win situation.

The relevant question, then, is what has happened to the historical Mexico-U.S. economic development gap since (or as a result of) NAFTA? Has there been economic convergence between Mexico and the United States since (or as a result of) NAFTA?⁷

Figure 7.1 provides the answer to these questions. The graph shows alternative long-term measures of income per capita or income per worker in Mexico as percentages of the corresponding measures in the United States. The data are shown in relative terms to better capture the idea of economic convergence: if income per capita in Mexico increases relative to that in the United States, the relative variables will rise and we would then conclude that there was a process of economic convergence between the two countries. Otherwise, we would say that there was no convergence. Indeed, if the relative variables decline, we would then say that there was a process of economic divergence between the countries.

Figure 7.1 shows data from two different sources: the World Bank (WB) and the Penn

World Tables v. 6.3 (PWT), and it shows two indicators from each source. From the WB we use the series on GDP per capita in purchasing power parity terms (PPP), which adjusts for price differentials across countries (this is the series WB GDP per capita, PPP) as well as the series without adjustment (WB GDP per capita).⁸ Both variables are measured as ratios of data in current prices. From the PWT we also use two series: the first is the Mexico-U.S. ratio of real income per capita (PWT Real GDP per capita) and the second is the ratio of real GDP per worker (PWT Real GDP per worker).

All four series show essentially the same result: the level of economic development in Mexico relative to the U.S. has been remarkably stable since 1995, which means that there has been no economic convergence between these two countries as a result of (or associated with) NAFTA. Notice that, even after the recovery from the 1994–1995 crisis, the level of economic development in Mexico relative to the United States (in either per capita or per worker terms) remained slightly below what it was before the passage of NAFTA. The data in Figure 7.1 show that Mexico's income per capita is about one fourth (WB, PPP terms) or one third (PWT) of the U.S. income per capita, depending on which source we use. The figure also shows that output per worker in Mexico relative to the U.S. has steadily declined since 1981 and that it is now just slightly above 30 percent. For comparison purposes, note that this ratio was close to 40 percent in 1993, before NAFTA went into effect.

In sum, the data show that there has been no economic convergence whatsoever between Mexico and the United States since NAFTA's enactment. As a result, the historical Mexico-U.S. economic gap in percentage terms has not been reduced after 15 years of free trade, and the incentives to migrate are probably even greater than before since the income gap in absolute terms is now larger than it was 15 years ago. Furthermore, since the recent international financial

crisis has affected Mexico more than any other country in the Western Hemisphere,⁹ we can anticipate that the Mexico-U.S. gap increased even further in 2008–2009.

Trade and Investment Flows

This lack of convergence did not occur because of a failure of trade to grow faster after NAFTA went into effect. On the contrary, Table 7.1 shows that U.S. nonpetroleum imports from Mexico accelerated to an average annual growth rate of 19.5 percent in the first seven years of NAFTA (1993–2000), after growing at an already rapid clip of 13.9 percent in 1987–1993 following Mexico’s unilateral liberalization. As a result of this faster growth, Mexico’s share of U.S. nonpetroleum imports climbed from 6.7 percent in 1993 to 11.4 percent in 2000. The accelerated growth in 1993–2000 should not be attributed entirely to NAFTA, however, but also resulted from two other factors: the “new economy” boom in the United States in the late 1990s, which led to an enormous explosion of U.S. demand for imports generally; and the depreciation of the Mexican peso following the 1994–1995 peso crisis, which left the peso at a more competitive exchange rate for the next several years.

However, U.S. import growth from Mexico slowed considerably after 2000. U.S. nonpetroleum imports from Mexico grew only at a 4.9 percent annual rate in 2000–2008, while U.S. imports from China continued to soar at a torrid 16.4 percent annual pace during that period. To be sure—and this is where both NAFTA and geography may have helped—Mexico succeeded in maintaining its U.S. market share better than other global regions in the 2000–2008 period. The 11.3 percentage point increase in the Chinese share of U.S. nonpetroleum imports during this period came mostly at the expense of other countries, while Mexico’s share dipped only slightly. Nevertheless, it is likely that U.S. imports from Mexico would have grown much

faster and increased their share further after 2000 in the absence of the rapid influx of imports from China.¹⁰

The disappointing growth of Mexican exports to the United States in 2000–2008 occurred after China joined the World Trade Organization (WTO) and obtained “permanent normal trade relations” (formerly known as “most favored nation”) status from the United States in 2001. However, other factors were also at work. As part of its inflation-targeting monetary policy, the Mexican government allowed the value of the peso to rise significantly in the early 2000s.¹¹ The end of the Multifibre Arrangement (MFA) in 2005 led other developing countries (largely, but not exclusively, China) to increase their shares of global textile and apparel production, thereby destroying a large part of the vertically integrated North American textile-apparel complex that flourished briefly under NAFTA’s rules of origin in the late 1990s. High-tech producers also discovered that they could find lower wages and more supportive government policies in various East Asian countries.¹²

Mexico’s trade data show a similar pattern of regional integration increasing during the 1993–2000 period and then diminishing thereafter (see Table 7.2). On the export side, the largest increase in the U.S. share of Mexican exports occurred in 1987–1993; this suggests the natural pull of geography in stimulating intra-regional trade even when Mexico opened up its own economy unilaterally.¹³ In spite of efforts by Mexico to diversify its export outlets, especially through the signing of numerous other bilateral FTAs, 80.2 percent of Mexican exports were still sold in the U.S. market as of 2008.

In contrast, the U.S. share of Mexican imports remained relatively stable at around 70 percent from 1987 through 2000, and then fell abruptly to 49 percent in 2008. There were several causes of this sharp reduction in intra-regional trade post-2000. First, since both the U.S. dollar

and Mexican peso were at relatively high values during the first several years of the 2000s, producers throughout North America had strong incentives to source products (both final and intermediate goods) outside the continent. Second, the penetration of Chinese and other Asian imports into the U.S. market not only displaced Mexican exports to the United States, but also displaced U.S. exports of intermediate goods that would otherwise have been shipped into Mexico for assembly. Third, Mexican trade policy actively encouraged imports of intermediate goods from outside the region through the Pitex program of tariff exemptions.

Mexico did succeed in attracting a notably increased average level of FDI inflows after NAFTA went into effect in 1994 (Table 7.3). FDI inflows did not increase continuously, however, but rather stabilized at an average level of about 3 percent of GDP in the post-NAFTA period. Interestingly, the proportion of U.S. FDI outflows that go to Mexico has not varied much since the pre-NAFTA period (1987–1993), especially if we discount one unusually high year (2001, when Citibank acquired Banamex). The proportion of Mexican FDI inflows coming from the United States fell in 2001–2007 compared with the earlier periods shown, even including 2001. Thus, Mexico had more success in attracting additional FDI from countries outside North America than it did in attracting a larger share of U.S. FDI outflows—and this may also have contributed to the fall-off in the U.S. share of Mexico’s imports after 2000.

Effects on Manufacturing Employment

U.S. manufacturing employment did fall off a cliff—but not until after 2001, seven years after NAFTA went into effect (see Figure 7.2). Roughly three million manufacturing jobs disappeared following the 2001 recession and China’s accession to the WTO in that year, and another two million vanished in the financial crisis and steep recession of 2008-9. None of these events had

anything to do with NAFTA or Mexico, however, and, as we shall see below, Mexican manufacturing employment also fell in both periods.

Nevertheless, it does not follow that NAFTA or U.S.-Mexican trade had *no* negative impact on U.S. manufacturing employment, which might have been expected to have grown more during the economic boom of 1994–2000 than it actually did. U.S. manufacturing employment rose very little during that period, in spite of GDP growth that averaged 3.9 percent per year at that time. However, the highest credible estimate of the cumulative U.S. manufacturing job losses that can be attributed to U.S.-Mexican trade during (roughly) the first decade of NAFTA is about 500,000, and other estimates are lower (some even claim net gains).¹⁴ Even taking the high-end estimate of about a half million jobs lost over a decade, it is a relatively small amount in a country where payroll employment totaled 114 million in 1994 and reached 138 million in 2007, and smaller than the monthly job losses during the worst of the recession of 2008–2009.¹⁵ Moreover, the 500,000 figure is an estimate of job losses due to the increased U.S. trade deficit with Mexico, not effects of NAFTA specifically.

If the U.S. job losses that can credibly be attributed to trade with Mexico (if not to NAFTA *per se*) are relatively small, by the same token the employment increases that Mexico achieved in its tradable goods industries were much more modest than the more optimistic *ex ante* predictions. Total payroll employment in Mexican manufacturing increased from 2.5 million in 1989 to 2.9 million in 1994, and rose further to 3.8 million in 1999, but then declined to 3.4 million in 2004.¹⁶ Overall, the net increase in manufacturing payroll employment in Mexico in the first decade after NAFTA (1994–2004) was roughly 500,000—perhaps coincidentally, just about the high end of the estimates of U.S. job losses over the same period. This a far cry from an amount of job creation that could have put a serious dent in Mexico's

employment needs (given that the labor force grows by nearly 1 million workers annually) or stem the flow of emigration (which is estimated to have been in the range of about 350,000 to 580,000 per year in the 1990s and early 2000s).¹⁷

In retrospect, it should have been more obvious that trade liberalization would not have had an enormous impact on total industrial employment in Mexico. Trade liberalization increases imports as well as exports, and increased imports displace domestic jobs just as much as increased exports create them. Thus, an important perspective on the disappointing job gains in Mexico's manufacturing industries can be obtained by examining the country's trade balances with the United States and the rest of the world. While for the United States its growing deficit with Mexico was part of a much larger increase in its overall deficit, for Mexico its increasing surplus with the United States was completely offset by rising deficits with other countries, primarily in Asia (see Figure 7.3). Furthermore, many Mexican export industries are essentially assembly operations that rely heavily on imported parts and components, and which lack "backward linkages" to domestic industries.¹⁸ As a result, the increases in the gross value of exports are an exaggerated indicator of value added and employment generation in the export industries.

Income Distribution, Relative Wages, and Inequality

Figure 7.4 shows one of the most widely cited indicators of wage inequality, the skilled-unskilled wage gap, measured by the ratio of salaries of employees (non-production workers, in the U.S. terminology) to wages of production workers, from the monthly survey of non-maquiladora industries in Mexico. The sharp rise in this measure of wage inequality in the first decade of trade liberalization (1987–1997) surprised most economists, since they had assumed that trade

liberalization would boost the wages of less-skilled workers in Mexico due to a supposed abundance of less-skilled labor. One explanation for the rise in this ratio at that time is that the initial tariffs that were lowered in the trade liberalization of the late 1980s were higher in the industries that were most intensive in less-skilled labor.¹⁹ Another explanation is that skill-biased technological change during this period boosted demand for more educated workers—although this shift may have been at least partially an effect of trade liberalization rather than an independent cause.²⁰

Of course, a rise in wage inequality that began several years before NAFTA cannot be attributed to this trade agreement. After NAFTA went into effect, this measure of wage inequality stopped increasing and turned gradually downward from 1997–2007, although as of 2007 it remained 34 percent above its 1987 level. While there are probably several causes of this reversal, the leading explanation is an increase in the relative supply of more-skilled labor due to the rising levels of education of the Mexican labor force.²¹

The changes in wage inequality in Mexico also have important regional and gender dimensions.²² Census data reveal that regional inequality between workers in the northern and southern Mexican states increased between 1990 and 2000. For the more recent period, studies have found that the decreases in the skill gap in the late 1990s and early 2000s were concentrated in the northern border states, which have the highest degree of “globalization” according to various indicators of exports and FDI. Furthermore, the decrease in the skill gap in the last decade occurred almost exclusively among women workers in those states. In the rest of the country, where the effects of imports are likely to dominate the effects of exports and where there has been relatively less FDI, less-skilled workers (of either gender) do not appear to have benefited as much from trade liberalization either pre- or post-NAFTA.

Thus, it is difficult to generalize about the effects of trade liberalization or NAFTA on Mexico's wage structure, as there were many effects that went in different directions for different groups of workers and regions of the country at different times (and not all of the distributional changes were caused by trade policy). If anything, the evidence seems more clear-cut that the initial liberalization contributed to the rise in wage inequality from 1987–1997, while NAFTA's effects are more muted and mixed. This is not surprising, since the earlier liberalization involved a more drastic opening of Mexico's economy compared to NAFTA.²³

However, there are other dimensions of income distribution that can be affected by trade policy beyond the relative wages of more- and less-skilled workers, which have received perhaps disproportionate attention from economists on both sides of the border. What Mexico hoped for when it opened its economy and joined NAFTA was not merely a reduction in inequality among different groups of workers, but more importantly a significant increase in the average wage level for all Mexican workers. This, in turn, would have contributed to a rising standard of living for most citizens and a diminution of outward migration. This simply has not come to pass, especially in the tradable goods industries that are most impacted by trade.

Figure 7.5 shows an index of Mexico's average real compensation per person in manufacturing since 1980.²⁴ Evidently, this index has followed the cycles in the Mexican economy, as real compensation collapsed during the debt crisis of the early 1980s, partially recovered in 1988–1994, collapsed again following the peso crisis in 1995–1996, and recovered once more in about 1998–2003. However, average real compensation stagnated in the last five years shown (2003–2008), and at the end of this period was barely back to its pre-crisis level of 1994. In the long run, average real labor compensation in Mexican manufacturing has not increased since the debt crisis of the early 1980s. Since average U.S. wages rose during this

period, the wage gap with the United States increased rather than decreased.

In hindsight, the expectations of significant overall wage gains for Mexican workers as a result of trade liberalization alone were surely unrealistic. The prediction that Mexican workers in general—and less-skilled workers in particular—would benefit from trade liberalization hinged on the assumption that Mexico had a relative abundance of (less-skilled) labor compared with its trading partners. Although this is true in regional terms, i.e., in comparison with Canada and the United States, it is not true in global terms, i.e., in a world economy that includes the much more labor-abundant countries of South and East Asia. Mexico is close to the world average in terms of labor abundance, in-between highly labor-abundant countries like China and India on the one side, and relatively labor-scarce countries like the United States and Canada on the other.²⁵ Similarly, although Mexico is the low-wage country in North America, it is a medium-wage country globally.²⁶ Thus, Mexico does not have a global advantage in labor costs and should not have been expected to reap large gains in wages from opening up to trade, except in those sectors where the country can parlay its geographic proximity to the U.S. market into special competitive advantages.

Why Mexico Is Not Converging

In addition to what has already been mentioned, there are a number of domestic factors that explain why Mexico is not converging to U.S. levels in terms of income per capita, income per worker, or average wages. Among other aspects, we can mention the following: 1) badly implemented economic reforms, which instead of promoting economic growth have actually been a drag on it; 2) lack of other important economic reforms in areas such as rule of law,

competition, financial sector, education, infrastructure, etc.; 3) lack of a domestic engine that could complement the external one (mainly represented by the U.S. industrial sector and consumer market); and 4) restrictive macroeconomic policies. Let us review each of these aspects in more detail.

Badly Implemented Economic Reforms

In the second half of the 1980s and the early 1990s, Mexico undertook a series of economic reforms (trade opening, financial reform, and privatization of banks, highways, etc.) that were supposed to radically transform the semi-closed, inward-looking Mexican economy into a more modern and export-oriented one. Some of these reforms, however, were badly implemented and led to disastrous outcomes that in some cases were the opposite of what the policies were supposed to achieve.²⁷ The privatization of banks, for example, was done without having a proper institutional and regulatory framework, which then led to an unsustainable credit boom that exacerbated the costs associated with the currency crisis of December 1994 (the so-called Tequila crisis). Something similar happened with the privatized highways, which were subsequently bailed-out by the Mexican government at an extremely high cost. Other privatizations, such as that of the state telephone company Telmex, only replaced a public monopoly with a private one, which has since then extracted huge rents from a captive and mostly uncontested domestic market.²⁸

Lack of Other Important Economic Reforms

The negative outcomes of some of the previous economic reforms, together with political gridlock in the newly multi-party Congress (since 1997), have led to a reform paralysis in the

country. In fact, since the mid-1990s there have been no new important economic reforms in Mexico, despite the fact that everyone acknowledges the importance of undertaking certain changes in the economy. Of course, some of these reforms are highly controversial and there would hardly be a consensus on some of them, as in the case of fiscal or labor reform, where the approaches and proposed solutions of different political parties are completely different. However, there are certain reforms that could be easily approved and implemented and that would not engender ideological confrontation among the different political parties, although they would undoubtedly affect some special interests groups. So far, these groups have been successful in blocking or even avoiding discussion of these reforms, which include the rule of law, competition policy, and financial regulation.

Lack of a domestic engine

One thing that has definitely changed since NAFTA is the increasing correlation of Mexican and U.S. business cycles, presumably reflecting greater sensitivity of the Mexican economy to short-run fluctuations in the U.S. economy. Several studies using a variety of statistical methodologies have found large and significant increases in the “synchronization” of Mexican output growth and industrial production with the corresponding U.S. variables since NAFTA.²⁹ Figure 7.6 confirms graphically that Mexican GDP growth has been highly correlated with U.S. GDP growth since 1994, except for 1995 when Mexico suffered a steep recession during the peso crisis, while no significant correlation can be seen in the prior years. The large impact of U.S. growth on Mexico benefited the latter during the United States’ boom of the late 1990s, but had a less favorable impact during the slower-growth years of the early 2000s and especially in the financial crisis and global recession of 2008-9.

The strong correlation between the Mexican and U.S. economies is partly behind the remarkably steady Mexico-U.S. ratios of income per capita and income per worker shown in Figure 7.1. Indeed, the fact that both economies have been growing at similar rates since 1996 (as shown in Figure 7.6) explains why those ratios look practically unchanged since NAFTA's enactment. Of course, such a strong correlation can only be explained by the lack of a domestic engine in Mexico. This result is rather surprising considering that Mexico is one of the largest economies in the world and presumably would have a relatively large domestic market. However, Mexico's transformation into an outward-looking, export-oriented economy probably went too far and may have reached the point where the domestic market becomes almost irrelevant, thereby aggravating the country's external vulnerability especially to economic conditions in the U.S. market.

Macroeconomic Policy Restrictions

In addition to the reforms already described, there have been two other important reforms in the conduct of macroeconomic policy in Mexico in recent years: on the one hand, the Central Bank is now independent and has price stability as its single objective; on the other hand, fiscal policy is conducted according to a highly procyclical rule, which mandates a zero deficit regardless of the state of the business cycle. This combination of policies, together with the strong correlation of the Mexican and U.S. economies, implies a straitjacket for the conduct of macroeconomic policy that severely limits the ability of Mexican policy makers to respond to external shocks in a countercyclical manner.³⁰ This means that the Mexican economy absorbs all the external shocks and has no ability to pursue independent stimulus policies. Furthermore, the institutional design of macroeconomic policy in Mexico may even exacerbate negative shocks by inducing fiscal,

monetary, and exchange rate policies that end up increasing exchange rate and output volatility. The profound economic impact of the financial crisis of 2008–2009 on the Mexican economy is a case in point.

New Opportunities and U.S. Interests

After the eventual recovery from the financial crisis and global recession of 2008–2009, Mexico and the United States are likely to enjoy certain opportunities for renewing their economic cooperation in their mutual interest. One positive development on the Mexican side is that the crisis left the peso at a more competitive exchange rate than it had been at for more than a decade. The peso depreciated from about 10 per dollar in August 2008 to 15 in March 2009, before recuperating to 13 in October 2009. This represents a multilateral real depreciation close to 20 percent since the beginning of the crisis. If the peso is allowed to remain at such a competitive level going forward, Mexican industries could get a leg up in attracting FDI and exporting to the U.S. market and elsewhere.

Just before the financial crisis worsened in September 2008, the business press was noting a trend toward the return of some manufacturing production from Asia to both the United States and Mexico, as a result of the high energy prices and transportation costs that had emerged at that time coupled with the then-lower value of the dollar and concerns over quality control in China.³¹ The financial crisis and recession temporarily interrupted this process, as energy prices tanked, transportation costs fell, and the dollar temporarily recovered (not only against the peso, but against most currencies) in the fall and winter of 2008–2009. However, as the global economy began to revive in the second half of 2009, energy and commodity prices started to

recover and the dollar resumed its previous downward course against the major currencies such as the euro. If the dollar and peso both stay low and transportation costs again rise when global demand recovers, the potential for a revival of both Mexican and U.S. manufacturing is enormous.

Press reports also indicate that existing foreign investment in Mexico has been remarkably resilient in spite of the increased violence resulting from the government's crackdown on narcotrafficking;³² success in the latter effort could help the country attract yet more FDI inflows. Furthermore, although both the U.S. and Mexican automobile industries took a big hit in the crisis, as the auto companies begin to focus on smaller and more fuel-efficient cars for the U.S. market, there is significant potential for a recovery of regional trade in automobiles and auto parts. One sign of this potential is the (pre-crisis) announcement by Ford Motors that it would produce a new (low-cost, fuel-efficient) Fiesta model at its plant in Toluca, Mexico.³³

The Ford example reminds us of why U.S.-Mexican trade relations can be fraught with conflict, since the jobs that will be supported at the Toluca plant are jobs that will not be found in Detroit or elsewhere in the United States. Indeed, the likelihood of U.S. auto companies increasing their outsourcing was a major point of controversy in regard to the government bailout of the U.S. automakers in early 2009. Nevertheless, there are many reasons why expanded trade with Mexico and efforts to promote Mexican convergence are in the U.S. interest.

First, trade with Mexico is more of a two-way street for the United States than trade with most Asian countries. Although the United States has a large overall trade deficit, its deficit with Mexico is *relatively* smaller in proportional terms. The average ratio of U.S. imports to U.S. exports in 2008 was 1.6:1; this ratio was only 1.4:1 for U.S. trade with Mexico but 4.7:1 for U.S.

trade with China. Thus, even though some Mexican production displaces some U.S. jobs, Mexico is a better customer for U.S. exports than most other countries, and hence trade with Mexico also supports relatively more U.S. jobs. Hence, a growing Mexican economy would be an opportunity for, not a threat to, the United States.

Second, the primary economic driver of migration from Mexico to the United States is the persistently large wage gap between the two countries, i.e., the lack of convergence in wages. Hence, policies that could foster convergence between the two countries via increased wages in Mexico are the one and only thing that can, in the long run, stem the tide of Mexican workers seeking to cross the U.S. border. Instead of building walls, regional efforts to promote Mexican growth and convergence would be the best way to reduce migration pressures.

Third, there are special opportunities for mutual gains from U.S.-Mexican cooperation in the areas of health care and elder care services. Given the aging of the U.S. population and the high and rising costs of health and elder care in the United States, it would make sense to allow U.S. Medicare benefits and private insurance payments to flow to Mexican providers of medical care and elder services (e.g., assisted living or nursing homes), who can provide those services at significantly lower cost. In fact, some U.S. senior citizens are already taking advantage of the lower cost of retiring and seeking medical treatments in Mexico, but their numbers could be vastly expanded if Medicare and insurance benefits were allowed to be spent there (subject, of course, to adequate quality controls). This could provide enormous numbers of jobs for Mexicans not only in health and elder care directly, but also in various supplier industries. Given that the manufacturing sector does not seem capable of supplying adequate numbers of jobs in Mexico, for the reasons discussed earlier, Mexico needs to focus on other sectors, such as services and construction, to solve its employment problems. Since rising health care costs are

threatening both the private and public sectors of the U.S. economy, both countries could reap enormous gains from such an arrangement.

This area of opportunity, however, will not be permanent since demographic complementarities between Mexico and the United States will eventually disappear. To grasp an idea of how important the Mexico-U.S. demographic complementarities are, Figures 7.7 and 7.8 show the age structure and the old-age dependency ratio, respectively, for both countries. The age structure is shown for 2005, whereas the projected old-age dependency ratio is shown for the 2005-2050 period. This ratio is defined as the number of people aged 65 and over as a percentage of the productive segment of the population, which is defined as people aged 15 to 64. The figure clearly shows two important elements: first, the old-age dependency ratio in the U.S. is currently twice as high as it is in Mexico and it will be greater than the Mexican ratio at least for the next 40 years; second, the gap in old-age dependency ratios will steadily increase until the mid 2020s, when the gap will slowly start to decline. This means that the next ten or fifteen years will be the best time for exploiting the demographic complementarities between Mexico and the United States. For that reason, this area of opportunity is one that needs to be explored immediately in order to reap the largest possible benefits for both countries.

Conclusions

The decision to convert North America into a free trade area with the adoption of NAFTA concealed a deeper clash of visions over what kind of economic integration was intended. On the one hand, some economists supported it reluctantly because of its preferential nature. These economists wanted a NAFTA that would keep North America wide open to trade with other

global regions and that, in effect, would be little but a way station on the road to multilateral trade liberalization. On the other hand, some advocates of “industrial policy” sought a NAFTA that would function as a true trading bloc, transforming North America into a more internally integrated and externally competitive region. The industrial policy advocates were concerned mostly about competition from Japan, the four Asian tigers, and the European Union (EU) in the early 1990s; China was not yet on their radar screens.

In reality, NAFTA—in spite of its many exceptions to pure free trade—ended up functioning more like a globally open regional market than a self-contained trading bloc, and this had a profound impact on what the agreement did and did not accomplish for the Mexican and U.S. economies in the long run. NAFTA was neither the panacea promised by the Mexican government nor the disaster predicted by some U.S. opponents. Although the agreement did have a significant impact on trade and investment flows, it had at most a modest impact on the variables that matter most, such as employment, income distribution, and growth. The biggest problem is not what NAFTA did, but what it didn’t do, namely, to foster a regional integration process that could have lifted up the Mexican economy and produced a convergence in Mexican per capita income or average wages toward U.S. levels.

The point is not that NAFTA should have been an economic “fortress” defended by high protectionist barriers. Rather, the problem was that neither Mexico nor the United States ever adopted the complementary policies that could have promoted a more successful regional integration effort. These policies would have included promulgating adequate education and industrial policies, making the necessary infrastructure investments, and maintaining competitive exchange rates. Furthermore, the NAFTA countries did not adopt policies to promote convergence of the less developed regions of the sort used in the EU, such as its regional and

social cohesion funds (Pastor 2001). Although the United States extended some additional Trade Adjustment Assistance for U.S. workers displaced by trade with Canada or Mexico, overall the NAFTA countries did not implement adequate social safety nets for groups adversely impacted by the agreement's adjustment costs. Mexico eventually adopted certain redistributive policies, i.e., the Procampo and Progres/Oportunidades programs, but these were poorly designed (in the case of Procampo) and came too late or on too small a scale to assist during the initial liberalization of trade or the first few years of NAFTA.

Although NAFTA did promote increasing regional integration in the late 1990s, in the early 2000s this trend was partially reversed as the lower trade barriers within North America were overwhelmed by other developments, including the lowering of global trade barriers under the WTO, the tightening of U.S. border restrictions, and the emergence of China as an economic powerhouse. In effect, the vision of NAFTA as a globally open trading region rather than a more competitive trade bloc won out, but the goal of promoting economic convergence of Mexico to U.S. and Canadian levels of per capita income lost out. The challenge for the U.S. and Mexican governments going forward is to see if they can find a way to rejuvenate the process of regional integration that can move toward that goal while serving the mutual interests of the U.S. and Mexican economies.

Notes

¹ For a discussion of the U.S. debate about NAFTA around the time of its passage, see Stephen D. Cohen, Robert A. Blecker, and Peter D. Whitney, *Fundamentals of U.S. Foreign Trade Policy*, 2nd edition (Boulder: Westview, 2003), pp. 286–301.

² See Nora Lustig, *Mexico: The Remaking of an Economy*, 2nd edition (Washington, DC: Brookings Institution, 1998), p. 134.

³ Furthermore, NAFTA contained many provisions that went beyond trade liberalization, such as guarantees of property rights for foreign investors, and was also intended to “lock-in” Mexico’s previous market reforms. In this sense, NAFTA may have had consequences beyond the direct effects of the reductions in trade barriers it contained.

⁴ For an analysis of the impact of these macroeconomic factors on Mexico, see Robert A. Blecker, “External Shocks, Structural Change, and Economic Growth in Mexico, 1979–2007,” *World Development* 37, no. 7 (July 2009): 1274–1284.

⁵ See Robert Pastor, *Toward a North American Community: Lessons from the Old World for the New* (Washington, DC: Institute for International Economics, 2001), and Isabel Studer and Carol Wise, editors, *Requiem or Revival? The Promise of North American Integration* (Washington, DC: Brookings Institution, 2007).

⁶ Remember, for example, the famous expression attributed to Mexican dictator Porfirio Díaz: “Poor Mexico, so far from God, and so close to the United States!”

⁷ Note that the term economic convergence as used in this chapter is different from how the term has been used in some other studies, particularly Daniel Lederman, William F. Mahoney, and Luis Servén, *Lessons from NAFTA for Latin America and the Caribbean* (Washington, DC: World Bank, 2005), and Stephen Haber, Herbert S. Klein, Noel Maurer, and Kevin J. Middlebrook, *Mexico since 1980* (New York: Cambridge University Press, 2008). These studies utilize a counterfactual analysis of the type: Is Mexico better-off with NAFTA than without it? Or, could the Mexico-U.S. gap have been greater in the absence of NAFTA? The former study includes a time-series analysis that investigates whether Mexico is converging toward a constant per capita income differential with the U.S. (i.e., 50 percent of the U.S. level). Economic convergence for us means a reduction in the absolute Mexico-U.S. gap in terms of the variables that affect economic well-being, such as income per capita, average wages, and labor productivity, and the eventual approach of Mexico to U.S. levels of these variables.

⁸ We include the latter variable only as a reference. It is more accurate to use PPP data when making international comparisons of living standards.

⁹ Mexico’s per capita GDP in 2009 is estimated to fall by about 8 percent, whereas U.S. per capita GDP is expected to fall by at most 3 percent.

¹⁰ For evidence of significant displacement of Mexican exports by Chinese exports see: Kevin P. Gallagher, Juan Carlos Moreno-Brid, and Roberto Porzecanski, “The Dynamism of Mexican Exports: Lost in (Chinese) Translation?” *World Development* 36, no. 8 (August 2008): 1365–1380; Gordon H. Hanson and Raymond Robertson, “China and the Recent Evolution of Latin America’s Manufacturing Exports,” in *China’s and India’s Challenge to Latin America: Opportunity or Threat?* edited by Daniel Lederman, Marcelo Olarreaga, and Guillermo E. Perry (Washington, DC: World Bank, 2009), pp. 145–178; and Robert C. Feenstra and Hiau Looi Kee, “Trade liberalization and Export Variety: A Comparison of Mexico and China,” in *China’s and India’s Challenge*, edited by Lederman et al., pp. 245–263.

¹¹ See Luis Miguel Galindo and Jaime Ros, “Alternatives to Inflation Targeting in Mexico,” *International Review of Applied Economics* 22, no. 2 (2008): 201–214, for evidence that the Banco de México’s monetary policy was biased toward permitting the peso to appreciate in the early 2000s.

¹² See Kevin P. Gallagher and Lyuba Zarsky, *The Enclave Economy* (Cambridge, MA: MIT Press, 2007).

¹³ It may seem paradoxical that Mexico’s liberalization of *imports* made its *exports* to the United States

grow so rapidly, but this seeming paradox is readily explained by the fact that the export products were very intensive in imported intermediate goods, and also because restrictions on FDI were liberalized around the same time.

¹⁴ The high-end estimate comes from Robert E. Scott, Carlos Salas, and Bruce Campbell, “Revisiting NAFTA: Still Not Working for North America’s Workers,” Briefing Paper No. 173, Economic Policy Institute, Washington, DC (September 2006, p. 10, Table 1-1b), who calculate a net loss of 559,564 U.S. jobs between 1993 and 2004 as a result of the increased U.S. trade deficit with Mexico. In contrast, Gary C. Hufbauer and Jeffrey J. Schott, *NAFTA Revisited: Achievements and Challenges* (Washington, DC: Institute for International Economics, 2005, p. 87, Table 2.2) report that 366,000 U.S. workers received certification of NAFTA-related job losses under the NAFTA Trade Adjustment Assistance (TAA) program between 1994 and 2002; this number also includes jobs lost to Canada. Hufbauer and Schott (ibid., p. 40, Table 1.8) argue that these job losses were more than offset by gains in “jobs supported by exports,” but the latter are not estimated by the same methodology used to calculate the job losses. Neither study isolates effects of NAFTA as opposed to other factors.

¹⁵ Total payroll employment data are from U.S. Council of Economic Advisers, *Economic Report of the President 2009* (Washington, DC: Government Printing Office, 2009), Table B-46, www.gpoaccess.gov/eop/tables09.html. The estimated job losses do loom larger relative to manufacturing employment, which was about 17 million in 1994 (see Figure 7.2).

¹⁶ These data are from the Mexican Economic Census, which is conducted every five years; data for 2009 had not been released at the time of this writing. These data were obtained from Instituto Nacional de Estadística, Geografía e Informática (INEGI), www.inegi.org.mx. Other INEGI data, which are available on a monthly basis, show that most of the job creation in manufacturing in the 1990s occurred in the export-oriented maquiladora plants.

¹⁷ The migration estimates are from Gordon H. Hanson, “Illegal Migration from Mexico to the United States,” *Journal of Economic Literature* 44, no. 4 (December 2006): 869–924.

¹⁸ See, for example, Pablo Ruiz-Nápoles, “Exports, Growth, and Employment in Mexico, 1978–2000,” *Journal of Post Keynesian Economics* 27, no. 1 (Fall 2004): 105–124, and Juan Carlos Moreno-Brid, Jesus Santamaría, and Juan Carlos Rivas Valdivia, “Industrialization and Economic Growth in Mexico after NAFTA: The Road Travelled,” *Development and Change* 36, no. 6 (November 2005): 1095–1119.

¹⁹ Ana L. Revenga and Claudio E. Montenegro, “North American Integration and Factor Price Equalization: Is There Evidence of Wage Convergence between Mexico and the United States?” in *Imports, Exports, and the American Worker*, edited by Susan M. Collins (Washington, DC: Brookings Institution, 1998), pp. 305–347.

²⁰ See Gerardo Esquivel and José Antonio Rodríguez-López, “Technology, Trade, and Wage Inequality in Mexico Before and After NAFTA,” *Journal of Development Economics* 72, no. 2 (December 2003): 543–565, and Eric A. Verhoogen, “Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector,” *Quarterly Journal of Economics* 123, no. 2 (May 2008): 489–530. Robert C. Feenstra, “New Evidence on the Gains from Trade,” *Review of World Economics* 142, no. 4 (December 2006): 617–641 argues that trade liberalization “selects” for more efficient industrial firms and plants, resulting in increases in average productivity and decreases in the use of less-skilled labor as less efficient firms and plants are eliminated and more efficient ones expand.

²¹ See Gerardo Esquivel, Nora Lustig, and John Scott, “A Decade of Falling Inequality in Mexico: Market Forces or State Action?” Discussion Paper Prepared for the UNDP Project, *Markets, the State and the Dynamics of Inequality: How to Advance Inclusive Growth*, coordinated by Luis Felipe López-Calva and Nora Lustig, 2009. In addition, Ernesto López-Córdova, “Economic Integration and Manufacturing Performance in Mexico: Is Chinese Competition to Blame?” Working Paper No. 23, Latin America/ Caribbean and Asia/Pacific Economics and Business Association (LAEBA), December 2004, shows that average Mexican tariffs remained higher on goods that were more intensive in less-skilled labor after trade liberalization and NAFTA. Also, Raymond Robertson, “Trade and Wages: Two Puzzles from Mexico,” *World Economy* 30, no. 9 (September 2007): 1378–1398, cites the rising proportion of maquiladora employment in total manufacturing employment as indicating an increase in the relative demand for less-skilled labor.

²² This paragraph draws on the following sources: Gordon Hanson, “What Has Happened to Wages in

Mexico Since NAFTA? Implications for Hemispheric Free Trade,” in *Integrating the Americas: FTAA and Beyond*, edited by Antoni Esteveadeordal *et al.*, Cambridge, MA: Harvard University Press 2004), pp. 505–537; Fernando Borraz and José Ernesto López-Córdova, “Has Globalization Deepened Income Inequality in Mexico?” *Global Economy Journal* 7, no. 1 (January 2007): article 6, <http://www.bepress.com/gej/vol7/iss1/6>; and Daniel Chiquiar, “Globalization, Regional Wage Differentials and the Stolper-Samuelson Theorem: Evidence from Mexico,” *Journal of International Economics* 74, no. 1 (January 2008): 70–93.

²³ The average tariffs in effect at the time NAFTA was adopted were about 3.4 percent for U.S. imports from Mexico and 10 percent for Mexican imports from the United States, according to U.S. International Trade Commission (USITC), *The Likely Impact on the United States of a Free Trade Agreement with Mexico*, USITC Publication 2353 (Washington, DC: USITC, February 1991, p. 2-2).

²⁴ Compensation (“remuneraciones” in Spanish) includes fringe benefits in addition to wages or salaries.

²⁵ See Robert A. Blecker, “Comercio, Empleo y Distribución: Efectos de la Integración Regional y Global,” in *México 2010: Volumen Economía*, edited by Nora Lustig, Antonio Yúnez Naude, and Alejandro Castañeda Sabido (Mexico City: El Colegio de México, 2010, forthcoming).

²⁶ See Edward Leamer, “In Search of Stolper-Samuelson Linkages between International Trade and Lower Wages,” in *Imports, Exports, and the American Worker*, edited by Collins, pp. 141–214.

²⁷ See Gerardo Esquivel and Fausto Hernández-Trillo, “How Can Reforms Help Deliver Growth in Mexico?” in *Growing Pains in Latin America*, edited by Liliana Rojas (Washington, DC: Center for Global Development, 2009), pp. 192–235.

²⁸ See Rafael Del Villar, “Competition and Equity in Telecommunications,” in *No Growth without Equity*, edited by Michael Walton and Santiago Levy (Washington DC: World Bank/Palgrave MacMillan, 2009), pp. 321–369.

²⁹ See, for example, Blecker, “External Shocks,” and the references cited therein.

³⁰ See Gerardo Esquivel, “De la Inestabilidad Macroeconómica al Estancamiento Estabilizador: El Papel del Diseño y Conducción de la Política Económica en México,” in *México 2010: Volumen Economía*, edited by Lustig *et al.*

³¹ Regarding the impact of exchange rates and transportation costs, see Ylan Q. Mui, “Ikea Helps a Town Put It Together: Manufacturing Jobs Come Back to Southern Va.” *Washington Post*, May 31, 2008, and Jeff Rubin and Benjamin Tal, “Will Soaring Transport Costs Reverse Globalization?” *StrategEcon*, CIBC World Markets. May 27, 2008, pp. 4–7, research.cibcwm.com/economic_public/download/smay08.pdf. In regard to quality concerns about Chinese imports, see Pete Engardio and Geri Smith, “Business Is Standing Its Ground,” *Business Week*, April 20, 2009, pp. 34–39.

³² Engardio and Smith, *ibid.*

³³ See Manuel Roig-Franzia, “Ford’s ‘Global Car’ To Roll Out in Mexico: Small, Efficient Auto Designed to Be Sold Anywhere,” *Washington Post*, May 31, 2008.

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Table 7.1 U.S. Nonpetroleum Imports from Mexico, China, and Other Countries

	Percentage share in total U.S. nonpetroleum imports			
	1987	1993	2000	2008
Mexico	4.5	6.7	11.4	11.1
China	1.7	5.9	9.0	20.3
Other countries	93.8	87.4	79.6	68.6
Total	100.0	100.0	100.0	100.0
	Growth (average annual percentage rates)			2000-2008
	1987-1993	1993-2000	2000-2008	
Mexico	13.9	19.5	4.9	
China	30.8	17.9	16.4	
Other countries	5.4	9.4	3.3	
Total	6.6	10.9	5.2	

Sources: U.S. Bureau of Economic Analysis, International Transactions Accounts, Tables 2 and 2a, Release of June 17, 2009, www.bea.gov; Petróleos Mexicanos (PEMEX), *Anuario Estadístico* (various years), www.pemex.com; and authors' calculations.

Table 7.2 Country Composition of Mexico's External Trade (percentages of total trade)^a

	1987 ^b	1993	2000	2008 ^c
<u>Exports: Destination country</u>				
United States	69.2	82.7	88.7	80.2
Canada	1.1	3.0	2.0	2.4
China	n.a.	0.1	0.1	0.7
Rest of world	29.7	14.2	9.1	16.7
<u>Imports: Country of origin</u>				
United States	74.0	69.3	73.1	49.0
Canada	1.7	1.8	2.3	3.1
China	0.2	0.6	1.7	11.2
Other Asia	4.5	10.7	10.0	16.7
Rest of world	19.6	17.6	13.0	20.0

Sources: Instituto Nacional de Estadística, Geografía e Informática (INEGI), www.inegi.org.mx, except for 1987, and authors' calculations.

^a Including maquiladora industries.

^b The U.S. percentages for 1987 were taken from Gary C. Hufbauer and Jeffrey J. Schott, *North American Free Trade: Issues and Recommendations* (Washington, Institute for International Economics, 1992), p. 48, Table 3.1, based on International Monetary Fund (IMF), *Direction of Trade Statistics*; data for other countries for 1987 were estimated using data from INEGI, *Anuario Estadístico de los Estados Unidos Mexicanos 95* (Aguascalientes: INEGI, 1996) in combination with Hufbauer and Schott's percentages for the United States.

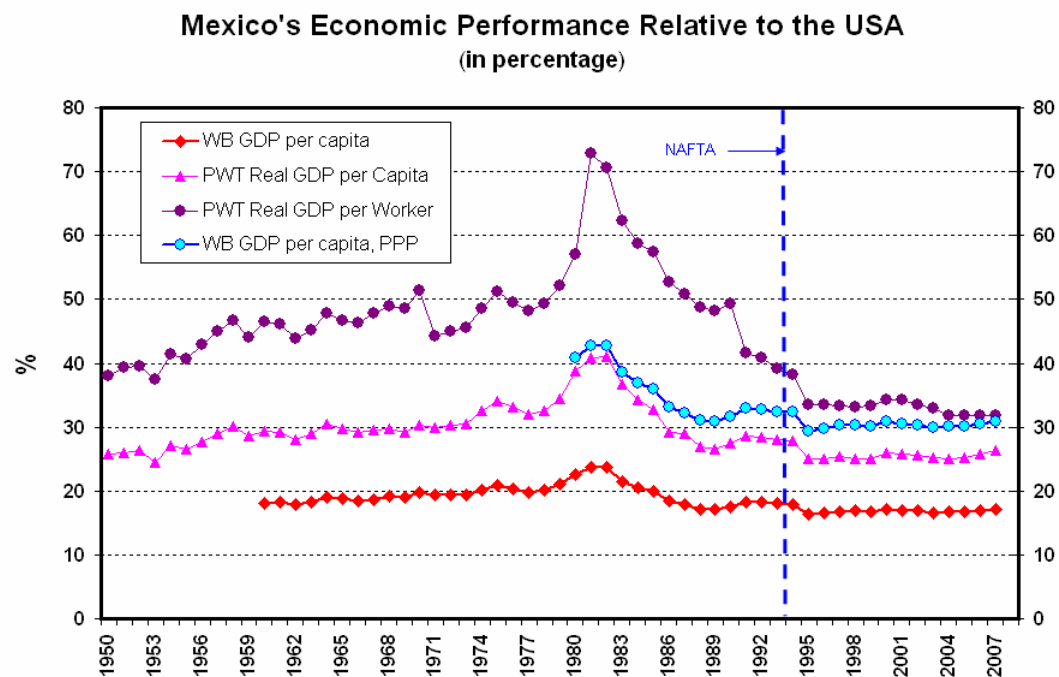
^c Preliminary figures.

Table 7.3 Average Inflows of Foreign Direct Investment into Mexico

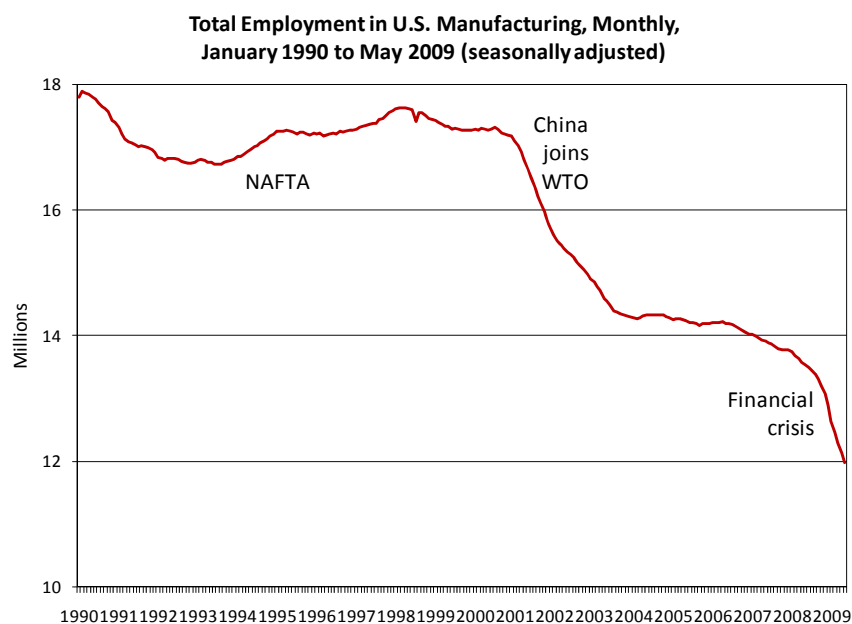
	1987–1993	1994–2000	2001–2007
Total inflows of FDI into Mexico			
in billions of U.S. dollars	3.2	12.4	22.4
as a percentage of Mexico's GDP	1.1	3.0	2.9
Inflows of FDI from the United States into Mexico			
in billions of U.S. dollars	1.6	4.6	8.7
as a percentage of total U.S. outflows of FDI	3.6	3.7	4.4 ^a
as a percentage of total FDI inflows into Mexico	61.0	61.7	54.7

Sources: IMF, *International Financial Statistics*; U.S. BEA, www.bea.gov; INEGI, www.inegi.org.mx; and author's calculations.

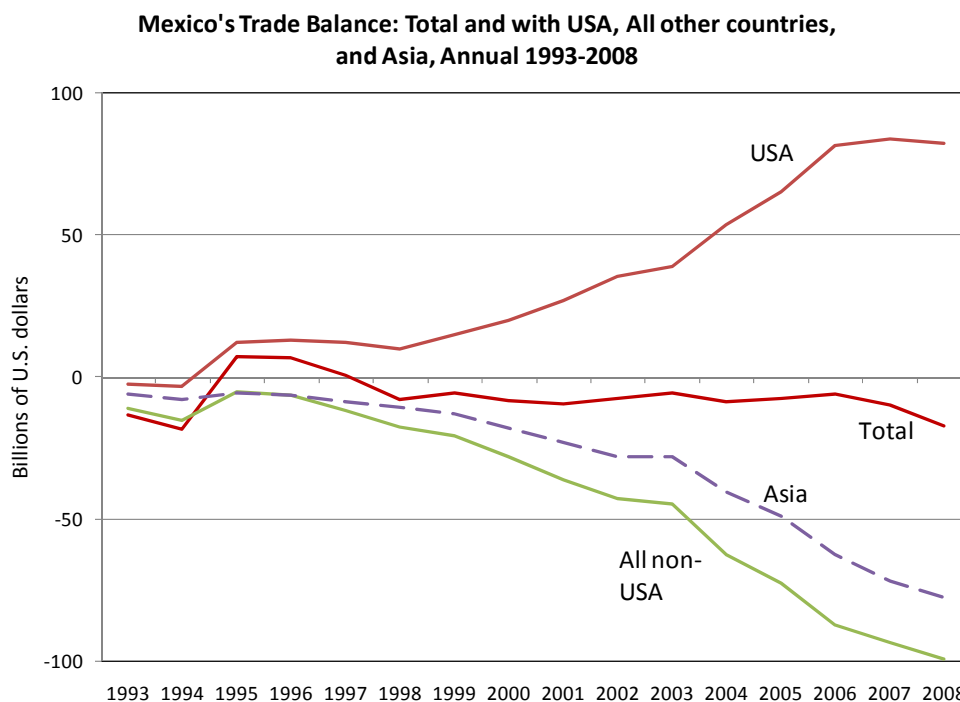
^a Excluding 2005 when the total was very low due to a large adjustment for exchange rate changes; if we also exclude 2001 (when Citibank bought Banamex) this figure would be 3.3 percent. If we include both 2001 and 2005, the average for all years 2001–2007 is 7.5 percent.

Figure 7.1

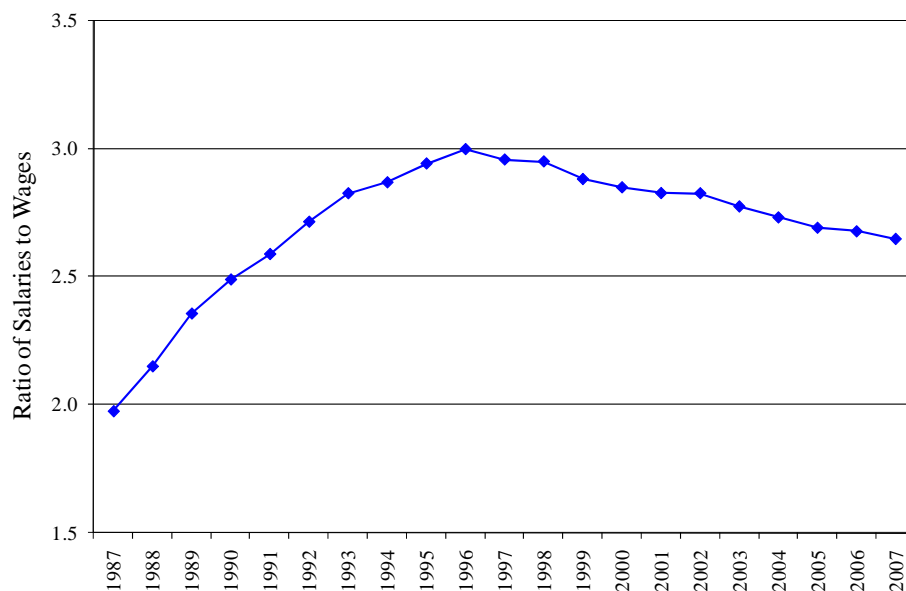
Sources: Penn World Tables (PWT) 6.3, Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.3, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, August 2009, pwt.econ.upenn.edu; World Bank, *World Development Indicators*.

Figure 7.2

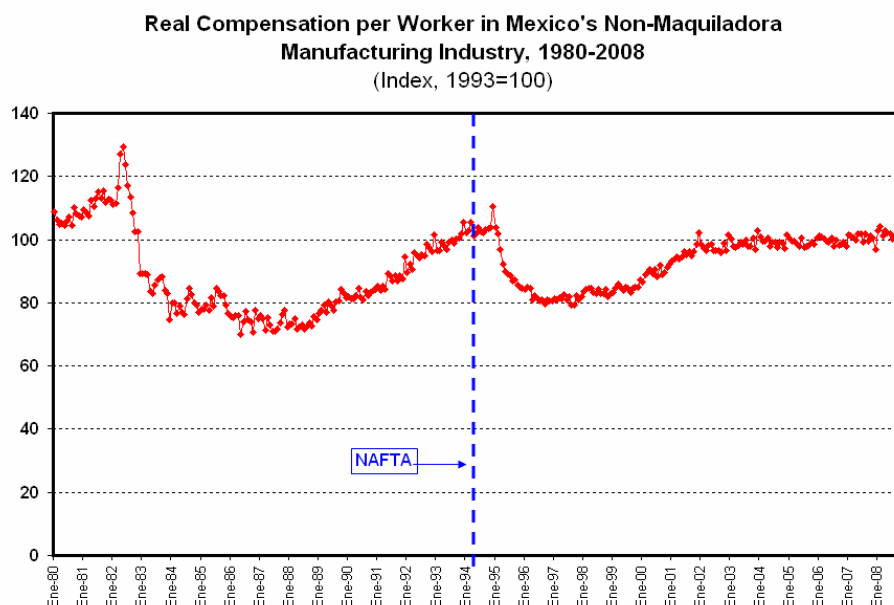
Source: U.S. Bureau of Labor Statistics, www.bls.org.

Figure 7.3

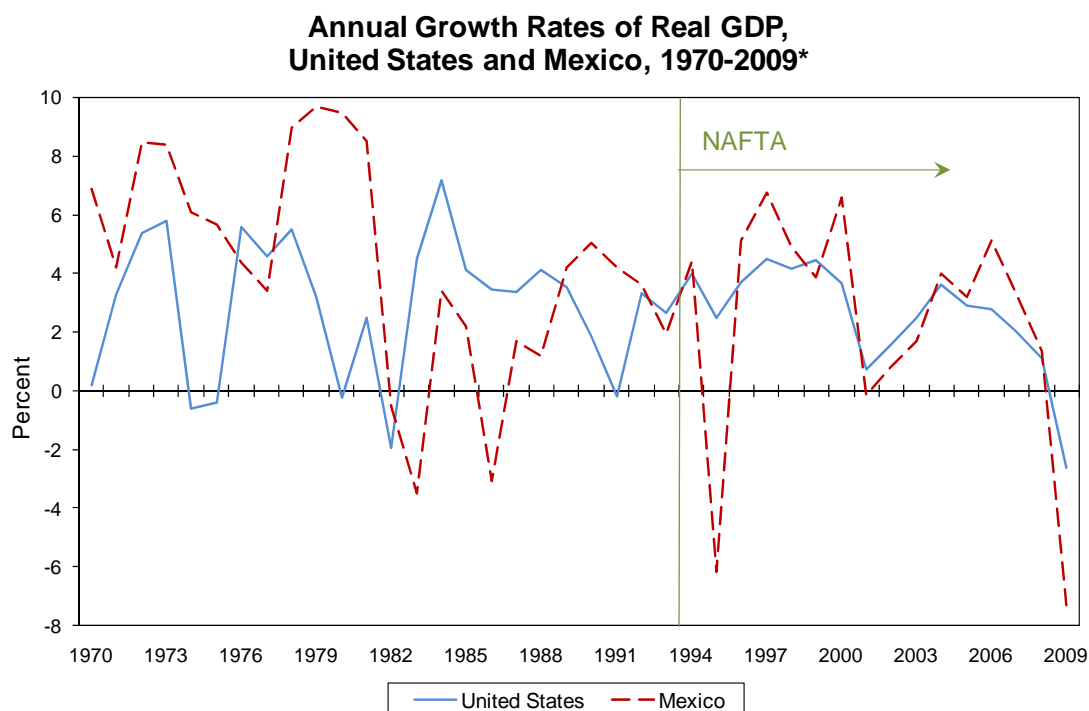
Source: INEGI, www.inegi.org.mx, from integrated work group INEGI-BANXICO-SAT (Servicio de Administración Tributaria) and the Secretaría de Economía.

Figure 7.4 The Ratio of Salaries of Employees to Wages of Production Workers in the Non-Maquiladora Manufacturing Industries of Mexico

Source: INEGI, Encuesta Industrial Mensual (monthly industrial survey), www.inegi.org.mx, and authors' calculations. The old survey, based on 129 classes of economic activity, and the new one, based on 205 classes, were spliced together in 1994, which was the one year of overlap.

Figure 7.5

Source: Banco de México, www.banxico.org.mx. Data were seasonally adjusted by the authors.

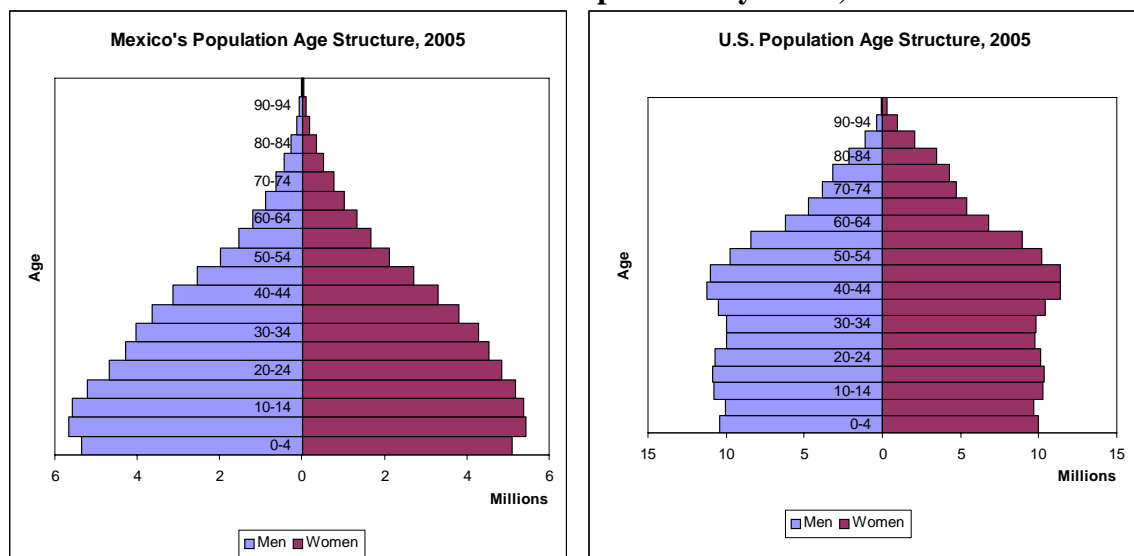
Figure 7.6

Source: International Monetary Fund, *World Economic Outlook Database*, April 2009 Edition, Updated July 28, 2009, www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx, and earlier WEO Databases, except as noted.

* Data for 2009 are IMF estimates as of July 2009.

Figure 7.7

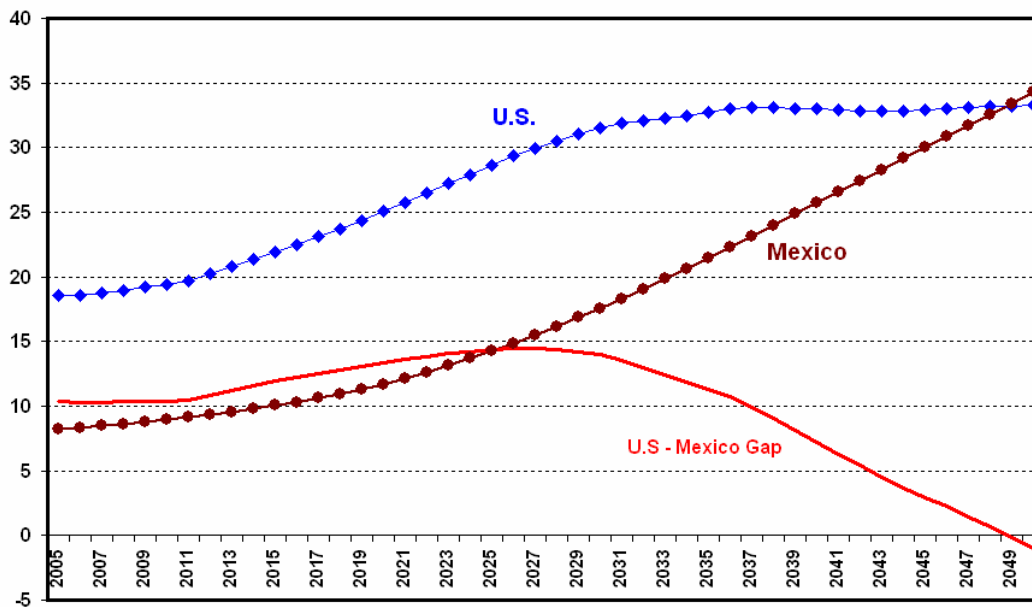
Mexico and U.S. Population Pyramid, 2005



Sources: Comisión Nacional de Población for Mexico; U.S. Census Bureau for the United States.

Figure 7.8

Old-Age Dependency Ratios in Mexico and the U.S., 2005-2050



Sources: Comisión Nacional de Población for Mexico; U.S. Census Bureau for the United States; and authors' calculations.