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University of California, San Diego

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Wayne A. Cornelius
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Abstract

Will the North American Free Trade Agreement (NAFTA) decrease Mexican migration to the United States, as the U.S. and Mexican governments assert, or will it increase migration beyond the movement that would otherwise occur, as NAFTA critics allege? This paper argues that it is very easy to overestimate the additional emigration from rural Mexico owing to NAFTA-related economic restructuring in Mexico. The available evidence suggests four major reasons why Mexican emigration may not increase massively, despite extensive restructuring and displacement from traditional agriculture. First, many rural dwellers in Mexico already have diversified their sources of income, making them less dependent on income earned from producing agricultural commodities like corn that will be most affected by NAFTA. Second, a free trade zone might induce more U.S. agricultural producers to expand in Mexico during the 1990s, creating additional jobs there, instead of in the United States as they did in the 1980s. Third, the links between internal migration in Mexico and emigration from Mexico are not as direct as is often assumed; even if economic restructuring increases internal population movements in Mexico, this may not translate into a great deal of international emigration. Finally, European experience teaches that free trade and economic integration can be phased in in a manner which does not produce significant emigration, even under a freedom of movement regime. NAFTA-related economic displacement in Mexico may yield an initial wave of migration to test the U.S. labor market, but this migration should soon diminish if the jobs that these migrants seek shift to Mexico.

Introduction

The February 1991 announcement that Canada, Mexico, and the United States would negotiate a North American Free Trade Agreement (NAFTA) raised a chorus of speculations about the effects of a NAFTA on Mexican migration patterns. Mexican President Salinas has bluntly warned that Mexico will export either its people or its products to the United States, and that Mexico prefers to export, in one shorthand expression, Mexican tomatoes rather than Mexican tomato pickers. According to Salinas, "Without the free-trade agreement you will witness millions of Mexicans crossing the border and looking for work." The NAFTA is essential to create jobs in Mexico so that "no more Mexicans go to the U.S. looking for jobs" (*Sacramento Bee*, April 7, 1991).

President Bush and the Commission for the Study of International Migration and Economic Development have made similar arguments. The Commission urged the United States to "expedite the development of" a NAFTA as "the only way to diminish migratory pressures over time." However, the Commission noted a major paradox: "the development process [accelerated by free trade] itself tends to stimulate migration in the short to medium term by raising expectations and enhancing people's ability to migrate [so that] . . . any serious cooperative effort to reduce migratory pressures at their source must stay the course in the face of short-term contradictory results" (in Papademetriou and Martin 1991: 241).

Authors' note: The first draft of this paper was presented at the Executive Policy Seminar on Agriculture in a North American Free Trade Agreement, held at the Center for U.S.-Mexican Studies, UCSD, May 24-25, 1991. Subsequent revisions have benefited from the comments of many of the Center's Visiting Research Fellows. An abridged version of this paper will appear in *International Migration Review*.

Just how much additional emigration would there be from Mexico as its economy restructures under a NAFTA? This paper argues that there may be relatively little additional migration due to the economic restructuring expected under a NAFTA for four principal reasons. First, a large proportion of households in rural areas of Mexico have already diversified their income sources so as to make them less dependent on earnings from traditional agriculture (especially small-scale corn production) that may be adversely impacted by free trade with the United States. Second, for some of the U.S. employers who created new jobs for Mexican immigrants in the United States during the 1980s, NAFTA will be a signal to expand instead in Mexico during the 1990s. Third, the internal job displacement and migration that might be expected to increase in Mexico under NAFTA will not lead automatically to international emigration. Fourth, European experience teaches that economies at different levels of development can be integrated without generating additional migration between them.

In this paper, we first review the argument that NAFTA will produce additional migration from rural Mexico to the United States, and then examine the Mexican agricultural policies that currently act as a rural safety net. We then turn to the migration patterns established in the 1980s in response to Mexican push and U.S. pull factors, the links between internal migration and emigration from Mexico, and the problems in Mexican agriculture that will make it difficult to avoid disruptive restructuring. Finally, we briefly review the European experience with phased economic integration, and conclude that NAFTA is the most promising policy option for reducing Mexican migration to the United States in the long term.

Potential Impacts of NAFTA on Mexican Emigration

Some critics of NAFTA have argued that freer trade will have few or no effects on illegal migration to the United States. They argue that most NAFTA-related jobs that might be created in Mexico would pay wages that are too low in relation to U.S. wages to keep workers in Mexico. Moreover, many of these new jobs would be located far from the principal source areas for migration to the United States. Therefore, they contend, deterring migration is not an argument that can be used to support NAFTA (see, e.g., Briggs 1991-92; Calva 1991: 75-80).

Some critics have even argued that NAFTA could increase illegal Mexico-United States migration. Two principal variations of this argument have been advanced. The "job displacement" thesis holds that free trade with the United States will create massive dislocations in formerly protected sectors of the Mexican economy, such as small-scale corn and dry bean agriculture and labor-intensive manufacturing industries such as shoes. Lacking any viable employment alternatives, those displaced by freer trade will head for the United States.

The second variant of the "acceleration" argument is that most of the jobs created in Mexico as a result of NAFTA will be located in areas highly accessible to the United States, especially the northern tier of border states where almost all of the *maquiladora* (in-bond assembly) plants are already located. This will touch off a new mass migration of Mexicans to the northern border area, and many of these internal migrants will keep going into the United States—just like so many of the Mexicans who were allegedly drawn to the border from central and southern Mexico by the prospect of employment in the maquiladoras, but found the wages and working

conditions in those plants less attractive than in the United States. Similarly, migrants from central and southern Mexico who are drawn to new employment opportunities in the export-oriented agriculture of Mexico's Pacific Northwest (Sinaloa, Baja California) are expected to continue migrating on to the United States, just as post-1970 Mixtec and Zapotec Indian migrants from Oaxaca did. The Oaxacans are now the newest wave of foreign-born farmworkers in California, Oregon, and Washington states (see Zabin 1992; Nagengast et al. 1992).

However, it is very easy to overestimate the amount of additional Mexican migration to the United States, above what would otherwise occur, that might be caused by NAFTA. Factors unrelated to trade liberalization—such as the Mexican government's recent decision to allow privatization of communally held ejido land—are likely to have a much greater short- to medium-term impact on future migration flows from Mexico to the United States. In the long term, however, economic dynamism in Mexico stemming from a free trade agreement could deter substantial future emigration. How much and how fast NAFTA retards migration depends on how the jobs created in Mexico by free trade will be distributed among communities, regions, and sectors of the economy. The particular concern of this paper is the agricultural sector.

NAFTA and Mexican Agriculture

Will NAFTA reduce or increase pressures for emigration from rural Mexico? The answer depends largely on how quickly NAFTA's agricultural provisions are phased in (the initial agreement negotiated by the United States, Mexico, and Canada in 1992 calls for a fifteen-year phase-in period for the most sensitive agricultural commodities), how rapidly the Mexican government eliminates its present generous subsidies for corn production (and how these reductions are phased in for different types of producers), and what time frame one is using for the analysis. If cheaper U.S., West European, and other foreign-grown corn and other grains flood into Mexico and displace Mexico's small-scale and rainfed farmers, then Mexican rural migration to the United States could increase. This increase-in-emigration scenario could result from a sudden Mexican removal of high corn prices, which serve as a rural safety net for about 30 percent of Mexico's population. Mexico could opt to dismantle its corn subsidy program more rapidly than the proposed free trade agreement allows, on the grounds that overall consumer welfare would be enhanced by cheaper food and lower inflation rates made possible by reduced government spending on crop subsidies.

The Mexican government supports the price of corn by buying it for about double the world price. There are some three million subsistence corn farmers in Mexico, who hold an average of about two hectares (five acres) of rainfed land on which to grow corn and beans; another three million landless workers perform day labor or sharecrop the land of private landowners and *ejidatarios*. The complete and immediate elimination of price supports for corn and other basic grains as a consequence of NAFTA could have a highly adverse impact on these farmers and workers. If 30 to 40 percent of these farmers and workers were displaced, there would be an

enormous release of labor from Mexican agriculture, since corn and bean production uses almost half (49 percent) of all man-days of agricultural labor in Mexico. Recent estimates derived from econometric modeling indicate that if trade barriers were eliminated entirely and abruptly, the job loss in the corn and bean sector could be *as high as* 30 percent of Mexico's total agricultural labor force (Yúñez-Naude 1991: 5; Yúñez-Naude and Blanno-Jasso 1991). Other efforts to model the effects of NAFTA on Mexican agriculture have yielded estimates that, in a full, nonphased liberalization scenario, over 800,000 workers would leave the rural sector, and over 600,000 of these economic refugees would migrate to the United States (Hinojosa-Ojeda and Robinson 1992a, 1992b). Similarly, Levy and van Wijnbergen have estimated that immediate, unilateral trade liberalization could add about 700,000 migrants (irrespective of destination) to the reference level during the first year. In their model, gradual liberalization also increases rural emigration but at a slower pace (Levy and van Wijnbergen 1992: 62).

Such models may produce upwardly biased estimates of NAFTA-induced international migration impacts because they attribute all rural emigration to NAFTA and because they fail to capture the diversity of income sources among Mexico's rural population today. For example, recent studies of rural communities in the state of Michoacán—traditionally one of Mexico's heaviest exporters of labor to the United States—show that maize production accounts for less than 20 percent of total household income; thus a 40 percent drop in maize income would cause only an 8 percent decrease in total household income, even if peasant producers left their corn land idle.¹ In Michoacán and other key labor-exporting states of Mexico, the most common method of income diversification in rural areas has been labor migration to the United States (see, e.g., Cornelius 1990; Zendejas 1992). Deteriorating economic conditions in Mexico in the 1980s forced many rural Mexicans to adopt international labor migration as a household subsistence strategy—not just as a means for achieving economic mobility and higher living standards; and even with the relative improvement of the Mexican economy since 1989, most of those driven into the migratory stream by the economic crisis of the 1980s are continuing to migrate, or to receive remittances from relatives now settled in the United States (see Lozano 1993). Analyses that overemphasize production of corn and other traditional agricultural commodities and underemphasize international labor migration as an income source for rural Mexicans can easily lead to

¹Comments by J. Edward Taylor (University of California, Davis) at the conference on "Transformations of Mexican Agriculture," University of California, Berkeley, December 1992.

exaggerated estimates of the potential impacts of NAFTA on migratory behavior.

Trade-related employment losses in corn and bean production could be offset partially, especially over the medium to long term, by job creation in the export-oriented fresh fruit and vegetable sector. For example, in another simulation by Levy and van Wijnbergen, a gradual (five-year) liberalization of the Mexican maize market accompanied by an opening of the U.S. market to Mexican fruit and vegetable exports over the same period would reduce cumulative migration by about 200,000 workers (Levy and van Wijnbergen 1992: 69).

Several trends point to the feasibility of using expanded Mexican production of fruits and vegetables under a free trade regime to reduce Mexican outmigration. U.S. consumer demand for fresh fruits and vegetables has been increasing rapidly: between 1980 and 1989, for example, per capita fresh vegetable consumption rose 25 percent to 102 pounds annually, and fresh fruit consumption rose 8 percent to 97 pounds annually (USDA 1990a: 8, 1990b: 12). This increased demand for fresh fruits and vegetables, driven by affluence, health consciousness, and fairly stable prices, explains why production, and thus the demand for labor, increased in *both* the United States and Mexico during the 1980s. Rising U.S. consumption permitted the U.S. production of fresh vegetables to jump 20 percent during the 1980s, even as imports rose 41 percent (USDA 1990a: 11, 14).

Current Mexican exports of fruits and vegetables both complement U.S. production (e.g., Mexican table grapes help to keep grapes available year round) and compete with U.S. production (e.g., both Florida and Mexico produce fresh tomatoes from January through May).² U.S. producers are sheltered in part from competitive Mexican products by tariffs (there is a 4.6¢ per kilogram or a 2¢ per pound tariff on Mexican tomatoes) and nontariff barriers (a Florida marketing order prohibits the sale of small and blemished tomatoes). Despite these tariff and nontariff barriers, both Mexican exports and U.S. production jumped during the 1980s. Mexican tomato exports, for example, rose only 20 percent to \$222 million in

²As David Runsten has noted, the fact that production of labor-intensive crops has increased in the United States even as fruit and vegetable production by major U.S. agribusiness firms has been shifting to Mexico "would suggest important complementarities between the two countries, rather than simply a zero-sum restructuring" (Runsten 1991: 1-2). The U.S. General Accounting Office reached a similar conclusion. It estimates that commodities that do not compete directly with U.S. agricultural production account for about one-third of the value of Mexican agricultural exports to the United States, and another 12 percent of the total value consists of horticultural commodities that are exported during periods of low U.S. production. See U.S. GAO 1991a, 1991b.

TABLE 1
U.S. FRUIT AND VEGETABLE SALES, 1980-89

	\$ Billions			% Increase 1980-85	% Increase 1985-89
	1980	1985	1989		
Vegetables	7.0	8.6	11.3	23	31
Tomatoes	0.9	1.2	1.8	33	50
Lettuce	0.6	0.7	0.9	17	29
Broccoli	0.1	0.2	0.3	100	50
Fruits and Nuts	6.6	6.9	9.0	5	30
Oranges	1.2	1.4	1.8	17	29
Grapes	1.3	1.0	1.7	-23	70
Strawberries	0.2	0.4	0.5	100	25
Greenhouse and Nursery	3.3	5.4	7.3	64	35
Mushrooms	0.4	0.5	0.6	25	20

Source: USDA, *Economic Indicators of the Farm Sector*, annual.

1989, while the value of all U.S. tomato production doubled to \$1.8 billion (table 1). Similarly, the value of U.S. strawberry production increased 2.5 times during the 1980s, while the value of Mexican strawberry exports remained stable; but Mexico shifted from exporting processed to exporting fresh strawberries.

NAFTA will increase Mexican fruit and vegetable exports to the United States by reducing tariff and nontariff barriers, but an immediate, large-scale shift of U.S. agricultural production to Mexico is not likely. Fresh fruit and vegetable production is both labor and capital intensive: an acre (football field) of strawberries costs about \$25,000 over two years in the United States to bring into production, and with Mexican interest rates of 25 percent more than double U.S. rates, the higher cost of capital in Mexico alone adds over \$500 to Mexican production costs. Similarly, U.S. producers have the advantage of superior cooling and handling facilities for perishable commodities, and immediate access to the U.S. transport system without border delays. Mexican producers, by contrast, enjoy primarily lower labor costs, and even this advantage is offset by the lower productivity of labor in Mexican agriculture.³ Given the time required to improve the Mexican infrastructure, an immediate move to free trade in agricultural products is asymmetric because Mexico would open itself to

³This varies significantly by crop. For example, Mexican labor productivity in broccoli is 69 percent of California's in the same crop; 35 percent in asparagus harvesting; and 25 percent in strawberries and tomatoes (Runsten and Young 1992: 6). Runsten and Young conclude that, generally speaking, U.S. agricultural investment will not shift rapidly to Mexico as a result of NAFTA, as long as labor productivity remains a problem.

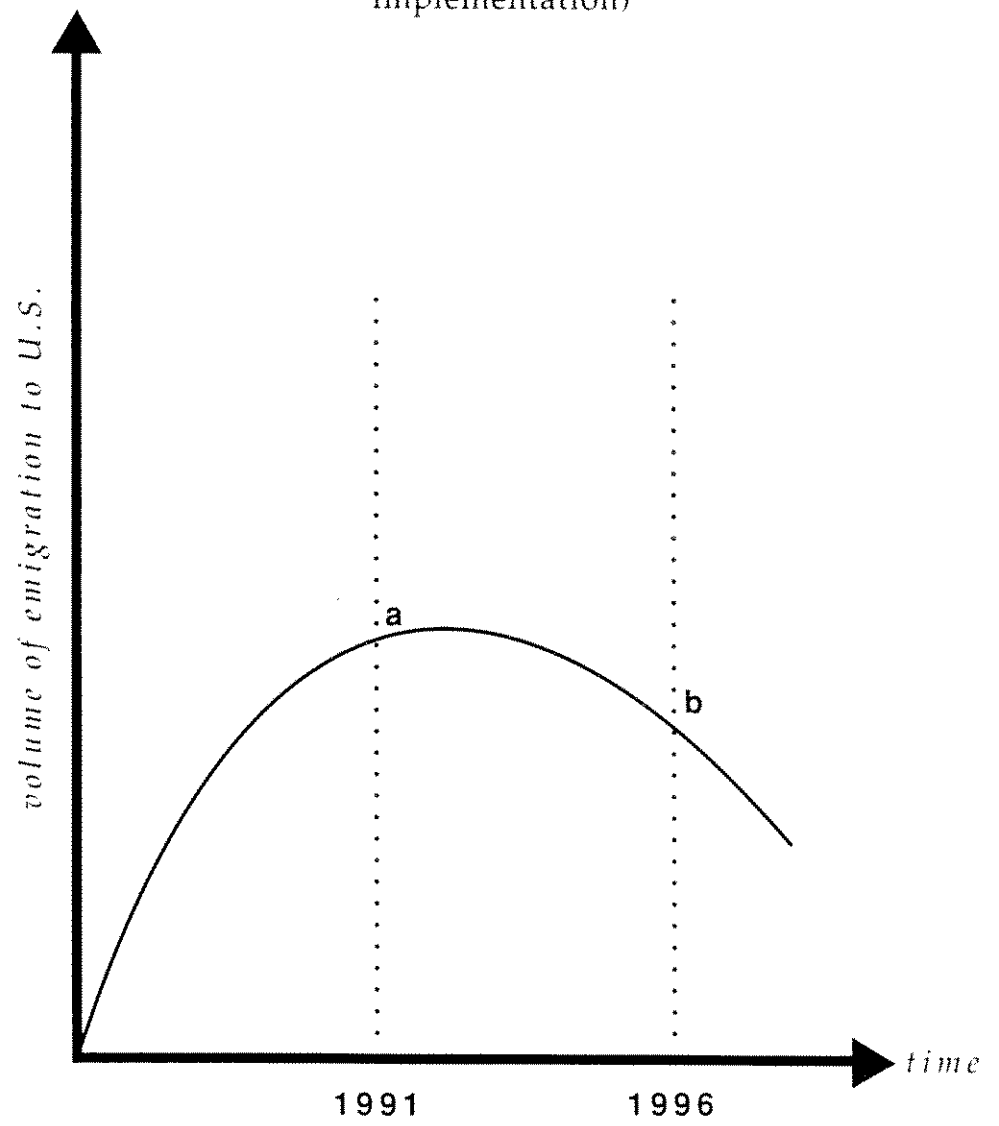
readily available corn and grains while waiting perhaps five to ten years for U.S. and Mexican investors to create additional fruit and vegetable jobs in Mexico.

Moreover, the absolute number of such jobs that could be created in the short to medium term must be estimated realistically. According to calculations by Runsten and Young (1992: 12), a 25 percent expansion of Mexican acreage devoted to all fruits and vegetables in the 1990s would require at most 67,000 additional workers, assuming no changes in labor productivity. Even taking into account the employment multiplier effects in food packing, processing, transportation, and other sectors of the Mexican economy, it seems highly improbable that fruit and vegetable agriculture could absorb the hundreds of thousands of rural workers that theoretically could be displaced from maize production under the most extreme, "cold turkey" trade liberalization scenarios. In addition, based on research conducted in Mexico's Bajío region, it appears that changes in technology and cropping patterns introduced by modern, transnational processing plants (which NAFTA is supposed to stimulate) may not yield a net increase in employment (see Young 1992).

Even if Mexican corn and grain price supports were maintained while a labor-absorptive Mexican fruit and vegetable sector expanded vigorously, the disruptions associated with gradual reductions in Mexican price supports could lead to additional Mexican migration to the United States. Such a scenario suggests that while freer agricultural trade is phased in, some of the additional Mexico-to-U.S. migration foreseen by the Commission for the Study of International Migration and Cooperative Economic Development may occur (see Commission 1990), followed by a level of migration congruent with the demand for rural Mexican labor in the United States. In figure 1, such a scenario can be visualized as the movement from *a* to *b*, i.e., a temporary increase in "testing the waters" emigration associated with economic restructuring, and then less emigration as jobs for rural Mexicans are created in Mexico rather than in the United States.

It is important to recognize that one reason for increased emigration from rural Mexico during the 1980s was that the demand for rural Mexican labor in the United States expanded significantly. Two phenomena were at work. First, Mexicans replaced U.S. workers in rural labor markets which ranged from North Carolina tobacco to Idaho sugar beets. By 1991, a nationwide farmworker survey found that 73 percent of all workers employed in U.S. crop production were foreign born, and that 90 percent of the foreign-born farmworkers were Mexican (U.S. Dept. of Labor 1990: 6). Reliable data for earlier years are not available,

Figure 1: Hypothesized Relationship between Mexican Migration to the United States and Time (after NAFTA implementation)



but a 1981 survey found that only 32 percent of U.S. fruit and vegetable workers were Hispanic (Pollack 1983: 16).

The revolving door through which entry-level immigrant farmworkers entered the U.S. labor market turned faster in the 1980s because U.S. farm wages fell and working conditions worsened (see Martin 1991a). Real farm wages fell during the 1980s, making nonfarm jobs more attractive to farmworkers with the language, skills, and contacts to get them. Second, the current oversupply of agricultural workers, many of whom have fraudulent documents, means that seasonal farmwork gets done quicker; as a consequence, the annual earnings of many farmworkers have dropped as they experience longer spells of unemployment. Third, farm employers in the 1980s began to hire more workers indirectly via farm labor contractors (FLCs) to avoid even the small risk of fines for hiring illegal aliens. FLCs generally do not provide free housing for workers and often charge workers for rides to the fields, so that a worker earning \$200 weekly during the peak of the season may have to pay \$50 for housing and transportation, lowering take-home pay by 25 percent.

In addition to replacing U.S. workers, more Mexicans found jobs in rural America as labor-intensive agriculture expanded. Table 1 indicates that the fruit, vegetable, and horticultural (FVH) sector of U.S. agriculture increased its sales by 63 percent between 1980 and 1989. Data to determine how much more farmworker employment was generated by this expansion are not available, but there were relatively few labor-saving breakthroughs in agriculture during the 1980s that would have reduced the need for farmworkers, so that in most crops, increases in sales mean that more workers are required.⁴

⁴A few examples indicate the magnitude of the increased U.S. demand for farm labor. Most of the labor-intensive vegetables require from 100–250 hours of labor per acre to grow and harvest, so the doubling of U.S. fresh-market broccoli acreage between the mid-1970s and 1990 to 116,000 acres means that, at 150 hours per acre, 17.4 million hours of labor are now required, compared with 7.5 million hours in 1975 (see Martin 1989: 46). In California's San Diego County, the combined acreage in highly labor-intensive flower growing and landscape nurseries nearly doubled between 1980 and 1990. U.S. avocado acreage, much of it also located in San Diego County, tripled between the mid-1970s and 1990. At 130 hours per acre, the hours of work in this commodity alone jumped from 3.9 million to 11 million.

Links between Internal and International Migration

U.S. policies during the 1980s, including the Immigration Reform and Control Act of 1986 (IRCA), did not signal most U.S. employers to slow the rate at which they create jobs for rural Mexicans in the United States. But NAFTA may send such a signal, resulting in more jobs for rural Mexicans in rural Mexico. However, the rural areas of Mexico most likely to gain additional jobs are not those in which subsistence farmers and landless workers will be displaced. Instead, the economic restructuring effectuated by NAFTA may increase internal Mexican migration.

Will increased internal migration mean more Mexico-to-U.S. migration? The empirical evidence indicates that there is no simple link between internal and international migration. Thus, internal Mexican migration to the export-oriented vegetable farms of northwestern Mexico and to the maquiladoras on the U.S.-Mexican border may not stimulate much additional transborder migration.

Mexico's major export-oriented vegetable agriculture is in Sinaloa, an area that has relied increasingly on migrants from outside the state for its seasonal work force (table 2). However, a 1988 survey of agricultural workers in the Culiacán area of Sinaloa found that the majority of these internal Mexican migrant workers saved nothing at all during their five-to-seven-month stay in Sinaloa; most of their earnings were spent on food and other maintenance expenses. Moreover, only eleven of the two hundred farmworkers interviewed indicated that they would migrate to the United States or to another destination in Mexico at the end of the harvest season in Culiacán; and among these continuing migrants, only one had saved any money. Migrants intending to return to their home communities outside of Sinaloa had accumulated, on

TABLE 2
THE WORK FORCE IN SINALOA VEGETABLE PRODUCTION,
1974, 1985, 1988

	1974 Survey	1985 Survey	1988 Survey
Estimated Total Work Force	180,000	170,000	170,000
Migrant Workers (Percentage)	101,000 (56%)	136,000 (80%)	124,000 (73%)
Interstate	45,000 (25%)	128,000 (75%)	70,000 (41%)
Intrastate	56,000 (31%)	10,000 (6%)	54,000 (32%)
Local Workers	79,000 (44%)	32,000 (19%)	46,000 (27%)
	<i>Recruitment of Interstate Workers</i>		
Crawlers Paid Travel	66,000 (37%)	102,000 (60%)	65,000 (38%)
Principal States of Origin	Durango, Oaxaca, Jalisco, Zacatecas	Oaxaca, Guerrero, Durango, Guanajuato	Sinaloa, Michoacán, Durango
	<i>Destination at the End of the Season</i>		
Continue Migrating	75,750 (42%)	45,000 (27%)	10,000 (6%)
Stay in Sinaloa	15,150 (8%)	27,000 (16%)	51,000 (30%)
Return Home	10,100 (6%)	98,000 (58%)	109,000 (64%)

Source: Margarita Velez, "Análisis de la situación agrícola de Sinaloa: Estructura socio-económica de los trabajadores estacionales del campo en el Valle de Culiacán: La oferta, un problema persistente," *Boletín Demográfico*, no. 83, enero-diciembre 1975, pp. 48-59; R. Arreola, "Labor-Intensive Horticultural Production in Northwestern Mexico: The Seasonal Labor Market and Its Impact on Internal and International Migration Patterns," Master's thesis, International Agricultural and Development Group, University of California, Davis, 1985; Gary D. Thompson and Philip L. Martin, "Culiacán Field Worker Survey," mimeograph, 1988.

the average, only the equivalent of U.S. \$113—far less than the amount they would need to hire a "coyote" (professional migrant smuggler) if they decided to continue migrating to the United States (Thompson and Martin 1989: 19–20).

The Sinaloa vegetable work force was relatively stable at 170,000–180,000 during the 1980s, but Sinaloa growers during the 1980s recruited more migrant families when they discovered that the cost of transporting out-of-state migrants to Sinaloa and providing housing for them was less than the cost of daily transportation for local workers. The migrant families who comprised a rising percentage of the Sinaloa work force in the 1980s tend to return home after the Sinaloa season ends. The proportion of migrants in the Sinaloa vegetable work force who seek work further north in Mexico or in the United States actually dropped from 42 percent in a 1974 survey to 6 percent in 1988 (table 2). If Sinaloa growers continue to recruit migrant families instead of the young, unaccompanied men most likely to migrate illegally to the United States (Thompson and Martin 1989: table 4), an expansion of Sinaloa vegetable agriculture should not increase transborder migration.

The assumption that would-be migrants to the United States are being held in central and southern Mexico only by their inability to accumulate sufficient savings from local employment is further contradicted by evidence that relatives based in the United States are the most frequent source of financing for international migration, including the cost of a "coyote" if one is needed to enter the United States (Cornelius 1989: 695). Most would-be migrants to the United States do not depend on money earned from seasonal work within Mexico to finance their U.S.-bound migration, suggesting that a larger number of seasonal jobs in northern Mexico would not necessarily increase illegal migration to the United States.

Will NAFTA increase illegal migration to the United States by drawing more Mexicans from rural areas of central and southern Mexico to be employed in the export-oriented manufacturing firms concentrated in the northern border cities? It has often been alleged that the border-area maquiladoras are a powerful magnet for migrants from the interior of Mexico, and that since they hire mostly women, the plants' presence increases illegal male migration to the United States.

It is true that Mexico's largest border cities (most notably Tijuana) have become staging areas for illegal migration to the United States; but there is little evidence that the migrants emanating from these border cities are frustrated aspirants for maquiladora jobs. The maquiladoras have always drawn the bulk of their work force from nearby regional labor markets. Long-distance migrants from the central and southern regions of Mexico

tend to pass through the border area quickly and go directly to the United States, where they are more likely to have relatives or other contacts who can help them find work. For example, among residents of three high-emigration communities in central Mexico who were interviewed in 1988 and 1989, only 7 percent of those who were thinking about emigrating were considering a first move to one of the Mexican border cities, despite the strong demand for labor in the booming maquiladora industries of the late 1980s (Cornelius 1990: 29). This finding is consistent with a substantial body of research conducted over the last ten years in the border region. These studies find no significant, positive relationship between increases in maquiladora employment and long-distance migration, including illegal migration to the United States (see, e.g., Seligson and Williams 1981; Sklair 1993; Martin 1992).

A recent (1988–1989) sample survey of 1,200 maquiladora employees in Mexico's three largest border cities found that only 7.3 percent of those who had migrated to these cities mentioned the hope of working in the United States as a factor that influenced their decision to migrate to a Mexican border city. A larger proportion (28.3 percent) of these migrants believed that having worked in a maquiladora would increase their chances of finding a job in the United States; however, at the time of the interview an overwhelming majority (84.5 percent) had no intention of migrating to the United States, and only one out of five interviewees expressed a preference for a job in the United States similar to the factory job they currently held. A much larger proportion (48.2 percent) said they would prefer to return to their respective home towns in the interior of Mexico, if they could have jobs there similar to the jobs held at the time of the interview. The researchers concluded that the effect of maquiladora employment on migration to the United States is slight, and it may actually *discourage* transborder migration, especially among those who have no legal access to U.S. employment (i.e., the undocumented).⁵ Two smaller surveys among maquiladora workers in a single city (Ciudad Juárez) support a similar conclusion (Brannon and Lucker 1990). While many of the interstate migrants in these 1987–1988 samples had been attracted to the border region by the prospect of maquiladora employment, fewer than 5 percent considered working in the United States a viable option, usually because they lacked documents.

⁵Carrillo Huerta 1990a: 122–29. This research was conducted under the auspices of the Commission for the Study of International Migration and Cooperative Economic Development, which published a summary of the final report (Carrillo Huerta 1990b).

Limits to Reducing Emigration Pressures

Even if NAFTA does not affect migration as much as anticipated, other factors may assure continued high levels of Mexico-to-U.S. migration. Foremost among these factors are U.S. employer demands for low-skilled labor and the U.S./Mexico real wage differential. The demand for Mexican labor in U.S. agriculture expanded significantly during the 1980s. For example, California fresh tomato acreage rose by 36 percent between 1986 and 1989, despite competition from Mexican tomatoes grown in Baja California. Employment in related industries that rely on rural Mexican immigrants also expanded significantly. For example, the number of workers in the California lawn and garden industry more than doubled in the 1980s (see Martin 1991a). Indeed, the demand for unskilled and semi-skilled labor in *most* sectors of the U.S. economy has been increasing steadily, despite a general trend toward higher educational requirements for the jobs being created in the United States. Even though some of these low-skill jobs—including seasonal agricultural work—may shift south to Mexico under NAFTA, a contraction of employment opportunities in the United States for some would-be Mexican migrants may be offset by the creation of new low-skill jobs, particularly in the U.S. service sector (Kutscher 1991: 7–8). That sector now absorbs more first-time migrants from rural Mexico than does agriculture (Cornelius 1990: 39–40, tables 5–7; Zendejas 1991).

The focus on job creation, which is central to the debate over NAFTA, must not obscure the fact that U.S./Mexico wage differentials are a more powerful determinant of migration decisions in rural Mexico than outright joblessness. Numerous studies have shown that most Mexican migrants to the United States had some

sort of employment in their places of origin before migration (see García y Griego 1990). The migrants' principal complaints about their pre-migration situation were low wages, the failure of wage gains to keep pace with price increases, and underemployment (or insecurity of income).

Even under the most optimistic scenarios about NAFTA-induced economic growth in Mexico, the very large U.S./Mexico wage differential will not disappear overnight, because of two key factors: (1) the present huge labor surplus on the Mexican side, and (2) the demographics of the tightening U.S. labor market in the 1990s and beyond.

With nearly one million new workers being added to the labor force in Mexico each year during most of the 1990s, there will be continuing downward pressure on Mexican wages. Most of the principal areas of outmigration in rural Mexico have a large pool of surplus labor that will persist for at least another generation. While the labor force in these places is not growing appreciably, neither is it shrinking in absolute terms. On the U.S. side, according to U.S. Department of Labor projections, the labor force will expand by only 1.3 percent per year between 1990 and 2005, compared with 1.9 percent growth during the previous fifteen-year period (Kutscher 1991: 4-5). Relative shortages of young, low-skill, U.S.-born workers will keep labor markets tight and exert upward pressure on U.S. wage scales.

In the longer run, as economic growth in Mexico accelerates and urban labor markets tighten up, Mexican wages will rise, just as they did during the 1980s in Tijuana and other northern border cities, where foreign firms must actively compete for even unskilled and semi-skilled labor for their manufacturing operations. There may even be upward pressure on rural wages in some parts of Mexico, as labor-intensive fruit and vegetable production expands there. The most plausible scenario, then, is a gradual narrowing of the U.S.-Mexico wage gap, which should become perceptible during the expected fifteen-year implementation phase of the free trade pact.⁶

No one knows *how much* narrowing must occur to deter emigration from Mexico; but there is universal agreement among migration specialists that the gap does not have to be closed completely. International labor migration is far more than a simple response to wage differentials.⁷ Especially for would-be "first time" migrants to the United States (those who have never had any

⁶This is the basic prediction of the staff of the United States International Trade Commission in a 1990 report (see USITC 1990).

⁷For a summary of the massive body of relevant evidence, and a Mexican case study, see Stark 1991.

work experience in the United States), *absolute* wage differentials are likely to matter somewhat less than the *direction* of economic change—the so-called “hope factor” (see, e.g., Díaz-Briquets and Weintraub 1991: xiv–xv). If the economic recovery under way in Mexico since 1989 is stimulated by NAFTA and sustained over a decade or so, there should be a significant hope for betterment at home which reduces emigration.

However, transnational migrant networks play an increasingly important role in promoting new and repeat migration between Mexico and the United States.⁸ The vast majority of residents in high-emigration rural communities in Mexico now have relatives based in the United States who provide a continuous, accurate flow of information about U.S. employment opportunities, as well as direct assistance in finding jobs and housing in the United States. In one recent survey, 95 percent of the males who were employed in agriculture in three labor-exporting communities in the states of Jalisco, Michoacán, and Zacatecas had U.S. contacts; the average number of U.S.-based relatives was five (see table 3). During the economic crisis of the 1980s, many new transnational migrant networks were formed, linking urban areas in the United States with villages in some of Mexico’s most impoverished states: Oaxaca, Puebla, and Guerrero (see Cornelius 1992; Smith 1992a: 39–41, 1992b). These social networks, which were strengthened by the legalization of many of their U.S.-based members under the 1986 U.S. Immigration Reform and Control Act, represent another important pull factor whose influence on the behavior of would-be migrants still in Mexico can only increase over time. In Mexico’s labor-exporting communities, they also help to create and continually reinforce a culture of outmigration, which causes most young people to anticipate at least a period of employment in the United States.⁹

⁸The literature on such networks is very extensive. See especially Massey et al. 1987; Rouse 1989.

⁹We define the culture of outmigration in rural Mexican communities as a set of interrelated perceptions, attitudes, socialization processes, and social structures (including transnational social networks) that grow out of the international migration experience, and which encourage, validate, and facilitate such migration. Case studies of Mexican labor-exporting communities that emphasize the importance of a culture of outmigration include Mines 1981; Reichert 1981; Alarcón 1992.

TABLE 3
 SELECTED CHARACTERISTICS OF AGRICULTURALLY EMPLOYED MEXICAN MALES IN THREE LABOR-EXPORTING
 COMMUNITIES IN CENTRAL MEXICO, BY IMMIGRATION STATUS DURING MOST RECENT TRIP TO U.S.^a
 (STANDARD DEVIATIONS IN PARENTHESES)

Item	Entire Sample (N = 528)	Recent (1982-89)		All who last		
		legal migrants (except SAW) (N = 47)	SAW migrants ^b (N = 64)	illegal migrants (N = 142)	1982 (legal or illegal) (N = 112)	No U.S. experience (N = 163)
Size of household in Mexico	7.1 (2.9)	5.8 (2.1)	7.3 (2.9)	7.4 (2.9)	6.3 (3.0)	7.5 (2.9)
Total family landholdings (hectares)	9.1 (27.3)	12.2 (33.8)	2.1 (8.9)	6.8 (21.8)	11.2 (26.9)	11.7 (33.7)
% whose family has no land	43.0 (49.6)	27.7 (45.2)	79.7 (40.6)	41.5 (49.5)	29.5 (45.8)	43.6 (49.7)
% with relatives in U.S.	94.7 (22.4)	100.0 (0.0)	98.4 (12.5)	94.4 (23.1)	96.4 (18.6)	90.8 (29.0)
# relatives in U.S.	5.3 (3.4)	8.2 (3.9)	5.1 (3.0)	5.1 (3.2)	5.4 (3.2)	4.7 (3.5)
Household wealth relative to all households in respondent's town ^c	-0.10 (1.01)	0.79 (1.09)	-0.05 (0.55)	-0.31 (0.90)	0.04 (1.01)	-0.27 (1.09)
Household wealth relative to all households in 3 towns ^d	-0.14 (1.02)	0.69 (1.20)	-0.17 (0.58)	-0.30 (0.92)	0.02 (1.08)	-0.30 (1.06)

Age	37.4	(17.5)	42.0	(18.2)	34.5	(12.5)	34.6	(13.5)	52.9	(12.1)	29.0	(18.3)
% married	59.3	(49.2)	68.1	(47.1)	76.6	(42.7)	60.6	(49.0)	86.6	(34.2)	30.1	(46.0)
Years of education	3.6	(2.9)	4.2	(2.8)	2.8	(2.2)	3.7	(2.6)	2.3	(2.5)	4.5	(3.2)
\$ migrated to U.S.	69.1	(46.2)	—	—	—	—	—	—	—	—	—	—
If migrated to U.S., # years since 1st migration	20.5	(14.1)	23.6	(12.9)	14.9	(11.1)	13.8	(11.8)	31.6	(11.4)	—	—

*Sample includes all adult males (fifteen years or older in 1988) who worked in agriculture in Mexico during 1987 or 1988.

^aApplicants for legalization under Special Agricultural Workers program established by U.S. Immigration Reform and Control Act of 1986.

^bFigures are factor scores, with a value of zero corresponding to the mean wealth score for all households in the respondent's town. Wealth scores are in units of standard deviations from the single-community sample mean of zero. The wealth score for a household combines four observed characteristics: (1) landholdings, (2) houses, (3) animals, and (4) consumer goods owned by the household.

^cFigures are factor scores, with a value of zero corresponding to the mean wealth score for all households in all three research communities. Wealth scores are in units of standard deviations from the three-community sample mean of zero. This factor combines the same four characteristics as the single-community factor.

Source: Center for U.S.-Mexican Studies, 1988-89 survey of three Mexican sending communities. "Don't know" and "Not applicable" cases excluded from tabulations.

Other Strategies for Reducing Emigration under NAFTA

Within the set of constraints sketched above, how can a free trade agreement be implemented so as to avoid adding to preexisting emigration pressures? The most obvious recommendation would be to preserve some level of protection for the small-scale, rainfed, subsistence sector of Mexican agriculture and very gradually phase out price supports for corn. This is the preferred option of many Mexican agricultural economists (see, e.g., Yúñez-Naude and Blanno-Jasso 1991: 265–67). It is an option resisted by some efficiency-minded technocrats within the public sector who would choose to reduce the rural population engaged in small-scale corn production as quickly as possible and allow market forces (both domestic and international) to reallocate their labor.

Currently, very large productivity gaps exist between regions in Mexico. Bringing some of the more disadvantaged regions into the modern, export-oriented economy will require major outlays of capital for expanding infrastructure, upgrading educational systems, and so forth.¹⁰ There are severe constraints on crop substitution possibilities in rainfed agriculture. Access to irrigation facilities for small-scale producers would certainly enhance those possibilities in many high-emigration areas of Mexico. Fruit and vegetable production need not remain the virtually exclusive province of large-scale growers.¹¹

Similarly, special measures will be needed to help small and medium-sized firms in the nonagricultural sectors of Mexico's

¹⁰For a more extended discussion of this problem, see Reynolds 1991: 6–7.

¹¹The case of the Guatemalan highlands provides a well-documented example of how small-scale production of nontraditional fruits and vegetables using family labor on irrigated land can be successful in raising peasant incomes and reducing emigration. See von Braun et al. 1989.

economy to participate more fully in the export process, especially as subcontractors and parts suppliers to larger firms. Mexico's small and medium-sized firms are the most labor intensive in its economy, but only 10 percent of them were direct exporters in 1990, according to a national survey (see Sheahan 1991).

Even in the rural communities and small towns of west-central Mexico that have traditionally sent the largest numbers of migrants to the United States, much could be done to encourage *non-agricultural* job creation. The kinds of financial incentives and infrastructure investments that would probably be necessary to get large firms to locate manufacturing plants in communities of this size would be costly to the Mexican government. But it has been observed that under certain conditions, small-scale manufacturing enterprises in such places can flourish if their commercialization problems can be solved.¹²

These rural micro-industries potentially could play a significant role in reducing emigration. Surveys show that non-agricultural—especially manufacturing—jobs are at or near the top of the list of improvements that residents of traditional high-emigration communities say they need in order to reduce their dependence on emigration to the United States. Very few people in such places—e.g., only 5 percent of the residents of three predominantly agricultural communities in west-central Mexico who were interviewed in 1988–1989 (Cornelius 1990: 81, table 25)—are interested primarily in improving agriculture, whether through irrigation, greater access to credit, or other means. As noted above, many rural dwellers in Mexico seem to have given up on agriculture, at least as a principal source of personal income and as an “engine” for local development. Therefore, increasing the number of agricultural jobs or raising wages for such work, in the absence of other measures, could have surprisingly little effect on rates of emigration from traditional labor-exporting communities.

Mexico's economic crisis of the 1980s brought very large and seemingly uncontrolled increases in prices for essential agricultural inputs like fertilizer, fuel, and feed for livestock in rural Mexico, while prices for commodities such as milk, corn, and beans remained controlled by the government. Simultaneously, agricultural credit through government banks dried up. As a result, certain kinds of agriculture and livestock raising became unprofitable. Production of corn, milk, and pigs dropped sharply as farmers turned to other activities or became more dependent on migration to the United States as their main source of income.

¹²For a longitudinal study of a particularly successful case of rural industrialization in Mexico, see Cornelius 1990: 83–87; Boly 1992.

While the crisis of the 1980s did not devastate the economies of traditional high-emigration communities—propped up, as they are, by a steady influx of dollars from the United States—the economic crisis did accelerate the long-term decline in agricultural activity. As a result, agriculture is now much less attractive to most Mexican rural dwellers than it was at the beginning of the 1980s. In one three-community study, young residents who had not yet migrated to the United States were the most pessimistic about their prospects in Mexican agriculture, suggesting that their propensity to migrate during the 1990s will be high (Cornelius 1990: 42–44, table 10).

When they go to the United States, residents of high-emigration communities—especially young people—typically seek non-agricultural jobs, which pay better and provide a more secure, year-round source of income. Largely due to their U.S. work experience outside of agriculture (e.g., in restaurants, construction, and light manufacturing), the younger generation of workers in high-emigration communities is not disposed to taking hometown agricultural jobs, even at higher than prevailing local wages, and even if such jobs could be made year-round (e.g., by irrigation projects that permit double cropping).

In the above-mentioned study of high-emigration communities, we found that the two-thirds of the adult male population who have had some U.S. work experience would like to have nonagricultural jobs in or near their home towns.¹³ Such jobs may be the only effective strategy to keep them home. The same applies to agricultural workers whose families own little or no land at all (day laborers and sharecroppers). These are the most U.S. migration-prone segments of the population in rural Mexico. Government investments in irrigation would generate some additional work for landless residents of high-emigration communities, but it is unlikely that underemployment would fall enough or that local agricultural wages would rise enough to prevent most of these Mexicans from emigrating.

None of the government interventions discussed above is a panacea—any more than NAFTA itself can be a panacea for Mexico's economic and social problems. There are very strong economic, demographic, and cultural pressures to emigrate from most of Mexico's principal labor-exporting areas, and it is unlikely that these emigration pressures will abate appreciably in the near

¹³Cornelius 1990. This finding is consistent with the results of Carrillo Huerta's survey of maquiladora workers in Mexican border cities. Nearly half of the migrant respondents in this survey asserted that they would *return* to their places of origin if they had access to the same types of employment in their home towns, presumably despite a substantial wage differential. See Carrillo Huerta 1990a: 127.

future, with or without a free trade agreement. It is possible that NAFTA will discourage more emigration from Mexico's *urban* centers—including the Mexico City metropolitan area, which became a significant contributor to the U.S.-bound migratory flow in the 1980s (see Cornelius 1992)—than from the countryside. It is in large cities that most of the higher-paying, NAFTA-related jobs will be created. Our point is that certain things *can* be done in rural areas by the Mexican government, acting alone or in concert with U.S. and other outside agencies, to increase the probability that the benefits of North American economic integration will be distributed throughout the population in such a way as to deter more emigration to the United States in the medium to long run.

A Comparative Perspective: Economic Integration and Migration in Europe

NAFTA should eventually reduce Mexican rural migration to the United States. After three years of intensive study, the U.S. government's Commission for the Study of International Migration and Cooperative Economic Development reached the conclusion that "development, if sustained, can eventually reduce emigration pressures, but it may take several generations for this process to run its course" (Commission 1990: 33). The Commission counseled patience.

Some reassurance that North American economic integration will not produce massive increases in transborder labor migration can be taken from the West European experience. A recent appraisal of that experience concludes:

With respect to migration, the EC has found no large-scale movement of people from the peripheral, poorer regions to the central, more affluent ones, despite significant differences in income level with countries like Greece and parts of Italy. . . . Likewise, demographers do not expect a massive migration from Portugal and Spain when their restrictions [on labor mobility] are phased out in 1993 (Piper and Reynolds 1991: 28–29).

Indeed, since 1985 Spain has become a net *importer* of labor, mainly from the North African countries and Latin America. Before the EC was formed, France, West Germany, and other northern-tier European countries met most of their needs for

additional low-skilled labor by importing workers from Spain, Portugal, Greece, and Italy (now EC members) and non-EC nations such as Turkey, Algeria, and Yugoslavia. For more than twenty years, there was high-volume labor migration from these countries into the northern tier. But the southern countries that were subsequently brought into the EC did not generate additional migration as they restructured their economies. Southern European economies grew fast in anticipation and as a result of their incorporation into the EC, reducing the necessity for their nationals to emigrate.

The elimination of restrictions on labor mobility within the EC was expected to cause significant new emigration from Italy in particular.¹⁴ Italy had the highest unemployment rate among EC members during the 1960s, a per capita income of half the French and German levels, and a rapidly modernizing agricultural sector. Some 575,000 Italians had been recruited to work in France and Germany during the 1960s, before intra-EC freedom of movement came into effect in 1968. But against all expectations, Italian emigration to France and Germany began to *decrease* after restrictions on labor mobility were lifted, because the expanding Italian service and manufacturing sectors were able to absorb most of the new work force entrants.

In April 1987, Turkey applied to become a full member of the EC. Twenty-five years earlier, Turkey began sending large numbers of migrants to Western Europe. The most comprehensive analysis of how much emigration there may be from Turkey once its EC membership is approved concludes that there would be an initial rush to test the labor markets of other EC countries. However, the emigration of Turkish workers is then expected to stabilize at a fairly low level, determined largely by the demand for low-skilled labor in Germany and other EC countries (Martin 1991b: 100-06).

A major reason why the prophets of massive intra-EC migration were wrong was their assumption that international wage differentials would have to disappear in order to reduce emigration from the poorest EC countries. Significant wage differences persisted between Italy, Greece, and Ireland and other EC nations after freedom of movement became effective, but a narrowing of the differential to 5:1 or 4:1 and an awakening of the "hope factor" that conditions at home would improve proved sufficient to keep

¹⁴EC nationals have the right to enter another EC member state and seek employment on a nondiscriminatory basis (e.g., a German employer may not favor a German over a Dutch job applicant, except in narrowly defined public-sector jobs). Once the intra-EC migrant finds employment, his spouse, children, and dependent parents have the right to join him if the migrant has housing for them.

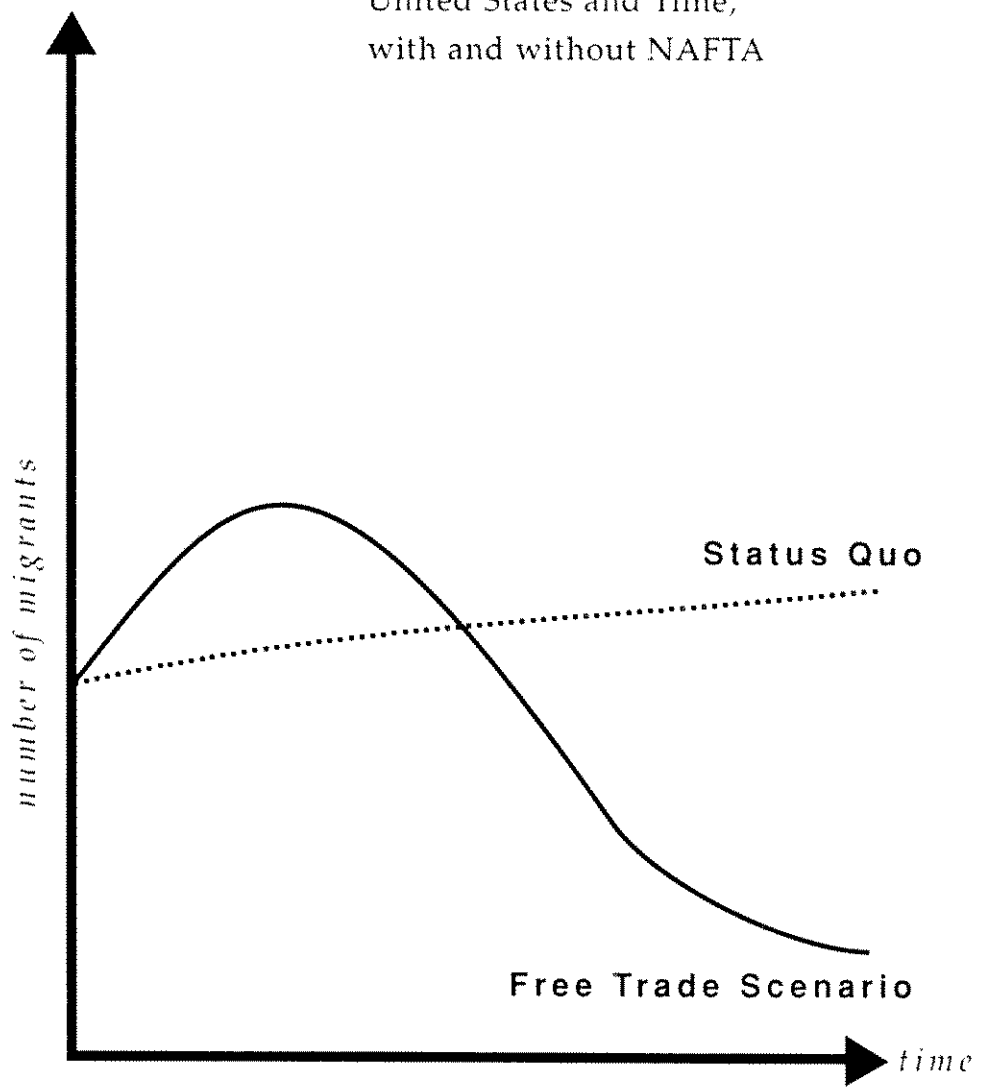
most of their citizens at home. Most workers have important cost-of-living and family incentives to remain in their place of origin, making them reluctant to migrate abroad for employment if they have a secure job and future at home. This universal truth must be factored into any estimate of the potential impact of NAFTA on Mexican migration to the United States.

Conclusions

If the question confronting policymakers is: what is the *alternative* to trade-linked development in the sending country?, the answer must be: there *is* none, if we are seriously interested in controlling future emigration from Mexico to the United States. Deterring Mexican emigration by trying to restrict employer demand for Mexican labor in the United States—the approach embodied in the 1986 Immigration Reform and Control Act—does not appear to be effective. The INS apprehended a peak 1.8 million illegal aliens in 1986. After a sharp drop in 1988 and 1989, due in large part to the IRCA-mandated legalization programs, the trend in apprehensions has been steadily upward. In the 1992 fiscal year, the Border Patrol made 1,068,822 apprehensions of illegal entrants. Clearly IRCA has not changed the basic pattern of Mexican migration to the United States, except to increase the flow of women and children seeking to be reunited with newly legalized family heads in the United States (see González de la Rocha and Escobar Latapí 1990: 131–57; Cornelius 1989: 695–98).

Residents of three traditional labor-exporting communities in central Mexico, interviewed more than two years after the passage of IRCA, were confident that they could still get jobs in the United States, even without legal documents. Among prospective *first-time* migrants in these communities (those with no U.S. work experience, but who intended to migrate in the near future), 71 percent believed they could still find work in the United States without papers (Cornelius 1989: 694, table 2). A survey done in the same communities today would probably reveal an even higher level of confidence about obtaining a U.S. job, reflecting the spread of information about fraudulent documents as a way of gaining access to the U.S. labor market. A similarly weak-to-negligible deterrent effect has been found in other post-IRCA

Figure 2: Hypothesized Relationship between the Number of Mexican Migrants to the United States and Time, with and without NAFTA



studies of Mexican sending communities (see, e.g., Massey et al., 1990).

Even with the anticipated dislocations in small-scale agriculture, future levels of total Mexican migration to the United States (both legal and illegal) almost certainly would be *higher* in the absence of trade liberalization. This virtual certainty is illustrated in figure 2, which projects future levels of Mexican migration to the United States with and without a free trade agreement. Since U.S. and Mexican labor markets are already linked, NAFTA affects mostly the *timing* of the flow of Mexican workers to the United States. As shown in figure 2, the hump of increased and then decreased migration yields fewer total migrants to the United States than the alternative of continuing illegal immigration without free trade.

The rapid labor force growth that is inevitable in Mexico over the next ten to fifteen years means that Mexico will be unable to absorb the additions to its work force without a sharp increase in overall economic growth (to 6 percent or more per year, in real terms). To achieve such a growth rate in Mexico, gross investment would have to rise to 25 percent of gross domestic product¹⁵—a proportion reached only during the "oil boom" years of 1978 through 1981.

Free trade and the additional foreign and domestic investment that it will attract are now the only stimuli that can realistically be expected to increase significantly the capacity of the Mexican economy to create jobs, without unleashing a new burst of inflation caused by massive federal government spending programs. For the first time in more than a quarter-century, Mexico's public finances are in balance. If the government loses control over inflation again, that would be the single most potent inducement for migration to the United States, because it would bring back the acute economic uncertainty of the 1980s and widen even further the real-wage differential between Mexico and the United States. Under that scenario, everyone would lose.

¹⁵This estimate was provided by Enrique Espinosa, director-general for North American relations, Secretaría de Comercio y Fomento Industrial, Mexico. In April 1992, a top adviser to President Carlos Salinas announced that Mexico would need to receive foreign investment totaling U.S. \$150 billion over the next ten years, to achieve GDP growth of at least 6 percent per annum.

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