

Factors that Influence Migration

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Executive Summary

This report examines the factors that cause people to cross the Mexican-U.S. border and work temporarily or settle outside their country of citizenship, and assesses the factors that sustain such migration over time. Most of the cross-border labor and settlement migration involves Mexicans moving to the U.S.; this report therefore focuses on factors that influence and sustain Mexico-U.S. migration.¹

In absolute terms, the United States is the world's major country of immigration, and Mexico is the world's major country of emigration. The U.S. accepted 916,000 legal immigrants in FY96, more than any other country, plus 275,000 unauthorized settlers. About 165,000 of these legal U.S. immigrants were Mexican nationals; if another 125,000 unauthorized settlers were Mexican nationals, then Mexican immigration to the U.S. in FY96 exceeded total immigration to Canada in 1996, which was about 225,000, and was nine times the immigration of 100,000 foreigners to Australia.

The best estimates suggest that there were 7 million to 7.3 million Mexican-born residents in the U.S. in 1996, including 4.7 to 4.9 Mexican-born residents

authorized to be in the U.S., and 2.3 to 2.4 million unauthorized Mexican-born residents.² The number of legal and unauthorized Mexican-born residents living in the U.S. is increasing by 277,000 to 340,000 per year.³

The U.S. labor market is proportionately more important to Mexican workers than Mexican workers are to the U.S. labor market. Some 4 million to 5 million Mexican nationals, equivalent to one-eighth of Mexico's labor force of 37 million,⁴ are employed in the U.S. in a typical year. However, even if there are 5 million Mexican-born workers in the U.S. labor force, they would represent less than 4 percent of the average 130 million persons employed in the U.S.

Mexico to United States migration has a long history, and has become one of the most important linkages between the two most populous countries in North America, affecting employment patterns, demographic trends, regional dynamics, and politics in both countries. "Go north for opportunity" is an idea deeply embedded in Mexican youth, especially in the rural areas of west central Mexico. Closer economic integration between the U.S. and Mexico, including more trade and investment, is interacting with migration patterns and altering them in significant ways in the 1990s.

Findings

We group the factors that sustain Mexico-U.S. migration into three broad categories; demand-pull factors in the U.S., supply-push factors in Mexico, and network factors that bridge the border. Our analysis leads to a simple conclusion; the migration of persons from Mexico to the U.S. is a dynamic process. What began largely as the U.S.-approved or U.S.-tolerated recruitment of Mexican workers for mining, railroad, and seasonal U.S. farm jobs a century ago has become a far more complex migration relationship that is moving rural Mexicans into traditional and nontraditional industries, occupations, and areas of the U.S.

Our report is based on three key findings:

- First, the origins of Mexico-U.S. migration lie largely inside the United States—Mexican workers were recruited earlier in the 20th century for U.S. farm jobs, creating linkages between jobs in U.S. agriculture and workers in particular Mexican communities.

Today cross-border networks of relatives, friends, and labor brokers and recruiters link an expanding list of U.S. industries, occupations, and areas to a lengthening list of Mexican communities that send migrants to the U.S. While in Mexico, residents of these Mexican communities often have better information about the availability of certain types of U.S. jobs than do local U.S. residents.

The U.S. labor markets in which Mexican migrants are finding U.S. jobs are changing, and may change even more as a result of technological and trade trends and as welfare reform adds to the supply of low-skilled U.S. workers. First, most Mexican workers are employed outside of U.S. agriculture: about 80 percent of Mexican-born workers in the U.S. hold nonfarm jobs.

Second, the demand side of U.S. labor markets is changing, as U.S. employers adjust to higher minimum wages and more global competition. On the supply side, high immigration since the 1980s and legalization in 1987-88 permitted Mexican-born workers to become significant components of the U.S. food processing, construction, service, and manufacturing labor forces throughout the U.S. Welfare reforms and continued immigration promise to continue to add unskilled workers to the labor supply in the 1990s.

Third, it is not clear whether the U.S. labor market will continue to evolve in ways that absorb large numbers of Mexican immigrant workers. On the one hand, the U.S. unemployment rate dropped to its lowest levels in 25 years in 1997, and there are reports of labor shortages, especially in low-wage labor markets in areas with unemployment rates of less than 2 percent, such as the midwest. U.S. job growth is very rapid: between January 1, 1994 and June 1, 1997, the U.S. economy added about 8 million jobs. With Mexican-born workers spreading throughout the U.S. in a period of rapid job growth and low employment, networks that bridge the border may be strengthened, increasing the demand for immigrant workers, and making Mexican immigrant workers a permanent feature of more U.S. industries and areas.

On the other hand, the U.S. is committed to stepped up controls at the border and in the interior, to moving 2 million to 3 million adult welfare recipients into jobs, and to creating jobs for the rapidly growing domestic labor force. The 140 million strong U.S. labor force, which usually expands by about 1 percent per year or 1.4 million per year, has been expanding about twice as fast, due to immigration, welfare recipients moving off the rolls, more older men working, and an increase in the percentage of working-age women seeking jobs. In 1997, over 67 percent of the U.S. population 16 and older was in the labor force, a record percentage of adults employed or looking for work.

It is hard to project the evolution of labor markets that immigrants traditionally enter. In many areas of the U.S., immigrant workers, fears of

labor shortages and high welfare caseloads go together. For example, in the San Joaquin Valley of California, about 85 percent of the 400,000 individuals who work as farm workers sometime during a typical year are immigrants, including 100,000 or more unauthorized migrants. Farmers fearful of labor shortages are calling for modifications of the H-2A program to make it easier to obtain temporary foreign farm workers. At the same time, 25 percent of the 761,000 residents of Fresno county are receiving some form of welfare assistance, and the unemployment rate in Fresno is over 10 percent for most months.

One scenario is that immigrant labor markets will segment, with some U.S. employers reacting to low unemployment and welfare reforms that limit assistance for immigrants by offering English and other services to help their immigrant employees to become naturalized U.S. citizens. Other U.S. employers, such farm labor contractors, may go further into the underground economy to avoid labor law and immigration enforcement, hiring recently-arrived immigrants. Further segmentation of immigrant labor markets could mean that networks may become more important, with the ability to get into the upper segment of the unskilled immigrant labor market the key to economic mobility in the U.S.

- Second, the factors that initiate migration flows are not necessarily the only ones that sustain Mexico-U.S. migration. We find that there is still a demand-pull for Mexican workers in the low-unemployment U.S. labor market, in the sense that most recently-arrived legal and unauthorized Mexican migrants can find jobs in high turnover farm, manufacturing, and service jobs, both in areas where Mexican-born workers have traditionally played important roles, as in southwestern agriculture, and in new industries in the midwest, the southeast, and east coast, including construction, meatpacking, and services. In some cases, including poultry and meat packing, private labor brokers play an active role in moving Mexican workers to jobs in the midwest and southeast.

Supply-push factors in Mexico play a role as fundamental as the availability of U.S. jobs in sustaining Mexico-U.S. migration. Supply-push factors seem to have become more important since the mid-1980s as a result of recurring Mexican economic crises, peso devaluations, and Mexican policies aimed at economic modernization, such as the privatization of government-owned industries that resulted in layoffs and the restructuring of rural Mexico that made small-scale farming less profitable.

This means that Mexicans migrate to the U.S. (1) within well-established networks as well as (2) through new networks that are developing to move migrants to the U.S. from regions without a tradition of Mexico-U.S. migration, such as from Mexican cities and southern Mexican states. Friends and relatives established in the U.S. often provide financing, advice, shelter and jobs to newly-arrived migrants. Settled family members use U.S. family unification policies to have spouses and children join them, and eventually secure legal immigrant status.

The U.S. border enforcement strategies begun in 1994, 1995, 1996, and 1997 under the Hold-the-Line, Gatekeeper, Safeguard, and Rio Grande labels are affecting migration patterns, but not preventing unauthorized entry. First, we find that most (73 percent) of Mexicans attempting unauthorized entry into the U.S. hire *polleros* or *coyotes* to help them cross the border, and that migrants with the fewest network links to bridge the border are most likely to rely on the smugglers who operate as border-only businesses. The increased use of *coyotes* generally, and of border businesses in particular, helps to explain why most migrants attempting unauthorized entry succeed (70 percent or more) despite significantly more U.S. Border Patrol agents and technology on the border.

Second, we find that smuggling has achieved enough regularity to become an established business with three segments; local agents, local and border smugglers, and border-only smuggling businesses, each with a menu of prices and services. After U.S. border control operations were stepped up in 1994, more migrants turned to *coyotes*, whose services became more diversified. Thus, unauthorized migrants have several packages of services available, and several options to pay for the cost of illegally entering the U.S., including working in a coyote-provided or coyote-arranged job in the U.S. to repay smuggling costs.⁵

In some areas of west central Mexico, survey data suggest that migration to the U.S. has become a way of life. Based on migration histories collected in 39 communities in traditional emigration areas, we estimate that, by the time they are 40, most of the men in these communities make at least one trip to the U.S. Based on a model that predicts migration to the U.S. on the basis of age and community characteristics, it appears that, in some communities, the probability that a young man will make a first trip to the U.S. increased after 1992.

- Third, we find that there is reason to believe that currently high levels of Mexico-U.S. migration may represent a hump or peak in the volume of

Mexico-U.S. migration. Within the next decade, we think that demographic and economic factors within Mexico are likely to reduce emigration pressures.

One long-term supply-push factor explaining the mid-1990s migration hump, and the eventual decline in emigration pressure, is demography: the number of new job entrants entering the labor force in Mexico has been very high, but will decline. In 1997, the number of new labor force entrants in Mexico is expected to be 970,000. However, the declining birthrate since 1970,⁶ when Mexican women averaged seven children each, means that the growth in the labor force is slowing, and is projected to drop to 500,000 to 550,000 per year by 2010.

Mexico adopted an ambitious restructuring and privatization program in the 1990s that promises to increase economic efficiency and job growth in the medium to long term, but displaces workers in the short term. If Mexico maintains market-driven economic policies, the International Monetary Fund projects 5 percent annual economic growth, and 2.5 percent employment growth, for 1997 and thereafter.

Given this 2 to 1 ratio between real GDP growth and employment growth, an average 5 percent economic and 2.5 percent job growth per year would lead to the creation of 750,000 new jobs each year, based on 30 million employers and wage and salary employees.⁷ The actual ratio of economic growth to employment growth in recent years has been a more favorable 1.35; this was the ratio of economic growth to labor force growth for the period 1988 to 1995.⁸ Using a 1.35 ratio, 5 percent annual GDP growth would generate 3.7 percent job growth, or 1.1 million new jobs each year.⁹

Sustained economic growth plus the declining number of new job seekers means that, early in the 21st century, Mexico could be creating enough net new jobs to absorb new labor force entrants. Mexico could then begin to catch up on job creation for currently unemployed and underemployed workers, those displaced from agriculture and other industries, and nonworking women who rejoin the labor force. We emphasize that medium-to-long term demographic and economic indicators suggest that supply-push emigration pressure should decline from current levels because it is easy to focus on recent events that point to increases in emigration pressure, including the peso devaluation and economic crisis of 1995, and the uneven recovery from recession.

This longer term perspective emphasizes changing structural factors in Mexico that could reduce Mexico-U.S. migration. The demographic factors are real, and their effect on reducing emigration pressure could be magnified if, e.g., more young people stay longer in school. The economic factors are less certain; Mexico has experienced uneven economic growth over the past several decades, and could experience recessions and crises again.

Other changes in Mexico may also reduce emigration pressure. Migration networks are best established in rural areas with long traditions of sending young men to the U.S. As the number of persons employed in Mexican agriculture shrinks, and some ex-farmers are absorbed in Mexico's service economy, there should be fewer Mexicans with strong network connections ready to migrate to the U.S.

The Mexican economy is stabilizing and growing; the economy grew by almost 9 percent in the second quarter of 1997. Mexico's economy grew by 5.1 percent in 1996, after shrinking by 6.2 percent in 1995, and is projected to grow by 4.5 percent to 5.1 percent in 1997.

The number of permanent workers enrolled in the Mexican Institute for Social Security (IMSS), which is considered a good guide to the number of formal sector jobs in the private sector, rose by a record 661,024 in 1996 to 9,163,459, an expansion characterized by the OECD as "strong job creation in the 'formal' economy" (OECD Economic Outlook 61, June 1997, 98). Job growth continued in 1997; some 282,782 permanent workers were enrolled between January and April 1997, bringing the total to 9,446,241 at the end of April 1997, including 103,000 additions in April. Of the permanent workers enrolled in IMSS, 40 percent were in manufacturing (377,000 new IMSS jobs in 1996), 36 percent in services (166,000), 19 percent in trade (103,000), and five percent in agriculture (16,000).

However, interest rates remain high, the peso may be overvalued, and the recovery is unequal, accentuating inequality. Mexicans linked to the world economy via exports of manufactured goods are doing much better than those operating only in the domestic economy, such as in construction and small-scale agriculture.¹⁰ Inequality has increased since 1984; according to the 1997 UNDP Human Development Report, the richest Mexican person has assets equivalent to the incomes of the poorest 17 million Mexicans.

Thinking About Mexico-U.S. Migration

We find it useful to think of migration processes between Mexico and the U.S. as analogous to a river that creates a delta en route to the ocean. When the Bracero Program was in operation, the flow of Mexicans north was largely confined to the channel created by legal recruitment. Blocking that channel by abolishing the Bracero Program in 1964 thus stopped the migration flow temporarily. The migration soon resumed, however, with a myriad of small streams the vehicle for Mexicans migrating north.

Visualizing Mexico-U.S. migration as having evolved from a narrow channel to rivulets meandering through a delta provides insights into a complex and dynamic migration process:

1. If the underlying demand-pull, supply-push, and network factors change in strength and relative importance, policies designed to deal with just one factor at one level of migration may lose their effectiveness over time. For example, U.S. policies that were based on the assumption that the major factor sustaining Mexico-U.S. migration was legally-authorized demand-pull U.S. employer recruitment became less effective in the 1970s and 1980s as the key factors sustaining migration shifted to informal U.S. employer recruitment and supply-push and network forces. In such circumstances, simply stopping legally-authorized foreign worker recruitment did not stop migration.
2. Both the U.S. and Mexico took steps over the past decade that reinforced the network and supply-push factors that encourage Mexicans to go north for opportunity:
 - The U.S. legalized the presence of over 2 million Mexicans in 1987-88, including 1 million farm workers. The 1 million legalized Special Agricultural Workers who were Mexican meant that the equivalent of one-sixth of the adult men in rural Mexico gained the right to settle in the U.S. and petition to have their families join them. One U.S. government commission concluded that the SAW farm worker legalization program promoted unauthorized Mexico-U.S. migration by giving the impression that doing unauthorized farm work in the U.S. was a way to become a legal immigrant (Commission on Agricultural Workers, 1992).
 - Mexico in the early 1990s changed its economic policies in a manner that may compress into a decade or less what would otherwise have been a slower shrinking of employment in agriculture. Mexico eliminated most input subsidies and price guarantees in agriculture,

switched to direct payments to farmers, and eased trade restrictions, signaling the eventual shrinking of the production of many commodities, notably corn, that today absorb a great deal of labor, but in which Mexico does not have a comparative advantage.

- Extensive networks of family, community, and private agents have developed to assist Mexicans wishing to migrate legally and illegally to the U.S., including a variety of advisors, smugglers, and transportation agents. The migration infrastructure has become very sophisticated, so that migrants have choices in deciding who will help them to cross the border, how to finance the trip, and in finding U.S. employment.
3. It should be kept in mind that some of the factors that today are producing high levels of Mexico-U.S. migration should abate over the next 5 to 15 years.
- First, Mexico's population growth has slowed, which promises fewer new labor force entrants in the years ahead.
 - Second, workers can be displaced from agriculture only once. Thus, after the Mexican farm labor force has been reduced from 25 percent of all workers in the mid-1990s to 12 to 15 percent by 2015, supply-push emigration pressures from the areas that have some of the best network connections to the U.S. should diminish.
 - Third, the destabilizing impacts of Mexican institutional and market reforms should run their course. If economic growth is sustained at current and projected levels, jobs and upward pressure on wages should encourage many potential migrants to remain in Mexico.
 - Fourth, the U.S. labor market is expected to absorb a large number of unskilled workers over the next few years, as the normal complement of new job seekers are joined by persons removed from welfare rolls. This increased supply of U.S. workers, as well as more border and interior enforcement, may reduce the availability of jobs for newly-arrived Mexican workers.

Policy Recommendations

Bearing in mind our key findings:

- The catalyst for much of today's unauthorized Mexican migration for U.S. employment lies in the U.S., but solutions are to be found in both countries.

- The same tendencies that currently seem to be increasing and diversifying Mexico-U.S. migration flows may be dampened starting in the next 5 to 15 years, thus reducing Mexico-U.S. migration.
- There is no magic bullet solution such as a guest worker program to deal with unwanted Mexico-U.S. migration, we make three policy recommendations:
 1. The social and economic policies of the U.S. affect Mexico-U.S. migration patterns, just as Mexican policies affect emigration. Repeatedly, the U.S. or Mexico have been surprised by the other's changes in policies that affect migration patterns. To prevent unanticipated migration flows, a consultative mechanism should be established so that the U.S. and Mexico make each other aware of policy decisions that are likely to affect migration patterns.

This recommendation echoes that of the U.S. Commission for the Study of International Migration and Cooperative Economic Development in 1990, which called for migration impact statements within the U.S. government to prevent the shock of unanticipated migration like that, for example, that arose in the Caribbean after the U.S. government increased its support of U.S. sugar producers by reducing sugar imports.

We recommend that a U.S.-Mexico group be established to develop migration impact statements in both countries, and that these statements be discussed during annual U.S.-Mexican presidential meetings so that the migration issues discussed at these meetings include some mid-to-long-range perspectives. This approach may help to reduce bilateral tensions over migration issues, and may lead to a framework for bilateral migration management.

2. We recommend that both the U.S. and Mexico focus on the major U.S. attraction for migrants, jobs and higher earnings, that more be done inside the U.S. to prevent the employment of unauthorized workers, and that Mexico seek to avoid the creation of new migration networks from areas of Mexico that have traditionally not sent migrants to the U.S. Recognition of the different degrees of dependence on immigration and emigration inside each country could lead to migration management policies tailored to each major immigration/emigration area. For example, the U.S. may want to rethink its policy of requiring the INS to search open fields for unauthorized workers, since surveys suggest that the percentage of unauthorized workers has climbed steadily in the 1990s. Mexico may want to

prevent a culture of migration from developing in areas that are just beginning to see an outflow to the U.S.

3. At this time, we are not prepared to recommend a bilateral U.S.-Mexico foreign worker program, although we are mindful of the recommendations of many in both the U.S. and Mexico that a new program with Mexico be started.¹¹

There are three major reasons why we are not recommending a program at this time. First, there are few “certifiable” labor shortages in the U.S. industries, occupations, and areas in which Mexican and other non-immigrant workers are employed. In some of these immigrant labor markets, real wages have declined, and work-related benefits have disappeared. Certification of employer need for the foreign workers currently employed is often the subject of litigation, and the use of legal non-immigrant workers in these jobs may become more contentious as welfare reform augments the supply of unskilled U.S. workers. There may also be less seasonality in many of the labor markets in which Mexican-born workers are employed than is assumed, making it difficult to expect or enforce the worker rotation implicit in non-immigrant guest worker programs.

Second, U.S.-sanctioned *bracero* recruitment in the 1950s is widely considered to have oriented many Mexican workers toward the U.S. labor market instead of toward local jobs and development. Today, when Mexico is modernizing its economy and promoting export-oriented economic development, a Bracero Program may make investors reluctant to invest in areas from which migrants leave for the U.S., thus reinforcing their dependence on emigration. If guest workers were to come from nontraditional migration areas, new migration streams may be set in motion.

Third, there is as yet no convincing evidence that U.S. border and interior control efforts have reduced unauthorized Mexico-U.S. migration, so that opening a legal channel for Mexican temporary workers would probably add to rather than substitute for unauthorized workers, depressing conditions for legal Mexican-born workers in the U.S. labor market.

Perceptions in the U.S. and Mexico are often very different about the ability of a temporary worker program to serve as a remedy for unauthorized Mexico-U.S. migration, so we recommend that the U.S. and Mexico study the guest worker idea very carefully to dispel myths

about what might be involved. We think that such a study would puncture the notion that U.S. employers, worker advocates and the U.S. government could easily reach agreement on the details of a program with the Mexican government and Mexican workers.

The demands from each side make the gaps clear. Mexico would like any bilateral guestworker to be large enough to substitute legal for unauthorized labor migration, to ensure that both Mexican workers and U.S. employers participate in the program, and to protect the legal and work place rights of legal migrant workers. A program agreed to by the U.S. would aim to admit only workers needed to fill legitimate labor shortages, and to ensure that foreign workers do not adversely affect similar U.S. workers. In addition, the U.S. would require that migrant workers remain legal non-immigrant workers, and leave when their terms of employment end.¹²

Report Outline

The findings and policy implications summarized above are based on our review of the research that has accumulated on Mexico-U.S. migration as well as empirical work commissioned for the binational study. Some of our findings are based on the community studies that have been done in Mexico, and some on the U.S. communities where the Mexican migrants settle. Many of the community studies, including those based on the Mexican Migration Project (MMP) data, concluded that non-economic factors have become as important as economic factors in motivating and sustaining Mexico-U.S. migration.

Our report has five sections. The following section lays out our demand-pull, supply-push, and network framework for examining the evolution of Mexico-U.S. migration. We then turn to a review of case and community studies of Mexico-U.S. migration, demonstrating that the major motivators of Mexico-U.S. migration have shifted from demand-pull recruitment to a more complex situation in which supply-push factors increase the number of migrants, in part because of mature and evolving networks. We also present our re-analysis of Mexican Migration Project data on 30 Mexican communities that send migrants to the U.S.

The third section introduces the results of recent case studies conducted for the Binational Study. We then turn to key informant and poll data on the current migration peak or hump, explaining why Mexico-U.S. migration seems to be higher in the mid-1990s than in the immediate past. We discuss the factors that might reduce migration pressures.

The final section restates our conclusions, and Volume 3, pages 869 to 1000, includes detailed analyses of several issues mentioned in the report.

Demand-Pull, Supply-Push and Networks

There are as many reasons for migration as there are migrants. However, most individuals who cross national borders for employment and/or settlement do so for one of two major reasons—economic or non-economic. The factors that lead individuals to migrate, in turn, are motivated and sustained by three major types of influences—demand-pull, supply-push, and network and other factors.

The result is a 2x3 matrix summarizing why people migrate, and the factors that sustain migration flows. Specific kinds of migrants are found in each cell, and individual migrants may fit into more than one cell. For example, economic migrants may require all three influences to decide to move across borders for employment—a supply-push reason for seeking employment elsewhere, a network that provides information about job availability and perhaps the means to finance migration to a foreign job, and demand-pull confidence that, once abroad, a job will be waiting.

The demand-pull, supply-push, and network framework permits us to make two important points about economically-motivated migration:

Table 1
Determinants of Migration
Factors Influencing the Decision to Migrate

Type of Migrant	Demand-Pull	Supply-Push	Network/Other
Economic Migrants	Labor recruitment, e.g., guest workers	Un- or under-employment; low wages; e.g., farmers whose crops fail	Job and wage information; sons following fathers; family unification
Non-Economic Migrants	Family unification; e.g., family members join established spouse in destination country	Flee war and persecution; e.g., displaced persons and refugees/asylum seekers	Communication; transportation; Assistance organizations; Desire for new experience/adventure

Notes:

1. Individual migrants may shift from category to category.
2. Pull, push, and network factors rarely have equal weights in any particular migration.
3. The weight of each factor in a particular migration stream tends to change over time.

- First, the three factors that influence an individual’s decision to migrate rarely have equal one-third weights in any particular migration flow.
- Second, the weight of each factor often changes over time.

A common pattern is for demand-pull foreign worker recruitment to set international migration for employment in motion. Migrants are willing to be recruited because of the expected earnings gap at home and abroad, which reflects both demand-pull and supply push factors; wages times the probability of being employed induce migration.¹³ However, network factors to become more important as the migration stream matures: “each act of migration alters the social context within which subsequent migration decisions are made, typically in ways that make additional movement more likely”¹⁴ (Massey et al. 1993, 451). This means that, when recruitment is stopped, migration may continue, as supply-push and network factors sustain migration.¹⁵

Virtually all research on Mexico-U.S. migration begins with the premise that most Mexico-U.S. migration is driven by economic factors, broadly construed (Massey et al., 1994). There is also some non-economic migration across the Mexico-U.S. border, motivated by the desire to unify families in the U.S., and U.S. policies that encourage family unification. In addition, factors such as political persecution may push some residents to seek safety abroad, and other factors, such as the desire of teenagers and students for a new experience abroad, may encourage emigration.

Demand Pull

Most labor migrations begin inside the destination country, the U.S. in this case, as employers there, with or without explicit government approval, recruit and employ migrant workers from the sending country. During the early years of such labor recruitment, demand-pull factors tend to dominate reasons for migration, so that it appears that governments can open and close the foreign worker tap at will. In other words, indicators such as the number of vacant jobs or the unemployment rate can explain virtually all of the year-to-year fluctuation in the number of legally-recruited foreign workers arriving in an area.¹⁶

However, demand-pull, supply-push, and network factors usually evolve in a manner that yields one of the “principles” of international migration for employment; there is nothing more permanent than temporary workers (Miller and Martin, 1982). There are many reasons why temporary migrants can become permanent residents, or unauthorized workers can begin to accompany legal workers, including:

- migrants may gain legal rights to stay, as when they have their legal status renewed often enough to “earn” legal immigrant status,

- migrants may obtain the information or contacts needed to enter and stay unlawfully,
- employers may come to depend on migrants, and offer them jobs regardless of the government's recruitment policies or the worker's legal status,
- problems with the official recruitment system may encourage some employers and workers to avoid using it, promoting a parallel illegal migration system.

Why Demand-Pull?

There are several types of theories that seek to explain why immigration countries permit or tolerate the entry of foreign workers, and how the presence of foreign workers sets in motion factors that tend to make migration for employment a more or less permanent feature of a recipient country labor markets.

Structural dependence theories use as explanatory variables the evolution of attitudes of workers toward jobs, and adaptations of employers to immigrant workers, to explain how particular industries or entire economies come to rely on immigrant workers. Piore, for example, developed a worker attitude theory to explain structural dependence, arguing that only first-generation newcomers would fill certain jobs at the bottom of the labor market, so that the continued existence of these jobs sets in motion a migration for employment dynamic.

Piore's theory is based on the notion that there is a hierarchy of jobs that changes slower than do worker aspirations, creating a vacuum at the bottom of the labor market that attracts immigrants. Piore defined "bad jobs" in terms of wages, benefits, and promotion opportunities. Wayne Cornelius, among others, has a complementary theory that stresses that some jobs experience cyclical or seasonal layoffs, and that aging native-born workers want job security, so that native workers shun cyclical jobs, creating a demand-pull for immigrants to fill such jobs.

Cornelius considers industries to be structurally dependent on foreign workers if the employment of foreign workers does not change as unemployment changes over the business cycle—as when the demand for foreign workers persists despite rising unemployment (Cornelius, Martin, and Hollifield, 1994, 34). Some immigration researchers take this structural dependence idea one step further, arguing that employers prefer to hire foreigners, regardless of the unemployment rate, because the foreigners work harder and have better attitudes. In addition, the networks that bring foreigners into the work place often recruit and train new workers at no cost to the employer (Waldinger, 1996).

Rent-seeking theories of structural dependence begin from the notion that employers and other organized groups try to use government to obtain benefits for

themselves (Freeman, 1994). Groups that would benefit from an influx of foreign workers, such as farmers, seek government permission to employ them. Once enough employers believe that immigrant workers will continue to be available, underlying asset prices may change, giving asset owners an incentive to maintain the immigration status quo. For example, U.S. farm land prices have been estimated to be 10 to 20 percent higher because immigrant workers are readily available, so that farm wages lowered by immigration may account for up to \$20 billion of the \$100 billion value of U.S. fruit and vegetable land in the mid-1990s (Martin, et al. 1995).

Marxist and class theories assert that the world economy is organized in a manner that keeps emigration countries poor, and that distinct groups of workers in competition with each other are necessary to maintain work force discipline. For example, Marxist theories emphasize that development based on labor-saving technologies can never produce enough jobs, guaranteeing unemployment in emigration countries, and that the value-added in countries that export primary products is low, so that the wage gap between rich and poor countries will persist. The rural population remains poor and ready to emigrate because of slow growth in agricultural productivity, and because farm innovations that increase productivity displace rural labor.

In immigration countries, class theories argue that immigrant workers are needed to break strikes and otherwise play a buffer role in the labor market to make both native and immigrant workers docile. *Dependency theories* maintain that industrial nations permit immigration to keep emigration countries poor by taking from them their best and brightest (the so-called brain and brawn drains).

Some of these theories can be used to explain both why demand-pull factors initiate international migration for employment, and why such migration continues. However, most of these theories are too general to permit researchers to draw clear lines that demarcate initiating factors from sustaining factors. And, even if they can draw lines between initiating and sustaining factors at a point in time, few can explain why sustaining factors change.

For example, Mexican farm workers were first recruited legally by U.S. farmers during war periods, when farmers could argue that war unexpectedly reduced the supply of young men most available to be seasonal farm workers. Labor-intensive U.S. agriculture expanded during periods of legal Mexican labor recruitment, and in a manner that required a supply of workers willing to accommodate themselves to weather and other factors that determined exactly when the workers have employment. The U.S. need for flexible seasonal workers persisted after legal recruitment ended, and Mexican workers had become dependent on U.S. earnings, so the migration continued.

Another example illustrates how U.S. government policies can reinforce employer and U.S. worker perceptions about who does and should do certain types

of work. Seasonal farm work emerged as a last resort job because of the legacy of slavery and sharecropping, but also because farm work was the most common occupation assigned to prisoners and others under government internment. During World War II, when Mexican *braceros* (strong-armed ones) were recruited to work on U.S. farms, the U.S. government also offered the Japanese residents of western states who were interned in camps the chance to do farm work, and many did. In 1944 and 1945, Italian and German prisoners of war worked as farm workers. Finally, federal, state, and county prisoners were lent out to local farmers during harvest season to pay off their fines, a practice that continued until the late 1960s.

Once farmers make investments in orchards and vineyards that assume that a flexible supply of workers would continue to be available, they rationally fight for continued access to such workers to protect the value of their assets, as Freeman points out. However, as Piore notes, it is very hard for an industry that has become dependent on flexible immigrant workers to revert to native workers—unless there is a massive change in technology, wages, or job structure.

Bracero Recruitment

There was some Mexico-U.S. migration during most of the 20th century, but most Mexican-born persons in the U.S. today arrived after 1980. Recruitment was considered necessary in the 1940s and 1950s to set Mexico-U.S. migration flows in motion. There has always been considerable U.S. opposition to permitting farm employers to recruit Mexican workers—in the three most significant cases, in 1917, 1942, and 1951, “wartime emergencies” were the justification for permitting U.S. employers to recruit Mexican farm workers.

Seasonal U.S. employment seemed to be a perfect match for many farmers in West Central Mexico, who plant crops in June, after the summer rains begin, work in the U.S. during the summer months, and return to harvest their crops in October, after the U.S. harvest season is over. Between 1848 and 1907, there were no U.S. inspection stations on the Canadian and Mexican borders, and data on the number of Mexican immigrants arriving before 1907 refer only to Mexicans who arrived by sea, which was never more than 700 in any year before 1900 (Elac, 1961, 4, 33). Between 1900 and 1914, the peak number of Mexican immigrants admitted was 23,238 in 1912, but immigration fell to about 12,000 in 1913.

The first U.S. government-approved recruitment of Mexican workers occurred in 1917, when the U.S. Department of Labor suspended the head tax and the literacy test on Mexican workers coming to the U.S. “for the purpose of accepting employment in agricultural pursuits.” The 81,000 Mexican workers admitted legally between 1917 and 1921 were required to work for the employer with whom they had up to a one-year contract or face deportation. Mexican immigration rose sharply,

from 17,900 in 1917 to over 52,000 in 1920, although the U.S. recession of 1921 led to the repatriation of an estimated 150,000 Mexicans.

Legal Mexican immigration increased in the 1920s, peaking at 89,300 in 1924—Mexican immigration averaged over 50,000 per year between 1924-1929. During the 1920s, the Mexican-born population in California tripled to 368,000. Mexican-born workers soon dominated the seasonal work force: a 1928 estimate was that Mexicans were 70 to 80 percent of the 72,000 casual and seasonal workers in California (Fuller, 1940, 19871). Repatriations and depression practically stopped Mexico-U.S. migration in the 1930s. Taylor (1937, 9) reported that there were about 150,000 migrant farm workers in California in 1935, and 200,000 to 350,000 nationwide, but did not mention Mexican-born migrants as an important group.

In 1942, U.S. farmers once again appealed for Mexican workers to produce “food to win the war.” During World War II, admissions peaked at 62,000 in 1944, less than 2 percent of nation’s 4 million hired workers. Between 1942 and 1947, some 220,000 Mexican *braceros* were admitted with government approval.

The Bracero Program that was created to deal with wartime labor shortages expired in 1947. There followed several years of informal and illegal movement. U.S. farmers were permitted to import Mexican workers, or employ illegal workers already in the U.S., after the U.S. Department of Labor certified labor shortages, and if the U.S. farmers offered the Mexican workers the same contracts guarantees that were required under the government-to-government program. However, neither the U.S. nor Mexican governments played a role in recruitment or contract enforcement.

There were tensions between the U.S. and Mexican governments. In the 1948 “El Paso incident,” the U.S. government permitted several thousand “illegal Mexicans” to enter the U.S. over Mexican government objections, and then “paroled” or legalized them so that they could go to work for U.S. farmers (Hawley, 1966, 158-9).

The presence of Mexican workers diminished somewhat in the late 1940s. For example, a careful survey of some of the 100,000 farm workers in California’s San Joaquin Valley in 1948 found only 15 percent Mexican-origin workers, and only one-third of them—about 5 percent of the valley’s farm workers—were born in Mexico (Metzler and Sayin, 1950, 17).¹⁷

On July 12, 1951, over the objections of a President’s Commission on Migratory Labor, PL-78, the Mexican Farm Labor Program, became law. President Truman, in reluctantly signing PL-78 into law, sent a note to Mexican President Alemán suggesting that the Bracero Program be only six months long to keep up the pressure on Congress to approve an employer sanctions bill.

President Alemán agreed that the U.S. and Mexico should combine “our efforts, in putting a definite stop to the illegal movement of agricultural workers” (quoted in Kiser and Kiser, 1979, 157). In 1951, Mexico’s interior ministry announced that

it was “adopting new measures to have our border authorities keep a strict vigilance over the departure of our compatriots and prevent the departure of those who are not properly documented,” and cooperating with defense and other ministries to “prevent the illegal departure of our compatriots from Mexican Territory” (Kiser and Kiser, 1979, 159-160).

These control measures were not effective. Instead of a government-regulated seasonal farm worker program, Mexican workers continued to arrive outside official channels and find U.S. jobs. According to Scruggs, “in Mexico there was no shortage of laborers eager to leave for the United States... many simply headed for the border without contacts of any kind in the U.S.” (1960, 324). In the spring of 1954, the U.S. launched “Operation Wetback” to reduce illegal entries, and simultaneously made it easier for Mexican workers and U.S. farmers to employ legal *braceros*. As a result, the ratio of apprehensions to *braceros* was reversed between the early 1950s and the mid-1950s. In 1951-52, there were 5 apprehensions per *bracero* admission; by 1956-57, there were 5 *bracero* admissions per apprehension.

A summary of how the Bracero Program was administered is in Volume 3. See pages 869 to 974.

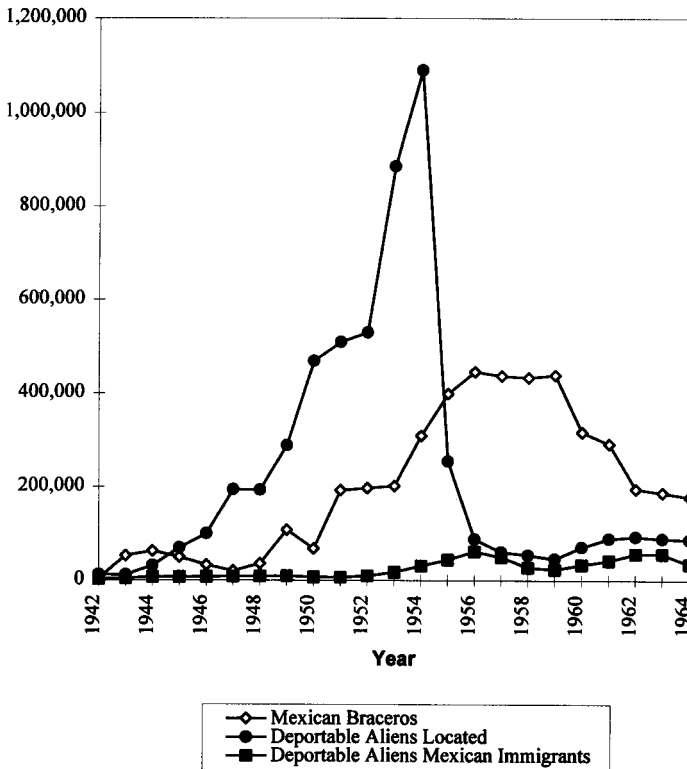
Together, the various “Bracero Programs” admitted about 4.6 million Mexican farm workers—perhaps one to two million individuals—between 1942 and 1964, and institutionalized a way-of-life that combined farming in Mexico and working for wages in the U.S. However, increased competition for the limited number of *bracero* slots in Mexico—the number of admissions peaked at about 445,000 in 1955—and the fact that U.S. farmers preferred to pay transportation to their farms only from the border, encouraged some Mexicans to move their families to the border area to improve their chances of being selected for admission as *braceros*.

It is perhaps worth noting that apprehensions—5.3 million—exceeded *bracero* admissions—4.6 million—between 1942 and 1964. The Mexican percentage of those apprehended fell from 99 percent in the early 1950s to 33 percent in the early 1960s, and the percentage of illegal Mexicans located in U.S. agriculture fell from 35 to 40 percent in the mid-1950s to 15 to 20 percent in the early 1960s (U.S. House of Representatives, Committee on Agriculture. 1963. 47). Both apprehensions and admissions measure events and not unique individuals—the same person could be apprehended several times, and the same person could be legally admitted as a *bracero* several times.

Most U.S. farmers did not employ *braceros*. In the late 1950s, almost 95 percent of all *braceros* worked on 50,000 farms in 5 states, meaning that 98 percent of the farms in the U.S. did not employ *bracero* workers (Hawley, 1966, 157).

The Kennedy Administration, which took office in January 1961, was determined to revise the Bracero Program to better protect U.S. workers by

Mexican Braceros, Apprehensions, and Immigrants: 1942-64



Source: Congressional Research Service. 1980. 36-37.

Figure 1. Mexican *Braceros*, Apprehensions, and Immigrants: 1942--64

preventing Mexican workers from depressing U.S. farm wages. In October 1961, when President Kennedy “reluctantly” signed a bill to extend the Bracero Program through December 31, 1963, he asserted that “the adverse effect of the Mexican farm labor program as it has operated in recent years on the wage and employment conditions of domestic workers is clear and cumulative in its impact” (Congressional Research Service, 1980, 52). Kennedy ordered the U.S. Department of Labor to “prescribe standards and to make the determinations essential for the protection of the wages and working conditions” of U.S. workers (quoted in Congressional Record, August 15, 1963, 15215).

Table 2
Mexican *Braceros*, Apprehensions, and Immigrants; 1942-64

Year	Mexican <i>Braceros</i>	Deportable Aliens Located	Mexican Immigrants
1942	4,203	11784	2,378
1943	52,098	11,175	4,172
1944	62,170	31,174	6,598
1945	49,454	69,164	6,702
1946	32,043	99,591	7,146
1947	19,632	193,657	7,558
1948	35,345	192,779	8,384
1949	107,000	288,253	8,803
1950	67,500	468,339	6,744
1951	192,000	509,040	6,153
1952	197,100	528,815	9,079
1953	201,380	885,587	17,183
1954	309,033	1,089,583	30,645
1955	398,650	254,096	43,702
1956	445,197	87,696	61,320
1957	436,049	59,918	49,321
1958	432,857	53,474	26,721
1959	437,643	45,336	22,909
1960	315,846	70,684	32,708
1961	291,420	88,823	41,476
1962	194,978	92,758	55,805
1963	186,865	88,712	55,986
1964	177,736	86,597	34,448
	4,646,199	5,307,035	545,941

Source; Congressional Research Service. 1980.

Temporary Worker Programs; Background and Issues. 36-37

In March 1963, the House Committee on Agriculture held hearings on whether the Bracero Program should be extended beyond December 31, 1963. Unions, churches, and the American GI Forum, an Hispanic veterans group, testified against extending the program. Farmers testified in favor of a two year extension, i.e., until December 31, 1965. On May 29, 1963, the House voted 174-158 not to extend the Bracero Program for two more years.

Mexico favored a two-year extension of the Bracero Program, pointing out that *braceros* sent about \$35 million annually in money orders through the Bank of

Mexico to their families in Mexico, and that total remittances topped \$100 million per year (Taylor, 1963, 42). In a June 21, 1963 note, the Mexican government asserted that the Bracero Program was “a result of the migration phenomenon... the absence of an agreement... would give rise to... the illegal introduction of Mexican workers into the United States.”

Craig credits this Mexican note with tipping the balance in Congress in favor of extending the Bracero Program one more year, until the end of 1964 (1971, 195-6). The Senate voted 62-25 to extend the Bracero Program for one more year on August 15, 1963, and the House concurred in October, 1963.

As the Bracero Program wound down, did illegal Mexico-U.S. migration increase? The Mexican ambassador in 1963 noted that, as the number of *braceros* went down in the early 1960s, the number of apprehensions was stable, leading him to conclude that “Mexican workers have understood and accepted the fact that if they cannot obtain work by contract, it is because they would not obtain it either by entering the U.S. illegally” (quoted in Congressional Record, August 15, 1963, 15203).

Network Recruitment in 1996

Most of the community studies summarized below note that *bracero*-era recruitment set in motion migration flows that took on a life of their own. By the mid-1990s, these migration flows had evolved to move Mexican migrants across the Mexican-U.S. border without the active recruitment of workers in Mexico by U.S. employers.

Many U.S. employers today attract recently-arrived Mexican workers without sending agents into Mexico to recruit workers, or asking the Mexican government to recruit workers for them. For example, most rural areas in the midwest have unemployment rates under four percent, so meatpacking plants advertise in local media, but most rely on supervisors or current workers to recruit additional workers for them.¹⁸ The worker recruitment network, in turn, handles entry across the border, transportation to the work place, and informal help learning the job.

The Chicken Trail

The Los Angeles Times on November 10-12, 1996 profiled one Mexican worker network in a three-part report on Mexicans and Mexican-Americans who followed the “chicken trail” from southern Texas to Missouri. Hudson Foods, based in Noel, Missouri, (population 1,169), paid a south Texas recruiter, B. Chapman & Co., \$175 for each worker who showed up in Missouri for the \$6.70 per hour jobs in its chicken processing plant. The reporter told how workers made their way north on

the “chicken trail” to work for Hudson and live in a converted motel, along with 135 other migrant poultry workers, for \$45 per week per person (Rural Migration News, January and July 1997).

In 1994, Hudson employed about 1,200 workers to process 1.3 million chickens each week in Noel. Annual turnover exceeds 100 percent, so that Hudson hires about 50 new workers each month. Hudson employees are represented by a union. About 45 percent of the labor force are Latinos. Hudson paid a \$20,625 INS fine in 1992 because many of them were not authorized to work. Hudson offers current employees who bring new workers to the plant a \$300 bonus.

Hudson, the country’s seventh largest-poultry producer, with headquarters in Rogers, Arkansas, has 14 facilities in 11 states, more than 10,000 employees and expects \$1.4 billion in sales for 1996.

The reporter-worker described the wet, the 47-degree temperature inside the plant, the semi-automated “disassembly” line and the lack of training for newly hired workers. The number of broiler chickens processed in the U.S. each year has more than doubled, from 3 billion per year in the early 1970s to 7 billion per year in the mid-1990s.

Hudson’s human resources director was quoted as saying: “there’s a large number of jobs that very few citizens in the U.S. want to do, but they’re there and they need to be done.... One of the social goods the poultry industry provides is employing people who would otherwise have a great deal of trouble getting employed.”

The labor recruiting company travels to industry shows in search of employers seeking unskilled labor and then offers to recruit workers for these companies. According to the reporter, the recruiting company checked workers’ identification cards and took urine samples to test for drugs on the particular trip reported. The Border Patrol checked the Greyhound passengers identification cards in Falfurrias, about 75 miles north of the Mexican border.

In 1994, the owner of the motel where newly-arrived poultry processing workers were housed bought what was then a run-down hunting lodge motel for \$220,000 and reopened it to house migrant chicken workers. Because poultry work is considered nonfarm work, it is not subject to special farm worker housing inspection, only normal local health and safety screening. The motel management takes every new Hudson worker to apply for food stamps at the Division of Family Services and the number of Latinos receiving food stamps in Noel increased from 35 per month in 1993 to 375 per month in 1996. In 1997, Hudson invested \$3 million to build 60, 920-square foot duplex units that it rents to newly arrived workers.

Hudson is the economic linchpin of Noel, Missouri, but Hudson pays no property taxes to the city. The number of Latino students in Noel’s elementary school rose from 25 to more than 100. Hudson and nearby Simmons Foods contributed \$12,000 to Noel schools in 1996.

The Beef and Pork Trail

The U.S. meatpacking industry has experienced four major changes since World War II. First, there has been a change in dietary habits—the average per capita consumption of chicken increased to 70 pounds per person per year in 1995, while that of beef and pork fell to 67 and 52 pounds per person. Second, there have been technological changes that moved meat packing away from urban consumers of meat and into rural areas closer to farmer-producers of cattle and hogs. Boxed beef, vacuum packing, and lower wages in rural areas were among the reasons why it became preferable to prepare retail packages of meat close to where animals are slaughtered.

Third, changes in the labor force, especially after 1980, have led to more unskilled workers, women, and immigrants in the plants—women traditionally have played a more important role in poultry processing than meatpacking. The union master agreement disappeared as three new meat packers replaced a number of century old businesses, and real wages fell. The real hourly earnings of meatpacking workers peaked in 1979, when meatpacking workers earned almost \$15 per hour in 1992 dollars, and almost 20 percent more than the average manufacturing worker; in 1994, by contrast, real earnings were less than \$10 per hour.

Fourth, both the raising and slaughter of animals became concentrated in fewer and larger operations. In some cases, meatpacking plants were located next to huge feedlots that were owned by the major packers. The cost of the animal remains the largest single cost of meat packing—cows costs slaughterhouses \$0.60 to \$0.70 per pound, and hogs \$0.40 to \$0.50 per pound, and “disassembling” these animals into meat products costs \$0.05 to \$0.10 per pound for beef, and \$0.20 to \$0.25 per pound for pork.

In a modern plant, 1200 250-pound hogs can be processed per hour, or 16,000 to 18,000 per day on two eight-hour shifts. The hogs are stunned, hung by one leg, stuck with a knife, and then carried through washing and singeing machines to remove hair. Carcasses are then split, internal organs removed, and various cuts of meat removed as the carcass travels past workers armed with knives. About one production worker is required for each 10 hogs slaughtered on a daily basis. The job hierarchy in most plants is relatively flat, meaning that there are relatively few production jobs that pay twice the entry-level wage.

Turnover is very high, so meat packers are constantly recruiting workers. Meatpacking plants advertise for workers in local media, and some offer bounties of e.g., \$200 for each new worker referred. Some have both local recruiters, and recruiters who travel to e.g., Texas or California, to seek workers. The striking difference between meatpacking and seasonal agriculture is that meatpacking offers year-round jobs and annual earnings that are high enough to support a family,

so that the issues associated with the arrival of families—housing, schooling, health care—become important community issues early in the migration process.

Adjusting to Fewer Mexican-born Workers

There is one example of a U.S. industry adjusting to the removal of Mexican-born workers—the U.S. processing tomato industry—that shows how the supply of immigrant labor can create and sustain a demand for such labor.¹⁹ In 1960, a peak 45,000 workers (80 percent *braceros*) were employed to hand-pick 2.2 million tons from 130,000 acres of the processing tomatoes used to make ketchup. In 1996, about 5,500 will be employed to ride on machines and sort almost 12 million tons of tomatoes harvested from 360,000 acres, a record crop.

In 1960, the average American consumed 44 pounds of processed tomato products. In 1994, per capita consumption of processed tomato products was about 75 pounds, versus 13 pounds per capita of fresh tomatoes. The real price of processed tomatoes in California fell from \$30 per ton in 1960-61 to \$22 per ton in 1970-71 (Brandt and French, 1981, 92). Processed tomatoes account for three-fourths of the 105 pounds of processed vegetables that the average American consumes. The U.S. exports about 5 percent of its processing tomato products.

In the early 1960s, when there was discussion of ending the Bracero Program, California growers argued that “the use of *braceros* is absolutely essential to the survival of the tomato industry.” Headlines in farm magazines read; “Without *braceros*, tomato growers will slash acreage” (California Farmer, July 6, 1963, 5), from 177,000 acres in 1962. Tomato industry leaders were unanimous that California would “never again reach the 100,000 to 175,000 acres planted when there was a guaranteed supplemental labor force in the form of the *bracero*” (California Farmer, July 6, 1963, 5), and the director of the California Department of Agriculture testified that, without *braceros*, “we could expect a 50 percent decrease in the production of tomatoes” (U.S. House of Representatives, 1963, 61).

In fact, the termination of the Bracero Program in 1964 accelerated the mechanization of the harvest in a manner that quadrupled annual production in California from 3 million tons in 1960 to 12 million tons in 1996. The mechanical harvesting system spread quickly—in 1962, only 1 percent of California processing tomatoes were harvested mechanically. By 1969, 100 percent of the tomatoes were harvested by machine—the pace at which the machine was adopted traces out an S-shape. Cheaper tomatoes permitted the price of ketchup and similar products to drop, helping to fuel the expansion of the fast food industry.

The development of the tomato harvester was unusual. Unlike the usual approach to mechanization, in which engineers try to adapt the machine to the plant, so that e.g., a tobacco harvester can repick a field several times, tomato

mechanization utilized a systems approach in which scientists redesigned the plant so that most of the tomatoes would be of the same size, and most would ripen at the same time, and engineers developed a mechanical harvester that cut the plant, shook off the tomatoes, and then relied on electronic eyes to quickly pick up and sort red and green tomatoes (Rasmussen, 1968). Most of the research was done at the University of California-Davis, at a cost of about \$700,000; the major private manufacturer spent an additional \$500,000 to produce machines (Seckler and Schmitz, 1969, 14).

As one result, the work force and the wage system changed. In this case, local women paid hourly wages to sort machine-picked tomatoes replaced *bracero* men who earned piece rate wages to hand-pick tomatoes. According to one account, “Before the tomato harvester, tomatoes were harvested largely by *braceros*... recruited from rural villages in Mexico... [attracted by] unusually good wages.” Employers asked their year-round tractor drivers and irrigators to bring their wives to ride on the tomato harvesting machines, and many did—the tomato harvest labor force changed from over 95 percent male in the early 1960s, to over 80 percent female by the late 1960s (Friedland and Barton, 1975, 59-61).

The tomato case illustrates what happens when wages rise, and there is labor supply shock. Farm wages in relation to farm machinery prices reached their low points in 1949-51, and again in the late 1950s. Beginning in the late 1950s, when the U.S. Department of Labor stepped up its enforcement of Bracero Program wage regulations, the wages of farm workers rose in relation to machinery prices, peaking in the early 1970s.

This illustrates a general point about the continuing demand-pull “need” for immigrant workers; if they are not available, and wages rise, there is a strong incentive to find labor-saving substitutes. However, if workers are readily available at low wages, the supply of labor can create its own demand—if immigrant workers are available, some factories or industries will adjust to employ them.

After a decade or more of dependence on immigrant workers, these firms and industries will argue that it is impossible to operate without immigrants. And they are correct; after the tomato harvest was mechanized, tomato growers had to get big enough to justify buying a harvesting machine, or they switched to other crops—over half of the farms growing tomatoes in 1960 were not growing them in 1970.

The tomato experience suggests that dependence on immigrant workers is often a one-way street, in the sense that market forces alone will increase rather than decrease the employment of immigrants over time. However, government policy can affect labor supply and technological choices, as the tomato case demonstrates, meaning that the extent of U.S. demand-pull for Mexican immigrant workers can be changed by U.S. immigration, trade, and technology policies.

California Processing Tomatoes: 1962-1970

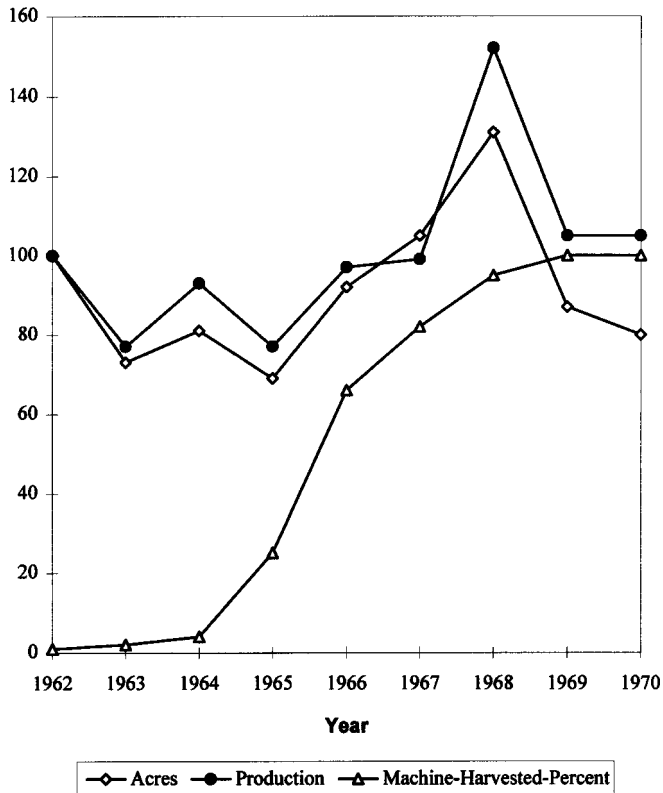


Figure 2. California Processing Tomatoes: 1962-1970

Changing government policies to reduce employer reliance on immigrant workers is not easy. In the U.S. in the 1960s, the U.S. Secretary of Labor devoted an enormous amount of time to a program that admitted fewer than 200,000 Mexican workers for less than 1,000 farmers, in a time when the U.S. labor force included 75 million workers. As long as there are U.S. occupations and industries that are dominated by immigrants, there will be ports of entry for immigrant workers. Government policies that change the supply of labor can lead at least some producers to adapt with labor-saving technologies, investment abroad, or re-organizing work.

In some cases, technological and market changes can expand the demand for immigrant workers if they are available. The U.S. meat-packing industry, for

Table 3
California Processing Tomatoes; 1962-1996

Year	Acres	Production	Machine-Harvested (%)
1962	100	100	1
1963	73	77	2
1964	81	93	4
1965	69	77	25
1966	92	97	66
1967	105	99	82
1968	131	152	95
1969	87	105	100
1970	80	105	100
1996	203	373	100

In 1962, there were 177,200 acres and 3.2 million tons.
Source: Friedland and Barton, 1975. Rural Migration News.

example, was able to reduce wages and hire an immigrant work force during a technological shift that moved many jobs from retail stores to the packinghouses, and shifted the location of many plants. The electronics industry in California expanded during the 1970s and 1980s and hired immigrant workers to fill many of the new jobs created.

Mexicans in the U.S. Labor Market

In July 1996, there were 134 million U.S. residents employed (127 million) or actively looking for jobs (7.3 million), for an unemployment rate of 5.4 percent. Most workers in the United States are native-born U.S. citizens. In no U.S. state or city, and in none of the six major occupational or nine industrial sectors broken out in published labor force data, are immigrants a majority of the labor force.

Most U.S. economic data array individuals by race/ethnicity or U.S. versus foreign born rather than citizen–non-citizen categories. Thus, monthly labor market data collected from 60,000 households (the Current Population Survey) reports employment and unemployment data by sex, age (16 to 19 and 20 and older), and race (Black) as well as ethnicity (Hispanic), but not by citizenship and country of birth.

In October 1994, according to the Current Population Survey, there were 14 million foreign-born persons, and 118 million U.S.-born workers, in the U.S. labor

force, making foreign-born workers about 11 percent of the 132 million labor force.²⁰ Half of the foreign-born workers—6.4 million—were Hispanic, and two-thirds of these immigrant Hispanics—about 4.1 million—were born in Mexico. This means that Mexican-born workers are about 3 percent of the U.S. labor force.

Of the 4.1 million Mexican-born workers in the U.S. labor force in October 1994, 3.7 million were employed, and 380,000 were unemployed, for an unemployment rate of 9.3 percent at a time when the overall U.S. unemployment rate was 5.5 percent.

Mexican-born workers are a larger share of employment in some industries and occupations than others. For example, about 12 percent of those employed in agriculture and forestry in October 1994 were born in Mexico, as were 5 percent of those employed in construction and manufacturing. By occupation, about 7 percent of those with farming occupations were born in Mexico, and 5 percent of the operators and craft workers in the U.S. were Mexican born.

It is easy to exaggerate the role of Mexican-born workers in the U.S. labor market. Of the 400+ detailed occupations in U.S. labor statistics, there are only a handful of major occupations in which Mexican-born workers are perhaps a majority of all workers, including janitors and cleaners, household workers, and farm

Table 4
Employment by Selected Occupation: 1994–2005 (000)

	1994	If 50% Mex- born	2005	Total New Jobs	Growth	Replace- ment
Janitors and cleaners, including maids	3,043	1,522	3,602	1,140	559	581
Food preparation workers	1,190	595	1,378	282	188	94
Private household workers	808	404	682	245	-126	371
Farm workers	906	453	870	263	-36	299
Gardeners and nursery workers	569	285	623	128	54	74
Sewing machine operators, garment	531	266	391	106	-140	246
Helpers, construction trades	513	257	581	429	68	361
Vehicle washers and cleaners	249	125	299	133	50	83
Total	7,809	3,905	8,426	2,726	617	2,109

New jobs include job growth and worker replacement.

Silvestri, George. 1995. Occupational Outlook to 2005. Monthly Labor Review, Vol 118, No 11, November. 64-78.

workers. Indeed, if half of the workers in the eight “immigrant” occupations below were Mexican born in 1994, then the following eight occupations would account for all Mexican-born workers employed in the U.S.

These occupations, which employed 7.8 million workers in 1994, are expected to employ 8.4 million in 2005, an increase of 600,000. But the number of new workers expected to be hired in these occupations is 2.1 million, or 3.5 times more, because these tend to be high turnover occupations that entry-level workers abandon as soon as they can find better jobs.

Replacement explains why the demand-pull of jobs may exist even in a declining occupation or industry. The highest worker replacement ratios are found in occupations such as food counter and related food service occupations, the typical case is a fast food restaurant with one manager over 25 and a crew of 10 to 20 workers under 25. Note that BLS projects that there will be about 37,000 vacancies per year for farm workers, or 25,000 per year for garment sewers, illustrating that, even in shrinking occupations, employers may be eager to employ recently arrived immigrants.

Labor Shortages and Welfare Reform

In 1997, the U.S. labor market is in a period of transition. First, unemployment is dropping even as the labor force is expanding. The U.S. labor force expanded by 1.3 million workers per year in the early 1990s, but expanded by 3.7 million in the 16 months of January 1996 through April 1997. Between January 1, 1994 and June 1, 1997, the U.S. economy has added about 8 million jobs.

The U.S. labor force of 140 million normally increases by about 1 percent or 1.4 million per year. The U.S. labor supply has been expanding about twice as fast, due to immigration, welfare recipients moving more quickly to work, more older men working, and an increase in the percentage of working-age women seeking jobs.

At the same time, the U.S. unemployment rate was 4.8 percent in May 1997, the lowest rate since November 1973. The result has been a flurry of reports of labor shortages, even for unskilled and entry level workers. In response, some of the largest U.S. employers of low wage workers—defined as hourly wages below \$8.50, roughly the wage used by the federal government to determine eligibility for federal housing, child care and food subsidies—have formed the 26-member Employer Group to better find and keep stable, low-wage workers. About 80 percent of the 600,000 U.S. workers at McDonald’s earn about \$6 an hour, 80 percent of Marriott International’s 185,000 workers earn \$8 per hour, half of Hyatt’s 40,000 employees earn less than \$8.50 an hour. About 90 percent of Levi Strauss’s 19,000 U.S. clothing production workers earn about \$8 an hour. Collectively, the Employer

Group employs about 2.5 million U.S. workers, and says that “market realities” make it impossible to raise wages significantly.

According to the employer group, worker productivity reaches maximum sustainable levels after three years on the job. To retain workers, these employers are exploring ways to help their employees to find adequate child care, reliable transportation, and affordable housing. ConAgra estimates that it costs the company \$2,000 to \$3,000 to train a worker to understand health and safety standards and to learn how to properly trim meat off an animal carcass.

While U.S. employers are worrying about how to find and keep workers in entry level jobs, welfare administrators are trying to find jobs for recipients. Under the welfare reform, an additional 140,000 current welfare recipients are expected to be pushed into the labor force each year over the next five years. Most specialists divide adult welfare recipients into three categories: a group capable of getting jobs, but temporarily down on their luck because of illness or divorce; a second group that needs training and incentives to find jobs; and a third group that may not prove employable.

The number of welfare recipients has fallen sharply, as the most employable recipients find jobs. There were a peak 14.4 million U.S. welfare recipients in March 1994, 12.1 million in August 1996, and 10.7 million in May 1997, the lowest number since 1970. In California, the number of recipients peaked at 2.7 million in March 1995, and 2.4 million in May 1997. The Council of Economic Advisers estimated that 44 percent of the decline in welfare was due to economic growth, 31 percent to welfare reform and the rest to other factors.

In many cases, immigrant workers, fears of labor shortages, and high welfare caseloads go together. For example, in the San Joaquin Valley of California, about 75 percent of the 400,000 individuals who work as farm workers sometime during a typical year are immigrants, including 100,000 or more unauthorized migrants. Farmers fearful of labor shortages are calling for modifications of the H-2A program to make it easier to obtain temporary foreign farm workers. At the same time, 25 percent of the 761,000 residents of Fresno county are receiving some form of welfare assistance, and the unemployment rate in most months is over 10 percent.

Economic theory has little to say about why natives shun certain jobs, or how to respond to employer pleas of labor shortages, because economics rests on the assumption that changing prices or wages will eliminate any tendency of U.S. workers to avoid certain jobs, and cure any labor shortages. For example, neither of the 1994 review articles by Borjas and Greenwood mention labor shortages or native avoidance of “immigrant” jobs. In other words, the economic reasons for labor shortages and the solutions to them are one and the same—raise wages.

A review of the why-do-natives-avoid-certain jobs literature suggests two conclusions:

- reasons offered for job avoidance tend to be discipline-specific, e.g., economists discuss why rational individuals might find it economically rational to remain unemployed rather than accept immigrant jobs, geographers stress spatial disparities in the location of workers and jobs, sociologists point to rising expectations among nationals unwilling to accept low-status jobs, and lawyers look to rules and regulations that restrict immigrant access to particular jobs.
- the lack of a comprehensive theory of job avoidance means that there is little consensus on the relative importance of variables such as information, wages, working conditions, worker (im)mobility, or legal and social status in explaining why nationals avoid certain jobs, and little sense of the dynamics of change in such factors, as might occur if some jobs were first avoided because guestworkers were restricted to them and later became isolated as immigrant networks “took over.”

How can the U.S. deal with the twin problems of getting work done and finding jobs for unskilled workers? The literature on filling “bad jobs” suggests that:

- preventing jobs from being shunned by nationals is far better than trying to re-attract nationals into such jobs after immigrant workers have gained a foothold.
- changing the supply of national workers for “bad jobs” becomes increasingly difficult over time, as immigrant networks isolate and effectuate changes in both labor supply and demand that make it very costly and difficult to re-attract nationals into “immigrant” jobs.
- most policies that succeed in dealing with bad jobs do so by reducing the number of or eliminating such jobs, not by re-attracting nationals into them.

Reducing or eliminating “immigrant” jobs can often be accomplished most efficiently with non-labor market measures, such as liberalizing trade to eliminate agricultural jobs, subsidizing labor-saving automation or self-service means of performing the work, taxing reliance on immigrant workers, or encouraging investment abroad.

Supply Push

Why Supply-Push?

Individuals migrate, and most theories of why people cross borders for economic reasons are based on the economic notion that individuals try to maximize their economic well-being, and they will migrate if they expect their economic status to

improve. The classic theory was developed by Todaro (1969), who emphasized that a rational person contemplating migration would compare the present value of the earnings she expected to receive where she now lives with expected earnings in another country, and move if expected earnings—wages times the probability of finding a job—were higher. Expected earnings would be higher, of course, if the migrant could legally cross borders and be assured of a job at higher wages, as under guest worker systems.

According to economic theory, emigration puts upward pressure on expected earnings in the origin, and downward pressure on expected earnings in the destination, and migration continues until an equilibrium is reached in which the expected earnings gap equals all costs of migrating, including psychic costs. Empirical studies find that expected earnings are a good guide to the direction of migration—individuals do tend to move from areas in which expected earnings are lower to areas of higher expected earnings.

Some analysts argue that the two major factors that determine expected earnings—wages and (un)employment—play different roles in migration decisions. Wage differences, the argument runs, make an individual prone to migrate, while job losses in the area of origin prompt emigration.

Many recent empirical studies begin with this expected earnings framework, and then expand it by considering, e.g., an individual's expected earnings' contribution to a multi-person household (Taylor, 1987), or how households use emigration to:

- overcome crises that result from e.g., a lack of insurance,
- obtain savings for investment when there are few local moneylenders or,
- obtain the funds needed to buy the consumer goods that neighbors were able to purchase with savings and remittances (Stark, 1991).

According to Taylor, et al., (1996, 404), the new economics of migration is based on the hypothesis migration “originate(s) in the desire to overcome market failures that constrain local production... [so that migration can be] an intermediate investment that facilitates the transition from familial to commercial production... [remittances can] loosen constraints on local production, once migrants become established abroad” (1996, 405).

In evaluating these theories of why individuals migrate for economic reasons, it seems prudent to remember that all begin from the expected earnings gap. In most cases, on a scale of 1 to 10, expected earnings differences are 80 to 90 percent of the reason why a person moves, with the extending explanations accounting for the rest. The fact that the research literature focuses on the extensions rather than the basic model should not obscure its importance.

Mexican Labor and Social Conditions: 1980–1994

Mexico has had a roller coaster economy since 1980, falling from an oil-inspired boom in the late 1970s into a debt crisis in 1982-83, then opening to the world economy in the mid-1980s, entering a pre-NAFTA boom in the early 1990s, and suffering a peso devaluation and economic depression in 1994-95. In 1997, the Mexican economy appears to be back on track, expanding at twice the U.S. economic growth rate.

During the roller coaster 1980s, standard social indicators improved, albeit at a slower pace than in the 1970s, as the government rationalized and improved the efficiency of its services. For example, the life expectancy of men rose from 63.7 to 66.4 between 1980 and 1990, and to 68.5 by 1995. Women life expectancy rose from 69.9 to 73.0 during the 1980s, and faster rate after 1990, reaching 75.5 by 1995. By 1995, life expectancy in Mexico exceeds that of some of the wealthier Latin American countries, including Argentina, Brazil and Colombia.

Similarly, illiteracy also fell during the 1980s, dropping from 17 to 12 percent of the population. The growth primary school enrollment between 1988 and 1994 was 2 percent per year, while the growth of children in this age group was only 1 percent per year, suggesting that more children are in school. By 1995-6, preschool attendance reached a historic high, including almost 80 percent of those of kindergarten age (Segundo Informe de Gobierno de Ernesto Zedillo). Mexico recently raised compulsory schooling from six to nine years; about 42 percent of 15 to 19 year olds are in school. About 20 million children are expected to be enrolled in K-12 Mexican schools in fall 1997, versus 52 million in the U.S.

In August 1997, President Ernesto Zedillo announced a \$155-million PROGRESA program aimed at breaking the cycle of poverty in Mexico. Up to 177,416 families in parts of 10 states will get \$8 a month to keep young children in school, with the payments higher for girls than boys, and rising with age. Unlike Solidarity, the Salinas Administration antipoverty program, PROGRESA is to be administered by the states.

During the eighties, the number of dwellings that lacked piped water supplies fell from 28 percent to 20 percent, and fell further to 19 percent by 1994. The share of housing units without sewage facilities fell from 36 percent in 1990 to 34 percent in 1992, while the share of households with electricity rose from 88 to 89 percent.

These improvements in social indicators can be attributed to improved service delivery during the 1980s, rising incomes after 1987, and the social program developed during the Salinas administration, *Programa Nacional de Solidaridad* (PRONASOL), which involved local residents in the provision of basic

infrastructure. This program has been criticized for serving electoral rather than strictly social welfare objectives (Dresser 1991, Molinar Horcasitas 1994, Roberts and Escobar 1997), since PRONASOL paid particular attention to municipios and states where the dominant party (PRI) had lost elections in 1988. Spending was also targeted to states with crucial upcoming elections, and there was no clear relationship between the level of poverty of different states and their per capita PRONASOL investment. Nevertheless, it must be said that PRONASOL delivered services in many poor states and regions, and that these improvements are evident in macro social figures and indicators.

From a supply-push perspective, worsening social indicators such as health or education or housing did not play a significant role in the rise of emigration seen during the 1980s. However, some of the states that became significant sources of emigrants in the 1980s did experience at least a stagnation in the improvement of social indicators, including the northern border states, where housing conditions deteriorated, partly because of rapid urban growth. In the South and Southeast, life expectancy stagnated and fertility and infant mortality remained very high in states such as Oaxaca and Guerrero.

Finally, a full appraisal of social conditions during the 1980s should acknowledge that, even though earnings continued to improve during the 1980s, the restructuring of employment meant new and often worse work conditions, including more frequent spells of unemployment.

Developments in the Mexican labor market since 1982 can be divided into three periods, one characterized mostly by adjustment, a second one by restructuring, and a third, the “crisis of 1994.” Adjustment, restructuring, and crisis occurred under a longer-term era of growing mismatch between labor force growth that exceeded job growth, especially after 1975. In 1995, were 1.2 million persons turning 15. However, the number of new labor force entrants will begin to decline by 2000, and then slow significantly by 2010.

In 1982, the peso was devalued by 80 percent against the dollar, and there followed a period of adjustments marked by five factors that affected migration:

1. Earnings fell sharply, by an average 23 percent between mid-1982 and mid-1983, mostly as inflation outpaced earnings growth, and the incomes of those at the top of the earnings distribution fell even more, producing what some analysts called “equality through impoverishment” (Cortes and Rubalcava 1989). The ratio of U.S. to Mexican wages jumped from about 2.2 to 1 in 1981 to 6 to 1 by the end of 1983.
2. Unemployment did not rise significantly, except for an uptick in 1983, as adjustments occurred mostly through lower earnings (Lustig 1992).

3. Some women entered the labor market to offset falling male earnings. After 1982, married women with young children began entering the labor market, including poorer women in their 30s with young children who went to work for wages to maintain family income. In Guadalajara, for example, poor women going to work were able to make offset about two-thirds of the incomes that their husbands lost through lower real earnings after 1982 (Gonzalez de la Rocha).
4. However, there were few new formal sector jobs created for these women, except for an additional 400,000 jobs in *maquiladoras*, so that many of the women went to work as maids or in personal services.
5. Most Mexican firms adjusted to the peso devaluation by using more now-cheaper labor, which permitted them to be more flexible in meeting ever-changing consumer demand in what was still largely a closed market. However, in Monterrey, there was a comprehensive restructuring in some manufacturing industries, so that industries there emerged from the crisis more competitive. The overall manufacturing employment index, which was 100 in 1980, rose to 103 in January 1981, and then fell to 86 in January 1988.

In 1987-88, Mexico began to open its markets to the international economy. Mexico joined GATT in 1986, and again in 1988, Mexico lowered tariffs and removed import license requirements on many products. The October 1987 stock market crash led to capital flight from Mexico, and another peso devaluation, prompting the Mexican government, business leaders, and unions to sign the first pacto, or agreement on wage and price adjustments. Finally, in 1988 Carlos Salinas was elected President, ushering in a new era of privatization and opening markets to international trade.

The next six years in Mexico were marked by income growth but relatively few additional formal jobs. Between 1988 and 1994, real earnings began to rise, but formal employment in the manufacturing sector fell, agriculture began to be restructured, and the U.S.-Mexico wage gap narrowed from about 9 to 1 in 1988 to 5 to 1 in 1994, as the peso rose against the dollar, and as Mexican wages rose.

As Mexican wages rose after 1987, so did inequality, according to the National Survey of Urban Employment (Roberts and Escobar, 1996a). Income dynamics for the poorest 40 percent in Mexico are hard to track because the National Survey of Household Income and Expenditure reclassified many urban residents as rural (Escobar 1996). Independent analysts agreed with government findings that poverty increased from 1984 to 1989 (the number of those classified as very poor and in intermediate poverty rose), but also found that proportion of Mexicans with incomes below the poverty line rose between 1989 and 1992, when

government data showed that the percentage of residents in poverty was falling (Escobar 1996).

Beginning in 1988, many new labor force entrants found informal jobs in (personal) services or became self-employed; the manufacturing employment index fell from 86 in January 1988 to 73 in November 1994. The Mexican government permitted and encouraged labor market flexibility to increase productivity, and new labor agreements permitted many firms to restructure and reduce employment.

Agriculture underwent the beginnings of a withdrawal of government subsidies after 1988. Credits that did not have to be repaid were withdrawn, input subsidies and output price guarantees were reduced, and the land tenure system was changed. The combination of these agricultural policy changes and a rising peso discouraged exports, reducing the employment of hired farm workers, and also reduced the value of the crops that small farmers grew to sell. One result was that internal migratory circuits in Mexico that moved rural residents between small farms, jobs in export-oriented agriculture, and urban jobs were disrupted.

The one place where formal sector manufacturing jobs were created was on the border, in *maquiladoras*. But *maquiladora* jobs offered few opportunities for upward mobility, so that Mexicans had to decide whether to take “dead end” *maquiladora* jobs, or try their luck in interior Mexican cities, which offered fewer jobs, but more opportunity for upward mobility.

Employment grew faster than the labor force between 1992 and 1994. During that time, the informal share of total employment did not increase, real earnings rose, and unemployment fell—trends that were likely the result of more formal sector jobs leaving those with the fewest qualifications in the informal sector. This relatively good labor market performance in Mexico was not widely appreciated, in part because of skepticism about government data, and because of considerable economic restructuring that displaced workers, including in prosperous Monterrey. Between 1992 and 1994, the availability of jobs in Mexico seems to have reduced emigration—line-watch apprehensions per hour fell (Escobar, Bean and Weintraub 1996).

In December 1994, the Mexican peso was devalued, and it eventually fell over 50 percent against the U.S. dollar, from 3.45 pesos to \$1 to 7.7 pesos per \$1 in August 1997. Employment in Mexico fell sharply, as workers in both the formal and informal sectors lost jobs, even as real wages fell when inflation jumped. Bleak prospects for job seekers kept the labor force stable. For the first time in a decade, open unemployment rose faster than informal employment in 1995, especially for young people under 20, whose unemployment rate was above 20 percent for most of 1995.

The cheaper peso increased exports, but exporting firms added relatively few new workers, except in the border areas. Mexico’s economy seems to be rebounding—it is expected to grow by about 8 percent in the second quarter of

1996, versus a 10 percent contraction in the same quarter of 1995. However, an August 5, 1996, Wall Street Journal article praising Mexican policymakers for sticking with economic reform—and thus, in the paper’s opinion, laying the basis for higher savings and more productive investments—warned that, “in the next two years, at least, the outlook is for high unemployment and stagnant salaries... and a higher incidence of poverty” (Jonathan Friedland, “Latin America resists reform backlash,” Wall Street Journal, August 5, 1996).

Mexican employers seem to be wary of hiring workers who might become fixed costs that limit their flexibility, so that labor market recovery may be delayed.

Mexican Agriculture

Agriculture represents a special concern for the Mexican government, and for northward migration. About 25 percent of Mexico’s population lives in rural areas, the same as the rural share of the U.S. population, but most of Mexico’s 23 million rural residents live on farms, while fewer than 10 percent of the 63 million rural residents of the United States live on farms.

In Mexico, the rural population generated only 8 percent of the country’s \$377 billion GDP in 1994, and rural incomes were less than one-third of Mexico’s \$4,180 per capita GDP.²¹ From 1987 to 1992, per capita income among farmers declined by 32 percent, but there was not a significant rural-urban migration within Mexico. U.S. agriculture, by contrast, generates a slightly larger share of GDP than farmers’ share of the population, so U.S. farmers have higher than average incomes, and much higher than average wealth.

Some 40 to 50 percent of all Mexicans are considered to be poor, and two-thirds of Mexico’s poor people live in rural areas, as do three-fourths of the very poor (Levy and Van Wijnbergen, 1992, 498).²² Although most of Mexico’s population and rural poor are mestizos, the rate of poverty is highest among indigenous peoples in rural areas.²³

Mexico’s farming system is a creature of government and, for most of the 20th century, Mexican agricultural policies had the dual objectives supporting rural incomes by offering high government-guaranteed prices to farmers, and then providing consumers with basic foods at low prices. In practice, the subsidy system was more effective in reducing food prices for consumers than in raising farm incomes. The Mexican government was involved in all aspects of agriculture, from the distribution of land, to the provision of inputs such as fertilizer and credit, to the marketing and processing of commodities, and to the distribution of food to consumers.

Beginning in the mid-1980s, and especially in the early 1990s, the government began to withdraw from agriculture, accelerating what is likely to be a massive

movement off the land in Mexico. The government's withdrawal from agriculture in the 1990s was motivated primarily by the failure of the Mexican agricultural system to produce enough food at competitive world prices. In the early 1990s, Mexico's agricultural production stagnated, raising the bill for imported food. At the same time, rural poverty was widespread despite costly subsidies, and the government did not have the funds to re-capitalize agriculture. The Mexican government has announced several new initiatives, including a June 1997 policy: "A Defined Direction for Growth in the Countryside," which calls for the production of 37 million tons of basic grains by 2000.

Many Mexican farmers have network ties to the U.S. labor market. A 1994 household survey of the ejido sector collected information on 5,267 adults in the households interviewed (14 and older) and 9,216 adults in extended families. About 14 percent of the adults in the sample households, 19 percent of the adults in the biological family, and 38 percent of the household heads—whose average age was 49—had migrated to the U.S. at least once by the time of the survey (de Janvry and Sadoulet, 1997, 7).²⁴ Over 70 percent of those who migrated to the U.S. had less than 6 years of schooling. A detailed analysis of the 950 members of ejidatario families who have migrated to the United States found that more adult men under 35 migrate than men older than 35.

The Mexican government hopes that many farmers remain will remain in rural areas and switch from corn and beans to fruits and vegetables, especially as NAFTA accelerated the shift of North American fruit and vegetable production to Mexico. However, a careful analysis of trends in the North American horticultural industry suggests that most labor intensive agriculture will remain in the U.S. (Cook, et al., 1991). Mexico's primary competitive advantage in producing fruits and vegetables for the U.S. market is climate; Mexico can produce fresh vegetables during the winter months when most U.S. production areas except Florida are not producing. Even if Mexico were to completely displace winter vegetable production in Florida, most fruit and vegetable production would remain in the United States, because two-thirds of North American fruit and vegetable production occurs in the summer and fall, when Mexico is not producing significant quantities.²⁵

Mexico is not likely to completely displace Florida as the source of most winter fruits and vegetables because, in many cases, low yields and low labor productivity make vegetable production more expensive in Mexico than in Florida. Most Mexican migrants, in any case, come from areas not likely to become export centers for fruits and vegetables.

Florida producers have also been adept at using the U.S. government to limit Mexican imports. The U.S. farm value of fresh vegetables and melons was \$7.4 billion in 1995, and Florida's production of six winter fresh vegetables—tomatoes, bell peppers, cucumbers, snap beans, eggplant, and squash—represented about 10

percent of the total. Florida produced 2.5 billion pounds of these six fresh vegetables in 1995, other states produced 3.8 billion pounds, and 2.6 billion pounds were imported—about three-fourths of these fresh vegetable imports were from Mexico. Mexico exported about \$1.5 billion of fruits and vegetables in 1995, including \$600 million of tomatoes. The 16.5 pounds of fresh tomatoes that the average American eats each year, include about 4.6 pounds produced in Florida, seven pounds produced in other states, especially California, and 4.6 imported pounds, usually from Mexico.

Most of the year-to-year fluctuation in Florida and Mexico shares of the winter vegetable market has been due to weather, but in December 1994, the Mexican peso was devalued. Mexican fruit and vegetable exports surged in 1995-96, due to both the peso devaluation and to cold weather in Florida (Love and Lucier, 1996, 20).

Florida has filed two separate actions against Mexican winter vegetables, has lost one, and is likely to win the other—it should be noted that the 1996 “tomato war” does not hinge on tariffs—U.S. tariffs on Mexican tomatoes are low—\$0.01 per pound—and are scheduled to be phased out in 2004. In the winter of 1996, prices for 25-pound boxes of tomatoes fell from the usual \$10 to \$12 to \$3, below the \$8 cost of production in Florida, and the \$6 cost of production in Mexico. Florida and Mexico compete for less than half the year—for the five months between December and April—with the most severe competition in February-March.

Most observers attribute Florida’s falling share of the winter vegetable market to weather and to Mexico’s “correct” technological choices. Until the early 1990s, both Florida and Mexico produced mostly “mature green” tomatoes, which means that green tomatoes were picked into buckets, sorted and packed into cartons, and then gassed to turn them pink before being shipped to retail stores. However, Mexico began in the 1990s to plant “vine-ripe” tomato varieties that can be picked pink, and reportedly taste better than mature green tomatoes.

NAFTA permits governments to protect industries that are hurt by import surges, and Florida growers argued that a Mexican import surge in 1995-96 was hurting the U.S. tomato industry. But Florida growers lost this case in a 4-1 decision by the International Trade Commission on July 2, 1996, because most U.S. tomatoes are not produced in Florida—tomatoes are produced in California, South Carolina, and other states, and the “injury” clause of NAFTA does not consider one seasonal component of an entire industry. In response, Florida proposed, and the Clinton Administration supported, the redefinition of the Florida tomato industry as an “industry” for the purpose of invoking the NAFTA import-surge clause.

Florida producers filed a separate petition on April 1, 1996, that alleged that Mexico dumped tomatoes in the U.S. at less than their cost of production in 1995-96—they needed only show that there was “some injury” from imported tomatoes to win this case. The U.S. Department of Commerce investigated to determine,

e.g., whether Mexican tomatoes were sold at the same prices in Canada, Mexico, and the U.S. in 1995-96 but, just before it issued its decision, Mexico agreed to a price floor for its tomato exports—Mexican growers would charge at least \$0.21 per pound, or \$5.17 for a 25-pound box for their tomatoes shipped to the U.S.—and Florida growers agreed to suspend their dumping case. The Florida Department of Agriculture spent \$1.5 million to press the tomato-growers' complaints against Mexican tomatoes.

Tomatoes and other winter vegetables are produced by a handful of large growers who rely on migrant Mexican workers in both Florida and Mexico. In Florida, four "family" farms dominate the Florida tomato industry—DeMare, Gargiulo, Heller, and Esformes—together they account for half of Florida's \$400 million in annual tomato sales.

Mexico's export-oriented winter vegetable industry is centered in Sinaloa, about 600 miles south of the U.S. border. Large farms there employ about 170,000 Mexican workers for four to five months. Most of these seasonal workers are migrants; three-fourths migrate to Sinaloa from other parts of Mexico. In 1996, typical wages for tomato picking in Sinaloa were reported to be about \$3-\$5 per day, and children often join their parents in the fields.²⁶

The 1996 tomato war indicates that Mexican producers will not gain easy access to the U.S. market simply because NAFTA is in place. Even though most U.S. observers are not very sympathetic to the Florida growers—a recent story in the *Wall Street Journal* was headlined "With little evidence, Florida growers blame tomato woes on NAFTA"²⁷—U.S. producers can wage effective campaigns to retard imports.

Given the difficulty of making the transition to labor-intensive fruits and vegetables, the key question is what will happen to farmers in Mexico. Most reports from rural Mexico in 1996 are dominated by discussion of a lack of credit and other obstacles that make it hard for farmers to switch crops and remain in agriculture.²⁸

NAFTA and Supply-Push Migration

On January 1, 1994, the North American Free Trade Agreement (NAFTA) went into effect, laying the basis for an eventual free trade area encompassing 380 million people with a combined GDP of \$7 trillion. The purpose of NAFTA is to reduce trade barriers and promote investment in the region, thereby stimulating economic and job growth throughout North America.

Migration played a background role during the Congressional debate over whether NAFTA should be ratified.²⁹ This was primarily because the migration message from researchers could be used by both opponents and proponents of NAFTA. The consensus among experts was NAFTA would contribute to an initial

increase in Mexico-to-U.S. migration, and decrease the cross border flow beginning in a decade or so (Martin, 1993). NAFTA proponents, who took a long-run perspective, argued that the prospect of eventually reduced migration was an argument in favor of NAFTA, while some NAFTA opponents opposed the agreement because of the predicted short-run migration hump.

Many observers expected Mexico-to-U.S. migration to begin to decrease as soon as the North American Free Trade Agreement (NAFTA) was signed. Former Mexican President Carlos Salinas de Gortari explained the relationship between NAFTA and migration in this way; “Today, Mexicans have to migrate to where jobs are being created, the northern part of our country. With NAFTA, employment opportunities will move toward where the people live, reducing drastically migration, within the country and outside of the country” (quoted in the San Diego Tribune, November 14, 1993, 1).

Trade-stimulated economic growth should also reduce emigration from Mexico; the U.S. Commission for the Study of International Migration and Cooperative Economic Development looked for “mutually beneficial, reciprocal trade and investment programs” to reduce unauthorized migration from Mexico and concluded that “*expanded trade between the sending countries and the United States is the single most important remedy*” for unauthorized immigration (1990, p. xv, emphasis added).

However, the commission warned that “the economic development process itself tends in the short to medium term to stimulate migration.” Policies that accelerate economic growth, including privatization, land reform, and freer trade, can produce a migration hump, or temporarily more migration, creating “a very real short-term versus long-term dilemma” for a country such as the United States that wants to use free trade agreements as one means to curb unauthorized immigration (U.S. Commission, 1990, p. xvi).

Table 5
Canada, Mexico, and the United States (1995)

	GDP (\$ bil)	GNP Per Capita \$	Ratio- U.S.=100	Avg. Ann. Growth (1985-95)	Pop. (mil)	Avg. Ann. Growth (1990-95)
Canada	569	19,380	0.72	0.4	30	1.3
Mexico	250	3,320	0.12	0.1	92	1.9
U.S.	6,952	26,980	1.00	1.3	263	1.0
Total	7,771				385	

Source: World Bank Development Report, 1997.

NAFTA brought together 3 different countries in the world's largest free trade area. Canada and the United States have similar GNPs per capita, but their per capita GNP and population growth rates diverged since 1985—Canada has experienced slow economic growth and fast population growth compared to the United States. Mexico, in comparison to the United States, had a very slow real per capita GNP growth rate over the past decade, and its population grew at twice the U.S. rate.

The major economic effect of NAFTA should be to stimulate the flow of investment, goods and services across North American borders. There were more than 50 models that projected the effects of NAFTA on the economies and labor markets of Canada, Mexico and the United States, and most concluded that the economic effects of NAFTA in the United States were projected to be small, both because the Mexican economy is only 1/20 the size of the U.S. economy and because tariffs are already low—the average U.S. tariff on Mexican imports in 1991 was 4 percent, and the average Mexican tariff on U.S. imports was 10 percent.

Most of the models that considered NAFTA's effects on migration expected the agreement to increase the flow of Mexicans to the United States. The “smoking gun” in this migration hump scenario anticipates that the free trade in agricultural products envisioned by NAFTA will displace Mexican farmers who have a tradition of migrating to the United States.

The most widely-cited projection of NAFTA's effects on Mexico-to-U.S. migration was that of Hinojosa and Robinson (1991). Using a CGE model of the U.S. and Mexican economies and labor markets, and then projecting how freer trade might affect Mexican agriculture, they estimated that NAFTA would displace about 1.4 million rural Mexicans, largely due to changes in Mexican farm policies and freer trade in agricultural products.

If jobs are not created for these displaced farmers in the areas where they live—and few observers expect a significant number of “real” jobs to be created in these rural areas, Hinojosa-Robinson projected that 800,000 would stay in Mexico, and that 600,000 would migrate (illegally) to the United States. These 600,000 additional U.S.-bound migrants—say 100,000 per year over 6 years—are presumably NAFTA-caused additions to the “normal” flow of legal and illegal Mexican worker arrivals.

The reason why NAFTA increases migration in the Hinojosa-Robinson model is because of free trade in corn. Between 30 and 50 percent of all days worked in rural Mexico are devoted to production of corn and beans. U.S. farmers can produce both crops cheaper than Mexican farmers—the U.S. corn price of \$95 per ton early in 1994 was less than half of the Mexican price of \$205 per ton. Liberalizing trade in corn, as NAFTA does over 15 years—is expected to shift North America's corn production northward, at U.S. prices, since Iowa alone produces twice as much corn as Mexico.

Instead of slowing down change in agriculture, as these migration models would advise, the Mexican government speeded up agricultural changes. Mexico changed its farm policies in four important ways in the early 1990s:

- First, Mexico accelerated the withdrawal of input subsidies from agriculture, increasing costs for many farmers.
- Second, Mexico in 1991-92 freed up the land market, permitting ejido land to be rented or sold, and permitting foreign and domestic corporations to own Mexican farm land, in an attempt to attract capital into agriculture.
- Third, Mexico since 1987 has opened itself to freer trade in farm commodities, and NAFTA in 1994 locks in a schedule to achieve relatively free North American trade in farm commodities by 2009.
- Fourth, Mexico in 1993 switched its system of farm support from price guarantees to income transfers, eliminating the need for farmers to grow crops over the next 10 years to receive government support.

These policy changes amount to a revolution in Mexican government policies toward the one-third of the population in rural areas. Their net effect will undoubtedly be to promote emigration from rural Mexico.

Although no one knows how many people will leave rural Mexico during its expected “Great Migration,” many echo Luis Tellez, the former Undersecretary for Planning in Mexico’s Ministry of Agriculture and Hydraulic Resources, who suggested on several occasions that Mexico’s rural population might shrink by 1 million annually, that up to 15 million rural Mexicans may migrate “within a decade or two” (Golden, 1991, p. A1).³⁰ After Mexicans leave the farm, Mexico’s labor allocation should improve—Tellez frequently reminded audiences that 27 percent of the Mexican population depends on agriculture for a living, but this sector generated only 9 percent of GDP in the early 1990s, and for this reason includes 2/3 of Mexico’s poor people.

The unanswered question is how many Mexicans displaced from agriculture will migrate to Mexican cities and find jobs, and how many will migrate to the U.S. Many new jobs in Mexico are being created in “mid-sized” Mexican cities both along Mexico’s northern border, and in interior cities (Corona 1993, Browning and Corona 1995), but still not as many as were created in Mexico City, Guadalajara, and Monterrey in the 1970s, when fewer Mexicans were joining the labor force every year.

Changing Mexico

Mexico is rapidly urbanizing, and more Mexican migrants in the U.S. were born or have lived and worked in Mexican cities.

According to Wayne Cornelius, the urban origins and experience of more Mexican migrants matches neatly the demands of U.S. nonfarm employers for unskilled nonfarm workers. Interviews with Mexican-born workers in San Diego found that over half intended to stay permanently or as long as possible in the U.S. upon arrival, and only 20 percent were in the U.S. to save a target amount of money before returning to Mexico (Cornelius, 1997, 5). But intentions to stay in the U.S. increase with experience; two thirds of those interviewed said that, based on current circumstances, they would like to remain in the U.S.

Remittances and Development

Mexico receives \$4 billion to \$5 billion per year in remittances: the Mexican central bank reported in June 1997 that Mexicans in the U.S. remitted \$4.2 billion in 1996, up from \$3.7 billion in 1995. Mexicans reportedly had \$10.3 billion in savings in U.S. banks in 1996.

Many researchers do not believe that emigration and remittances are a shortcut to faster economic development.

The new economics of migration stresses the multiplier role that their expenditure can have on local economic activity, the importance of foreign labor markets in overcoming the inability to borrow money locally, and the ability of foreign jobs to cushion the effects of recessions in the country of origin.

However the open question is what kind of government environment is needed so that remittances have their maximum development impact. Taylor et al. (1996, 411) assert that “Schemes to harness international migrant remittances for local development are destined to fail if governments do not create an economic environment that is conducive to investment in productive activities at home.” This means that, under some circumstances, it may be better to “correct failures in local capital and risk markets” rather than e.g., create jobs (1996, 405).

Most of the money is sent to Mexico in small sums, often less than \$300, and at a relatively high cost to sender and recipient. The cost of transferring these remittances is often 20 percent of the amount transferred. For a typical \$300 transfer, Western Union in the U.S. charges \$29 or 10 percent, and Elektra in Mexico turns remittances from dollars into pesos at an exchange rate that is about 10 percent less than the interbank rate.³¹ This means that as much as \$1 billion of the \$4 to \$5 billion destined for often poor areas of Mexico is absorbed by transfer costs.

In May 1997, the U.S. Postal Service and its Mexican partner, Bancomer, extended their wire cash transfer service, Dinero Seguro or Safe Money, from Texas to 200 post offices in Southern California. Dinero Seguro charges \$15 for a wire transfer of up to \$250, or a maximum commission of six percent. However, the

competitors to the Western Union-Elektra consortium often require several days to clear fund transfers, so that many migrants continue to use the higher cost service.

Networks

The demand-pull and supply-push factors that motivate and sustain migration have been likened to battery poles—they have the potential to start a car or a migration flow, but they act only when a link is established between them. Network factors are the diverse forces that demographer Everett Lee called “intervening variables,” networks of friends and relatives, employers, labor smugglers and moneylenders who can tell potential migrants about conditions abroad, and provide them with the means to take advantage of opportunities abroad. According to one review, if demand-pull and supply-push factors explain why Mexicans migrate to the U.S., networks determine who migrates, and where Mexican migrants go in the U.S. (Wilson, 1993, 119).

Networks provide part of the explanation for why more Mexican migrants go to Los Angeles than Minneapolis. Neighboring Mexican villages illustrate the effect of networks: the village that sends many of its young men Los Angeles may have sent farm workers to the United States in the 1950s, so that today young workers from the village are informed in advance about where to go in Los Angeles to find jobs.

The village that sends few migrants, on the other hand, may not have many anchor friends and relatives in the United States to provide potential migrants with job and housing information. The fact that young people from this equally poor but less well networked village may well wind up unemployed in the United States helps to explain why fewer people from that village emigrate.

Most empirical studies find that network factors eventually increase in importance over time. In a process that has been termed “cumulative causation,” each time a migrant leaves he “alters the social context within which subsequent migration decisions are made, typically in ways that make additional movement more likely” (Massey et al., 1993, p. 451). The explanation for snowballing migration is that migration “tends to increase in prevalence and become more diverse because transnational movement causes relatively permanent changes in individual motivations, social structures, and cultural milieus, and these changes cumulate over time to change the context within which subsequent migration decisions are made. As more people are induced to migrate, knowledge and network connections expand further, inducing more people to migrate, and so on” (Massey, Goldring, and Durand, 1994, 1528). Within the emigration area, there may be secondary effects, including changes in the distribution of income, changes in the distribution and usage of farm land, and changes in consumption habits.

Network Hiring

Most jobs at the bottom of the U.S. labor market are found by word-of-mouth and, after one or more immigrants is hired, an immigrant network is often established to provide additional workers as vacancies appear. The employer of low-wage and unskilled workers—a restaurant or hotel, a shoe or furniture manufacturer, or a farmer—typically experiences a high turnover of American workers because the Americans are dissatisfied with the low wages, hard work, and few benefits of these jobs.

The immigrants, by contrast, tend to report diligently every day, offer to bring their friends and relatives to fill vacant jobs, and even to train newly-hired workers. The loyalty and dependability of immigrants soon makes them, in the eyes of some employers, preferred workers. Using immigrant networks to find new workers offers employers several advantages; current workers know exactly what the job requires; current workers have an incentive to recruit only good workers; current workers transfer existing friendships, etc. into the workplace; and networks are a cheap and efficient way to obtain new workers.

Between 1942 and 1964, U.S. employers recruited workers in Mexico with the blessing of the U.S. and Mexican governments. Neither government endorses private recruitment for work in the U.S. today. However, indirect recruitment through migrant networks is widespread—U.S. employers often ask current workers to recruit family and friends to fill vacant jobs. In addition, many U.S. employers outside traditional immigration areas use U.S. and Mexican labor brokers to recruit immigrants, and they advertise on both sides of the border.

Case studies of immigration networks demonstrate how quickly certain jobs become the “property” of non-nationals. In Los Angeles, unionized Black janitors who cleaned high-rise buildings were displaced by non-union Mexican immigrants over a five year period in the early 1980s. This displacement occurred quickly and indirectly; according to a GAO report, the number of unionized Black janitors in Los Angeles county fell from 2,500 in 1977 to 600 in 1985, even though janitorial employment rose 50 percent in the county as a result of a building boom (GAO, 1988, pp. 40-1).

One reason for the displacement of unionized Black janitors in an expanding service industry is that the structure of the cleaning industry changed. Instead of hiring janitors directly, janitorial service firms that specialized in cleaning buildings developed, and they tended to employ recently-arrived immigrants to clean buildings for 25 to 35 percent less, in part because they paid lower wages, and in part because they offered fewer benefits. In the case of Los Angeles janitors, cleaning firms paid their immigrant workers up to two-thirds less than prevailing union wages. A subsequent study reported that inflation-adjusted janitorial wages fell 36

percent to \$4.50 per hour between 1983 and 1988, and that the share of each rental dollar going to janitorial services fell from six percent to three percent (other estimates put the cost of cleaning at 10 to 12 percent of the cost of operating a building, when including costs from electricity and taxes to security).

The most recent study of network hiring was directed by Waldinger (1994). It described how employers in Los Angeles asked current immigrant workers to bring friends and relatives to fill job vacancies. These immigrants can draw from a seemingly endless pool of friends and relatives in the U.S. and abroad, and Waldinger found that network hiring tended to exclude e.g., native-born Blacks and whites, in part, because they did not learn about job vacancies, and in part because their reservation wages—the minimum wage they demanded to accept a job—were often 50 percent more than prevailing wages.

Why don't employers who are hiring large numbers of new workers encourage the establishment of a network of Black or white workers? Many employers believe that immigrants work harder, complain less, and in general have the "right attitude" toward their jobs and managers; they also "get along" with co-workers, in many cases friends and relatives who found them jobs. Interestingly, the "right attitude" was considered more important for many jobs than education or English.³²

Surveys of employers who hire new workers through immigrant networks support the hypothesis that immigrants often get into certain jobs by accident or design, and then a process of cumulative causation is set in motion that ensures that nationals will not be recruited or attracted to "immigrant" jobs. It is in this way that direct immigrant-native worker competition for jobs gives way to indirect competition, as occurs when immigrant networks become "exclusive suppliers" of new workers for vacant jobs.

The U.S. in 1996 is taking two policy steps that may affect the demand for immigrant workers and the willingness of U.S. workers to accept "immigrant jobs." First, the U.S. minimum wage is scheduled to rise from \$4.25 hourly to \$4.75 on October 1, 1996, and to \$5.15 on September 1, 1997, increasing the earnings of a full-time minimum wage worker employed 2,000 hours per year from \$8,500 to \$10,300 by 1998.³³ In 1995, about 3.7 million U.S. workers 16 or older were paid \$4.25 or less per hour; they represented about 5.3 percent of all hourly-paid workers. Teens aged 16 to 19 are about one-third of those paid \$4.25 or less; about 73 percent of all minimum wage workers are white.

The second U.S. policy change that may affect the "immigrant labor market" is welfare reform, which, inter alia, denies food stamps and Supplemental Security Income to most legal immigrants, and permits states to eliminate cash assistance and Medicaid for non-U.S. citizens. All states must file plans with the federal government to implement welfare reform by July 1, 1997, and review the citizenship status of persons receiving benefits within 12 months. There are believed to be

about 1.5 million legal immigrants in 1996 getting federal welfare benefits, and some may be pushed into the labor market.

There are about 4.6 million adults receiving welfare assistance, including 650,000 who are working or in training. States are required to have 25 percent of the adults receiving assistance working at least 20 hours weekly by 1997, and 50 percent working at least 30 hours weekly by 2002. The average adult receiving assistance has eighth grade skills, so that the planned welfare-to-work transition could add over 2 million largely unskilled workers to the U.S. labor market.

Communications, Transportation, and Rights

The U.S. is taking steps to make work pay more, and pushing more U.S. citizens and legal immigrants into the labor force. It is not clear these minimum wage and welfare policy changes will affect Mexico-U.S. migration networks.

Networks or linkages across the U.S.-Mexican border have been shaped and strengthened by three of the major revolutions of the past two generations; the communications revolution, the transportation revolution, and the rights revolution. The *communications revolution* refers to the fact that potential migrants know far more about opportunities abroad than did turn of the century migrants from southern and eastern Europe who set out for North and South America and Australia.

The major source of information about life abroad is countrymen already settled abroad who can tell the migrants about opportunities in the United States. Cultural gaps are also diminishing, making it easier for especially young people to consider working and living abroad.

The *transportation revolution* is simply the fact that the cost of traveling—relative to the wages that can be earned—has dropped enormously, while access to and the convenience of international travel has increased. The cost of traveling legally to the U.S. from most parts of Mexico is less than \$500, and even illegal entry typically costs less than \$1000. British immigrants who indentured themselves to migrate to the North American colonies in the 17th century, by contrast, often promised to work three to five years to repay one-way transportation costs.

The third network revolution that can turn potential migration into actual migration is the *rights revolution*, or the spread of individual rights and entitlements to all residents of the United States and other industrial democracies (Hollifield, 1994). Over the past 50 years, the industrial democracies have expanded their safety nets, and strengthened personal rights vis-a-vis government agencies, so that more residents, including foreigners, have human and work place rights, and are sometimes eligible for social welfare benefits. The rights revolution can strengthen networks by enabling even unauthorized foreigners who are present to increase the probability that they can remain in the United States.

Rights are created by governments, and frustration with their inability to affect communications and transportation has prompted many governments to roll back immigrant rights, especially for non-U.S. citizens. In the U.S., for example, unauthorized foreigners have seen their rights to social and other services curtailed over time, and new systems established to screen them out of social services and the labor market. Proposition 187, approved by a 59-41 percentage vote in California in November 1994, represented perhaps the most-discussed effort to discourage immigration by establishing a state-run system to keep unauthorized immigrants out of schools and social service programs.

Network factors may be very important in sustaining migration, but they are very hard to measure. The definition suggests why. Massey and Espinosa quote a definition of the social capital that undergirds networks; “the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network... of mutual acquaintance and recognition” (Massey and Espinosa, 1995, 13). Such a definition can be operationalized to include a variety of hard-to-measure variables.

Past Case and Community Studies

This section has two parts; a “meta analysis” of community and network case studies completed before 1995, and a re-analysis of the Mexico Migration Project (MMP) data. Both parts illustrate how a migration process that began largely as demand-pull recruitment has evolved into a more complex migration relationship in which supply-push and network factors play ever larger roles.

Studies of Mexican communities that send migrants to the U.S. emphasize that most of the first migrants were men recruited to work on U.S. farms. However, very little active recruitment was necessary, especially in some villages, since the community studies emphasize that, even during the Bracero Program there was illegal migration to the U.S. alongside legal *bracero* migration. Mines (1982, 446), for example, notes that some migrants told him that “as undocumented migrants [during the 1950s] they earned higher wages and stayed for longer periods” than as legal *braceros*.

Past Studies

This section reviews community studies completed primarily by U.S. researchers to determine what factors were considered to be most important in (1) initiating and (2) sustaining Mexico-U.S. migration. We review them to highlight how the major factors initiating and sustaining migration have changed. The studies are summarized in the attached chart from oldest (top) to newest (bottom), and the

major factor motivating migration runs from demand-pull (left) to supply-push and network (right).

Case or community studies try to understand migration processes in a setting where the researcher can understand—the individual, household, and community context in which decisions to migrate are made. In most cases, researchers visit the community that they are studying for extended periods of time, interview 5 to 10 percent of the households, and then collect Mexican and sometimes U.S. community variables to explain the factors that initiated and sustained migration to the U.S.

First Wave Studies

The first studies of emigration communities were done by Taylor in Michoacán (1929, 1931, 1932, 1933). Taylor concluded that wage gaps motivated Mexico-U.S. migration and, once in the U.S., wage gaps between the border areas and northern states encouraged Mexican migrants to continue to Chicago and other Midwestern cities in search of employment.

One of the three *bracero* recruiting centers in Mexico was in the border state of Chihuahua, and Hancock concluded that Mexicans were eager to migrate to the U.S. because of higher U.S. wages. Hancock reported that average daily farm wages in the U.S. ranged from \$5.90 in California to \$4.67 in Arkansas, and from \$0.89 in the Northern Pacific states of Mexico to \$0.42 in the southwestern Mexican states, for wage ratios of between 7 to 14 to one (1959, 29). Although higher wages were the impetus for migration, Hancock noted that a *bracero* soon learned that “working people [in U.S.] have greater economic opportunities,... justice is more impartially administered, and that government officials treat ordinary citizens with more respect than usually is the case in Mexico” (1959, 38).

Hancock examined four of Chihuahua’s 66 *municipios*—Aldama (population of 13,600 in 1957), Meoqui (20,800 in 1957), Guerrero (31,800 in 1957), and Janos (5,300 in 1957)—to determine the effects of emigration on them,

There were about 500 *braceros*—11 percent of the local labor force—from Aldama each year in the mid-1950s, and most reported that they had more work at higher wages in the U.S. than in Mexico (1959, 96). Meoqui had a *bracero* quota of 600 in 1957 and, once the effect of *bracero* emigration was to attract to Meoqui migrants from Durango, Coahuila, and Zacatecas to pick cotton.

Janos had no *bracero* quota and, while local officials asserted that no one wanted to emigrate, Hancock found several residents who had migrated illegally to the U.S., and observed that former *braceros* had a “friendly attitude” toward Americans (Hancock, 1959, 118). Hancock concluded that Mexicans wanted to work in the U.S. because of a range of factors—low wages, high living costs and

escaping the monotony of village life, but that “the causes of emigration... can be reduced to one salient fact: the Chihuahua economy is unable to provide employment adequate to support the state’s population” (1959, 124).

By the 1960s and 1970s, community studies were noting that more factors played a role in motivating and sustaining migration. Wiest (1973) describes the effects of emigration on households in Acuitzio del Canje, a town of 3,600 in located near Morelia, Michoacán, and emphasizes that the U.S.-bound immigrants in the late 1960s were legal greencarders taking advantage of 15 to 1 income differences. Most of these “green card commuters” were former *braceros* who intended to return to the village.

Wiest reported that 24 percent of the migrants in 1966-67 who were out of the village were in the U.S., and that most had the right to live and work in the U.S.³⁴ In 1966-67, Mexicans employed on U.S. farms could earn \$15 to \$25 per day, versus \$0.80 to \$1.20 in local the day labor market—according to Wiest, “a relatively unskilled temporary job in Mexico provides a higher income than jobs... in Mexico” (1973, 203). Despite U.S.-Mexican wage differences, however, Wiest emphasized that most of the Mexican sojourners in the U.S. intended to return to Mexico; “regardless of the type of labor in the United States, the tendency is toward temporary residence there” (1973, 186).

Many former *braceros* became greencard commuters, traveling seasonally from homes in Mexico to jobs in the U.S. Cornelius (1976a, 1976b) described the process through which young men from several communities in Jalisco migrated to the U.S. for farm jobs without their families, both legally and illegally.

Reichert (1979, 1981, 1981) conducted interviews with 26 informants a decade later in Michoacán and, like earlier studies, and emphasized that most Mexican migrants in the U.S. were sojourners employed in agriculture. Reichert noted that, in the late 1970s, there was about 1 illegal migrant in the U.S. for every 2 legal migrants, and that the wage gap between seasonal farm jobs in the U.S. and Mexico had narrowed, to about \$30 per day in the U.S., and \$3.80 per day in Mexico. However, Reichert concluded that the expenditure of remittances was not promoting stay-at-home development; “money earned in the U.S. has enabled migrants to raise their standard of living to a level that can only be maintained through recurrent migration” (1981, 63).

Reichert and Massey (1979, 1980) used these data to separate migration from these villages into two phases; pre-1965 *bracero* outmigration, and post-1965 outmigration that increasingly involved women and children joining *ex-braceros* who had become legal U.S. immigrants. The U.S. policy of permitting U.S. employers to write letters offering *ex-braceros* jobs enabled many to become legal immigrants with the right to unify their families in the U.S.—one estimate in 1962 was that as many as 80 percent of the 55,000 Mexican immigrants admitted

to the U.S. were *ex-braceros* who obtained permanent labor certification (U.S. Senate, 1965, 22).

Roberts (1982) analyzed data collected from farmers in 1974 in San Luis Potosí, Guanajuato, Puebla, and Oaxaca, and found that, in all four Mexican states, a significant number of farmers in the early 1970s were also employed off the farm, and some hired seasonal workers to work on their farms. Roberts concluded that some local farm income was needed to attempt to migrate to the U.S., and that incomes in Oaxaca were too low to undertake migration to the U.S., so that young people from Oaxaca migrated to Mexican cities where they had contacts (1982, 319). However, a significant number of U.S.-bound migrants originated from Guanajuato, an area in which Mexican farm incomes were considerably higher.

Mines (1981, 1984) and Mines and de Janvry (1982) reviewed the evolution of migration from Las Animas, Zacatecas, a village of 1,300 in the late 1970s about three hours north of Guadalajara. Mines interviewed 67 households in Las Animas in 1979, plus additional Las Animas residents in the U.S., and found that over half of the village's income came from remittances sent home by persons employed in the U.S.

Mines concluded that Las Animas had reached a "migratory equilibrium" in 1979—the population of the village remained stable, as a result of many young residents leaving for the U.S., and many settling abroad—half of the village's residents in the U.S. were legally present in 1979, before the U.S. legalization program (1982, 446). Mines found that many of the workers older than 40 illegally shuttled between homes in Mexico and seasonal farm jobs in the U.S., while many of the younger workers were legally working in the U.S., and became less and less likely to return every winter to homes in Mexico.

Mines and Massey (1985) used migration patterns in Las Animas and another community to describe how migration networks mature. In both communities, men began to leave for U.S. jobs in the 1920s, and then migration stopped in the 1930s. Migration began again with *bracero* recruitment in 1942. The percentage of men going to the U.S. illegally increased until 1954-55, when a combination of "Operation Wetback" in the U.S., and the expansion of the Bracero Program, shifted the balance back toward legal but seasonal migration to the U.S. However, illegal immigration increased again after a severe drought in 1957.

By the 1970s, this migration network had matured, in the sense that a "sister" community was established in south San Francisco. As the Mexicans settled in the U.S., Mines observed that "cost[s] to the receiving area [California] increase and benefits decline" (1982, 452). On a visit to Las Animas in 1987-88, Mines observed that most of the young men seemed to have left Las Animas to try to qualify for the SAW program, even though most had not done the qualifying U.S. farm work in 1985-86.

Dinerman (1982) interviewed migrants and stay-at-homes in two similar Michoacán communities in the late 1970s and early 1980s, but she found that the “rate and frequency of U.S. migration were much higher” in one community than the other (1982, 42). Although both communities sent *braceros* to the U.S. in roughly equal numbers, migrants from one community had, by the early 1970s, shifted to nonfarm U.S. employment, and hired workers in Mexico to tend their plots. In the other community, fewer *ex-braceros* owned land, and more *ex-braceros* migrated within Mexico, until government support for handicraft activities created local job opportunities.

Taylor (1992, 194-5) interviewed 61 households in one village in 1983, and re-interviewed 55 of these households in 1989, and observed that the average income of sample households rose far more, from \$1,800 to \$3,600, than did average remittances, from \$800 to \$1,100. Taylor attributed sharply rising incomes to local economic activities that were made possible in part by the investment of remittances, primarily in cattle.³⁵

Comparative Community Studies

As the number of studies multiplied, several authors compared the findings of community studies. There were two major approaches; to examine individual community studies, including the studies summarized above, or to focus on larger bodies of data, especially the MMP data summarized below, and to draw inferences from data collected from a number of communities with a fairly standard survey instrument.

Perhaps the most cited set of community studies are those done by Massey, Alarcon, Durand, and Gonzales in *Return to Azatlan* (1987). This book was built around extensive interviews in four communities. It concluded that the integration of the southwestern U.S. into the national economy in the late 1800s created a demand in the U.S. for Mexican labor, the restructuring of Mexican agriculture created a supply of workers willing to migrate, and the railroads provided the link between U.S. demand and Mexican supply (1987, 39).

Return to Azatlan makes four points about the process of Mexico-U.S. migration. First, few Mexicans migrated from these communities before the 1950s and, when they did migrate, they were as likely to move within Mexico as to migrate (illegally) to the U.S. Second, Mexican migration to the U.S. was almost stopped in the 1930s, as a result of the Depression and repatriations.

Third, Bracero Program recruitment began significant U.S.-bound migration after 1942, and this migration continued at roughly *bracero*-era levels after U.S.-government approved recruitment was stopped in 1964. Fourth, the share of illegal migrants among first-time U.S.-bound Mexicans dipped below 50 percent only during the late 1950s, when the Bracero Program was at its peak.

Return to Aztlan emphasizes continuity and an upward trend in a migratory process that began over 100 years ago—the significant blips in an otherwise steadily rising migration flow occur in the 1930s, when Mexico-U.S. migration slowed or stopped, and in the late 1950s, when many migrants went legally to the U.S. as *braceros*.

Other data, especially U.S. labor market data, emphasize more discontinuities in the flow. For example, studies of the U.S. farm labor market do not support the notion that a large number of *ex-braceros* came legally or illegally after 1964. In the mid-1960s, U.S. farmers were bussing workers from skid-row in Los Angeles to their farms, recruiting Indians, and asking universities to develop labor saving machines to harvest crops (Martin, 1996). Perhaps the most telling evidence that Mexican migration slowed considerably between the mid-1950s to mid-1960s was that the fledgling UFW was able to win a one-year 40 percent wage increase in 1966 from wine grape producer Schenley.

To the extent that Mexico-to-U.S. migration flows are mirrored in developments in the U.S. farm labor market, U.S. farm labor market evidence would suggest that immigration from rural Mexico to rural areas of the United States remained relatively low in the 1960s and 1970s, and then rose sharply in the 1980s. The community studies, by contrast, emphasize continuity in the migration flow—the probability of making a first unauthorized trip to the U.S., and the percentage of young men who have been to the U.S. by age 40, rises steadily, according to most community studies in west central Mexico.

Goldring (1990) noted that migrants from one community were “specialized,” migrating to U.S. strawberry fields, while migrants from a nearby community migrated to the U.S. to work in construction. The mostly strawberry migrants were able to gain seniority and access to a state-run migrant camp open six months per year and offering a variety of children’s and health services. Consequently, these farm worker migrants remained sojourners in the U.S., while the construction migrants settled near their U.S. jobs and sent for their families.

Cornelius (1990) studied three emigration communities in 1988—almost 600 household heads were interviewed in Tlacuitapa, Jalisco, Las Animas, Zacatecas,³⁶ and Gomez Farias, Michoacán. The major conclusion is that one should be “realistic” about accelerating economic development in communities that have long histories of migration to the U.S.

Mature migrant networks begin to bring immediate family members, wives and children, to join spouses in the U.S. (Reichert and Massey, 1980; Massey, Donato, and Liang, 1990; Fonseca and Moreno, 1988; Gonzalez and Escobar, 1990; Goldring, 1990; Donato, 1994). In one study, women were especially likely to make a first illegal U.S. trip by 1990, in some cases joining men who migrated seasonally for years (Kanaiaupuni, 1995). In another study, the probability that

women would migrate to the U.S. increased considerably if they had an immediate relative who received temporary amnesty as a result of IRCA (Donato, 1993).

Themes

Durand and Massey (1992) reviewed community studies, and argued that Mexico-U.S. migration evolves similarly in each community, so that “discrepancies” in factors motivating and sustaining migration are due to the “stage of migration.” For example, mostly young men migrating illegally without their families for U.S. farm jobs probably indicates that the community has only recently begun to send migrants to the U.S., while women and children migrating to U.S. cities is indicative of a more mature migration stream.

Massey, Goldring, and Durand (1994), on the basis of data from 19 agrarian communities in Jalisco, Michoacán, Guanajuato, and Nayarit, concluded that although “the first international migrants tend to be married male household heads of prime labor force age, usually from a nonagricultural background and often from a property-owning class, as migration becomes more prevalent and social capital accumulates, this profile changes” (p. 1528) to include more diverse migrants. Individual characteristics lose importance over time as migration networks mature, so that even the poor, the landless, women, and children are able to also migrate, taking advantage of their community’s growing migration network.

Many of the communities that have sent migrants to the U.S. for long periods have become “nurseries and nursing homes,” places in which a supply of workers for the U.S. is created, and to which workers retire. Instead of trying to get experienced migrants from such places to stay home, Cornelius urges policy makers to focus on persuading “first-time” migrants to stay in Mexico, a goal that “will be difficult but not impossible” (1990, 90).

Massey (1988, 408) argued that Mexico-U.S. migration is too well developed to reduce or stop; “it is much too late in the process to have any realistic expectation of markedly affecting the level of Mexican emigration to the United States,” so that migration-avoiding policies should concentrate their efforts outside of traditional migrant-sending areas. Cornelius disagrees, noting that population growth continues in traditional sending areas, and that there is some in-migration to some emigration communities to fill the vacuum left by departing migrants, so that the number of migrants even from traditional sending areas could remain large (1990, 91).

These studies raise two questions:

1. How sensitive are migration flows to socioeconomic conditions and government policies in the U.S. and Mexico?
2. Do migration flows become more or less sensitive to socioeconomic conditions and policy changes over time?

Most studies based on interviews with Mexicans in Mexico conclude that U.S. control policies have few effects on the migratory flow and that migration is becoming less sensitive to socioeconomic conditions over time.

The MMP data, for example, stress the importance of “social capital” rather than economic variables in initiating the migratory flow, and emphasize that migration flows become less sensitive to policy changes over time. For example, Donato, Durand, and Massey (1992) conclude that the probability of making a first trip to the U.S. has been increasing in the 1990s despite IRCA and stepped up border enforcement. Their data, based on 1987-89 interviews with 1,350 households in 7 communities in Jalisco, Michoacán, and Guanajuato, led to the conclusion that stepped up border enforcement and employer sanctions, which were applied to all U.S. employers as of December, 1, 1988, were not deterring especially experienced migrants from attempting illegal entry. In some communities, 100 percent of the experienced migrants intended to return to the U.S.³⁷

Other community studies also suggest that IRCA did not reduce overall levels of illegal migration (Gonzalez and Escobar, 1990; Massey et al. 1990). One study of three emigration communities in Jalisco, Zacatecas and Michoacán found instead that IRCA “augmented the flow of migrants... through legalization programs.” At most, IRCA may have “cause[d] a recomposition of the migrant flow” in the short run, because fewer Mexican were entering illegally (Cornelius, 1990, 23).

Studies based on apprehension data, on the other hand, suggest that IRCA was a U.S. policy instrument that reduced the influx of illegal Mexican migrants (Bean et al. 1990; White et al. 1990). Apprehension data analysts noted that much of the drop in apprehensions was due to the legalization of over 2 million Mexicans (Espenshade, 1990).

In an attempt to understand trends in apprehensions, Massey and Singer (1995, 18) used MMP data to estimate that the probability of apprehension on an illegal attempt to enter the U.S. was 0.35. By their reckoning, over the 25 years between 1965 and 1990, some 36.5 million Mexicans entered the U.S. illegally, and 5.2 million illegal Mexican residents were in the U.S. in 1989. This suggested to them that the probability of apprehension “was drifting downward” in the late 1980s—that U.S. border had become “increasingly porous.” Singer, Durand, and Massey (1996, 37) concluded that “interlocking processes of social and human capital accumulation build a self-feeding momentum into the migration process... [that] U.S. enforcement practices in no way halt—and in many ways encourage.”

There is also disagreement among analysts about the effects of a peso devaluation on emigration. Some, including Jorge Bustamante, argue that devaluations reduce emigration sharply in the short-run, because the cost of being smuggled into the U.S. is fixed in dollars and the smuggling fee is paid in Mexico from Mexican savings, so that a devaluation raises a financial hurdle for potential migrants.

However, if the cost of entering the U.S. is paid by U.S. residents, then a devaluation that increases the value of U.S. work relative to that in Mexico can stimulate migration. Taylor (1995), for example, estimates that a 10 percent peso devaluation increases Mexico-to-U.S. migration by 17 percent.

MMP data suggest that illegal migration was lower in 1983 and 1988, just after devaluations, supporting Bustamante. However, Donato, Durand, and Massey (1992) emphasize that the slowdown in illegal immigration was short-lived—well before the peso recovered, emigration increased.³⁸

Mexico has had major devaluations at the end of each of the last 4 Presidencies; in 1976, in 1982, again in 1986-87, and in 1994-95. After each devaluation, illegal immigration as measured by apprehensions in the U.S. increased, but there seems to be no immediate and consistent relationship between peso devaluations and illegal immigration to the United States.

For example, after the 1982-83 peso devaluation, it took about 16 months for the U.S. Border Patrol to notice a significant increase in illegal immigration. In 1987, apprehensions dropped despite a devaluation of the peso, largely because so many Mexicans were becoming legalized U.S. immigrants under the 1986 Immigration Reform and Control Act (IRCA).

The drop in apprehensions in the mid-1980s despite the peso devaluation emphasizes the importance of U.S. policies in determining whether Mexicans respond to economic crisis by emigrating. IRCA was signed into law in November 1986, and for the next six months, internal INS enforcement was suspended—unauthorized aliens who could get into the U.S. were not subject to INS raids or employer sanctions.

Beginning on May 1, 1987, the U.S. offered legalization to illegal alien farm workers, and over 800,000 Mexicans took advantage of it to become legal U.S. immigrants. There was less need to risk apprehension when legalization applications could be filed in Mexico, or Mexicans could come to the border, assert that they qualified for legalization but had no records to prove that they had worked illegally in U.S. agriculture, and then obtain 90-day entry and work permits.

Smuggling fees dropped as Mexicans entered legally, and the fraudulent document industry boomed. Most applicants for legalization under the special agricultural worker (SAW) program submitted only letters from U.S. labor contractors and farmers that asserted, for example, that “Juan Gonzalez picked tomatoes for me for 92 days between May 1985 and May 1986.” By some estimates, over half of the 1.1 million aliens legalized around the U.S. under the SAW legalization program were not eligible.

The economic outlook in Mexico and U.S. responses to the first two peso devaluations provide clues to the response to the 1994-95 devaluation. The 70-percent peso devaluation of 1982-83 lowered real wages in urban areas, and put

Mexican farmers in a cost-price squeeze, but the fact that most Mexican workers kept their jobs and saw their standard of living erode only gradually helps to explain the delayed illegal emigration response (Lustig).

The 1986-87 peso devaluation, by contrast, occurred when the U.S. was offering amnesty to illegal immigrants, the INS was educating employers rather than enforcing sanctions, and the U.S. and California enjoyed a period of rapid U.S. job growth, all factors that encouraged a seemingly “legal” migration response.

The 55 percent peso devaluation of 1994-95 occurred in a different climate in Mexico and the United States. In 1995-96, many Mexican firms laid off workers, rather than simply allowing their wages to be reduced by inflation. The number of workers in formal employment—permanent Mexican Social Security Institute or IMSS beneficiaries—fell by about 400,000 between mid-1994 and the end of 1995, from 8.8 to 8.4 million—estimates of the total number of Mexicans who lost their jobs in 1995 range up to 1.7 million.

Assessment

This section reviewed leading studies of Mexican emigration communities to determine what factors initiated and sustained migration to the U.S. The community studies lead to several conclusions:

- Most researchers identify U.S. recruitment, in the 1942-64 *bracero* era, as the key factor that unleashed “mass” migration to the U.S. For this reason, most of the “pioneer” migrants were young men from rural areas coming to work on U.S. farms. In most studies, a combination of stepped up U.S. enforcement and an expanded Bracero Program in the mid-1950s reduced illegal immigration and increased legal migration.
- The studies differ on what happened after the Bracero Program ended in 1965. Some emphasized that, in the late 1960s, only those who had greencards could easily enter the U.S. and find work. Other studies emphasize continuity in the migration process.
- All studies agree that, by the late 1980s, the probability that a young man would make a first trip to the U.S. was rising, that more women and children began to migrate to the U.S., and that factors other than a specific economic event—such as a U.S. recruiter or a drought in Mexico—motivated especially young men and women to migrate to the U.S.

This last finding—the changing reasons why Mexicans migrate to the U.S.—is perhaps most important for thinking about the policy responses to the changing factors that sustain Mexico-U.S. migration. The community studies suggest clearly that U.S. recruitment in the 1950s stimulated Mexico-U.S. migration. If Mexico

and the U.S. wants to avoid initiating and sustaining Mexico-U.S. migration, this conclusion suggests that U.S. recruitment of Mexican workers should be avoided.

Given current role of supply-push and network factors in sustaining migration between Mexico and the U.S., the community studies are much less clear about how to reduce or reverse sustaining factors. Only a few of the studies suggest doing nothing—that economic development stimulated by remittances in Mexico will “naturally” reduce emigration pressures, although Taylor (1992) approaches this conclusion.

More common is the conclusion of Cornelius; a “culture of outmigration” has developed in some areas of Mexico so that “migration to the U.S. becomes a complete substitute for local economic activity,” despite the fact that many young migrants “have no apparent necessity for going” to the U.S. (1990, 77). Massey et. al (1987) similarly conclude that migration has become a way of life in some communities in west central Mexico, so that dramatic economic improvement in Mexico, or much tougher U.S. immigration controls, would be necessary to break the culture and bonds that have evolved.

Massey argues economic improvement or effective controls are unlikely to slow migration from established areas; “it is much too late in the process to have any realistic expectation of markedly affecting the level of Mexican emigration to the United States,” so that migration-avoiding policies should concentrate their efforts outside of traditional migrant-sending areas, and give up where migration networks are established. Cornelius disagrees, noting that population growth continues in traditional sending areas, and that there is some in-migration to some emigration communities to fill the vacuum left by departing migrants, so that the number of migrants even from traditional sending areas could remain large (1990, 91).

The central finding of the more recent community studies is that the probability of taking a first trip to the U.S. has been rising:

- despite employer sanctions and stepped up border enforcement,
- and in part because of legalization and family unification policies.

The question is, what policies should be pursued to reduce the factors that seem to be sustaining Mexico-U.S. migration? There are at least three broad options; stepped up U.S. border and interior controls, free trade and other growth-accelerating policies in Mexico, or learn to live with high levels of Mexico-U.S. migration.

The U.S. has already stepped up U.S. border and interior controls, and is adding both Border Patrol agents and interior inspectors. There are several more notches of enforcement that could be tried, including the phasing-in of a counterfeit-resistant work permit, effective enforcement of employer sanctions and, to the extent that social services sustain some migration, more rules and screens to prevent

immigrants and unauthorized migrants from participating in tax-supporter programs.

Social service screens are controversial, since it is not clear what role welfare and other tax-supported services play in stimulating migration. Excluding unauthorized children from K-12 education, for example, may not deter unauthorized immigration, but may be counterproductive to keep unauthorized children out of public schools, making them less productive workers in the U.S. or in their countries of origin.

In any event, if the community studies are correct, neither border controls, nor employer sanctions, nor social service screening, is likely to be effective.

Most U.S. and Mexican observers believe that the best way to reduce the importance of the factors that sustain migration is to accelerate economic and jobs growth in Mexico, and to assure that the benefits of more rapid economic growth are shared widely. Former Mexican President Salinas argued for the North American Free Trade Agreement (NAFTA) on the grounds that it would accelerate job growth in Mexico, and “more jobs will mean higher wages in Mexico, and this in turn will mean fewer migrants to the United States and Canada. We want to export goods, not people” {quoted in Bush letter to Congress, May 1, 1991, 17}.³⁹ U.S. Attorney General Janet Reno made the same point: “We will not reduce the flow of illegal immigration until these immigrants can find decent jobs at decent wages in Mexico” (San Diego Union-Tribune, November 14, 1993, 1).

Most analyses concluded that NAFTA is the policy most likely to speed up economic and job growth in Mexico and thus deter illegal immigration, even though most researchers echoed the conclusion of the U.S. Commission for the Study of International Migration and Cooperative Economic Development; “The economic development process itself tends in the short to medium term to stimulate migration” (Cornelius and Martin, 1993, Martin, 1993). After a 10 to 15 year “migration hump,” these researchers suggest that Mexico-U.S. migration should decrease.

The most troubling community studies are those that, following Massey and Espinosa (1995), downplay the importance of economic variables in sustaining migration, argue that control policies cannot work, and stress the role played by “social capital”—friends and relatives who can help Mexicans to migrate to the U.S. Massey and Espinosa used interviews with 3,700 people in 25 Mexican communities to conclude that migration is increasingly motivated by “social capital theory” and “the new migration theory” rather than wage and unemployment differences that might be reduced by economic and job growth.

These studies are troubling because, if Mexico-U.S. migration really is “self-feeding,” as Massey and Espinosa suggest (1995, 14), then the most effective short-run techniques to reduce or reverse the factors that sustain Mexico-U.S. migration

would be a control-style response to unwanted Mexico-U.S. migration—a wall along the border, and a moratorium on legalization and immigration. It may be that even these control efforts would be ineffective but, if economic variables do not affect flows, and social capital does, then controlling immigration rests on “decreasing” the amount of social capital available, and preventing the formation of additional social capital.

Mexican Migration Project Data Re-Analysis

The MMP data were collected in the 1980s and early 1990s from about 200 households in each of 39 communities in west central Mexico, the region of Mexico centered on Guadalajara from which most Mexican migrants to the U.S. have come (Mexican Migration Project, 1995). The communities range in size from 1,000-person hamlets in 1990 to a section of Guadalajara, a city with a 1990 population of 2.9 million. As of 1993, the MMP data included information on about 42,700 men, women, and children, including 9,530 migrants.

In each of the 39 communities, about 23 percent of the housing units were randomly selected after a house to house census established the total number of housing units, and household interviews were conducted in December-January, when sojourner U.S. migrants often return to Mexico. Individual migration histories were compiled for all members of the household, including children of the household head who had formed their own households, and those absent when the interview was conducted; information was gathered on an average 9 persons per surveyed household.

Interviewers spoke with the household head and obtained information on all children, whether they were present or absent and, if absent, whether they were in Mexico or the U.S. (Massey and Espinosa, 1995, 4). For the household head, a “migration history” was compiled for each year after age 15—did the person migrate to the U.S. and, if yes, as a legal or illegal migrant. In addition, interviewers talked to about 20 migrants from each of the communities in the U.S. the following summer to obtain data on e.g., U.S. wages and remittances.

Modeling First Migrations

This section presents the results of models that predict the probability that a young man aged 20 to 24 would migrate to the U.S. in any year, and the cumulative probability that young men would take a first trip to the U.S. by age 40. For each year of life, a household member being interviewed had three choices (1) not migrate to the U.S.—coded 0—or (2) make an unauthorized trip⁴⁰—coded 1—or (3) migrate lawfully—coded 2. Once a person migrated, that person was excluded from further

analysis, so that every year, both the numerator and denominator changed, as some people migrated, while others turned 20.

These individual life-histories were used to estimate “age-period” models of migration, i.e., the ages of residents and community characteristics were assembled to estimate the probability of migration to the U.S., and whether the first trip was legal or illegal, for each year after 1940. Two probabilities were estimated:

- the probability that a man aged 20 to 24 migrates to the U.S. legally or illegally in a given year
- the cumulative probability that men by age 40 would have made a first legal or illegal trip to the U.S.

The typical person for whom “first U.S. migration” behavior was modeled was a 32 year old married man, with about 5.5 years of education and 2.2 minor children at home (Massey and Espinosa, 1995, 8). Across these MMP communities, about one-third of the men made a first trip to the U.S. by age 40, although in six of the 30 communities, over half of the men made a first U.S. trip by age 40.

For example, in community 2, a section of a large city, the probability that a young man 20 to 24 would migrate illegally to the U.S. was 1 percent in 1994, and 16 percent of the young men in this section of the city would migrate illegally to the U.S. by age 40 (Table 2).

To better trends over time, consider a typical community—say number 11, with a 1990 population of 20,000. Table 4 shows that about 12 percent of the men aged 20 to 24 in this community took a first illegal trip to the U.S. in 1980. About one in 10 young men continued to make a first illegal trip to the U.S. from this community throughout the 1980s—the low point in illegal migration was in 1993, when only 3 percent of the young men made a first illegal trip. The probability of an illegal first trip more than doubled to 7 percent in 1994, which means that 7 of 100 young men in community 11 made a first illegal trip to the U.S. in 1994.

Braceros were recruited in community 11, and the first-legal-trip data indicate that, during the *bracero* era, 1942-1964, about 2 percent of the young men made a first legal trip to the U.S. However, there was also considerable illegal immigration—there were only two periods during the *bracero* era when first legal trip probabilities were greater than first illegal trip probabilities—1940-44, and 1955-59.

In the early 1980s, three times more young men made their first trip to the U.S. from community 11 illegally than legally. However, in 1988, more young men went legally than illegally, and the legal probability has generally exceeded the illegal probability since.

Many U.S.-bound migrants are from very small places that, even in 1990, had only 1,000 to 3,000 residents. For example, Community 10 is typical of the small villages that depend on emigration and remittances to supplement earnings from rain-fed agriculture.

According to migration histories collected in 1989 from 150 households in Community 10, in the early 1940s, about 3 percent of the young men made a first unauthorized trip to the U.S., and 6 percent made an unauthorized trip in the early 1950s. First unauthorized trips slowed in the early 1960s, but then jumped in the 1980s, so that, between 1984 and 1986, over 40 percent of the young men who had not previously migrated made a first unauthorized trip to the U.S. Community 3 has similar first illegal trip probabilities, peaking at over 30 percent between 1984 and 1986.

The figures in the Appendix show that the probability of making a first illegal trip to the U.S. from communities 10 and 3 was higher than the probability of making a first legal trip from 1971 through 1987. Since 1987, more young men are making their first trips legally rather than illegally. In community 3, note that the chance of an illegal first trip remained higher than a legal trip throughout the 1971-94 period.

The cumulative probability data estimate how many young men from a community would have taken a first trip by age 40, legally or illegally. The pool of those who could migrate—the denominator—is all men in the community under age 40 who have so far not migrated legally or illegally.

During the wartime Bracero Program, 1942-46, the cumulative probability of migration legally was considerably higher than for illegal migration. However, in the late 1940s, the probability of illegally migrating exceeded the probability of legal migration, but legal migration once again became the norm after Operation Wetback in 1954 until the end of the Bracero Program in the early 1960s.

After 1964, the cumulative probability that young men migrated legally trended downward, while the cumulative probability of a first illegal trip moved up, peaking at 80 percent across these emigration communities in the early to mid-1980s. After reaching a low in 1985, the cumulative probability that a young man would have made a first legal trip to the U.S. by age 40 has fluctuated, with legal and illegal cumulative probabilities following the same patterns.

Women have different migration patterns than men. A woman's chance to migrate legally is generally higher than her migrating illegally, and women are most likely to migrate during periods of family unification, the mid 1960s and the 1990s. But from some communities, such as 3, women's migration patterns are similar to men's—the probability of migrating illegally is always higher than migrating legally throughout the 1971-1994 period.

Assessment

Based on the model and the MMP data, it appears that the probability of young men leaving west central Mexico for the U.S. by age 40 was 80 to 90 percent since the early 1940s. On a year by year basis, the major difference was whether young men made their first trips legally or illegally.

In the early 1940s, about two-thirds of the young men in the 39 communities took a first legal trip to the U.S. by age 40, and another 25 percent took a first illegal trip. Over the years, legal and illegal probabilities mirror each other—when the probability of a first legal trip decreases, the probability of a first illegal trip increases, ensuring that 80 to 90 percent of the young men make a first U.S. trip by age 40. There are two exceptions to this pattern—in the mid-1960s, and again after 1987.

The migration data from these 39 communities provide evidence that, from traditional emigration areas of Mexico, the U.S. policy choice is whether young men take their first trips legally or illegally, i.e., U.S. and Mexican economic conditions and policies seem only to shift migrants between legal and illegal categories. However, the data and analysis leave several questions unanswered, including whether and how U.S. and Mexican economic conditions and policies change the duration of stay abroad, and whether and how migrants who return to Mexico attempt re-entry.

New Community Studies

The mid-1990s represent a new era in Mexico-U.S. migration. There are several reasons, including changes in U.S. immigration law and enforcement practices, the implementation of NAFTA, and the restructuring of the Mexican economy. In order to determine how these and other changes are affecting Mexico-U.S. migration, we commissioned four new community studies for this report.

Themes

The community studies completed in 1995-96 reach several conclusions;

1. First, they agree that, although economic factors remain central to the decision to migrate, the factors initiating and sustaining Mexico-U.S. migration have become more complex. Most Mexican research on the factors that initiate and sustain migration include economic, social, geographic, environmental, and other factors (Stern 1977, Arizpe 1978, Winnie and Arroyo 1979, Lopez 1986, Gonzalez and Escobar 1990, Arroyo 1994, Arroyo and Papail 1996), but not in a manner that attempts, e.g., to assert the relative importance of each of these factors.

2. The new cases studies emphasize that there are network turning points which can be obscured in retrospective migration histories. Two examples make the point. First, Mexico City changed from the major destination to the major origin of Mexican migrants between 1970 and 1990, yet network studies failed to find network tipping points related to economic, environmental, and social variables that would explain the change.

Second, there is universal agreement that more women and children are joining husbands in the U.S. in the mid-1990s. There is little agreement on why Mexican women apparently decided that it was better to raise their children in the U.S., and that Mexican men and women decided that, with two earners, they could survive better in the U.S. than Mexico.

3. Our mid-1990s interviews find that the probability of successfully entering the U.S. on a first unauthorized attempt is rising, to 59 percent in 1994-95. Almost two-thirds of first time migrants are using coyotes to help them cross.

Evolution

Most of the community studies of emigration areas in Mexico before the mid-1980s were done or supervised by U.S.-based researchers. Massey and his three Mexican anthropologist collaborators—Alarcon, Durand and Gonzalez—cast a long shadow in both countries. These researchers popularized the network concept on both sides of the border, and emphasized the importance of “social capital” in migration decisions.

Mexican researchers in the 1970s and earlier examined internal migration, and used concepts such as networks to explain the movement from rural to urban areas. For example, Arizpe examined “relay migration” from impoverished indigenous regions to Mexico City (1975, 1977), and Lomnitz studied social networks in a small migrant community (1975, 1977). Both showed how the decision to migrate depended on personal contacts—“microstructures of migration” or networks—how migrants from the same community or family grouped together in their destination, and often practiced the same trades or entered the same businesses, and how mutual assistance led to the formation of new urban communities based on groups, values and cultures that the migrants brought with them.

Mexican community studies today pay deference to networks, but lay more weight on economic factors such as employment, poverty, and wage gaps than do the studies linked to Massey (Orozco 1993, Arroyo and Papail 1996). Mexican researchers also put more weight on non-economic and non-network factors, such

as distance from the border or destination community, community organization, kinship and ethnic characteristics.

A typical Mexican study is that of Margulis and Tuiran(1986), which stresses that there was an uneven distribution of capital and labor across space, and that migrants were searching for survival and better opportunity. The demand for migrant labor in the U.S. is considered an important factor after 1900, and became especially important after 1940. Indeed, Margulis and Tuiran argued that the U.S. used the *bracero* system to take advantage of Mexican labor when it was most productive, and not bear its upbringing or retirement costs.

Network reasons for initiating and sustaining migration have been a mainstay of the Mexican literature since the 1980s. There are two approaches to networks. First, some researchers see networks as a channel that facilitates migration and lowers the cost of a risky undertaking. In this sense, a network is a kind of social organization that structures migrants' experiences, and provides substantial help to migrants, precisely because it is "open" to helping relatives, friends, and members of the community (Lopez 1986, Alarcon 1989, Durand 1988, Rionda 1992).

The second approach to networks is to see them as bridges that link a single community across space. In this binational community view, economic concerns, politics, religion, ethnicity and identity are similar in the linked communities, laying the basis for mutual support despite distance (Lopez 1995, Espinosa 1996, Mummert and Zendejas 1996, Durand 1992). Many researchers combine both approaches, seeing networks as both open social structures, and as the glue binding binational communities together.

The fact that networks have become an umbrella concept that encompass a great deal of human behavior tends to obscure certain features that are vital to initiating and sustaining migration. For example, so some families and individuals profit differentially from existing networks, perhaps by "placing" members in crucial points, or should a network be viewed as a big and happy family? More refined analyses are needed to determine when and how networks break up; when and how individuals decide to migrate in spite of weak or no links to networks ; and when and how a "binational community" reconstitutes itself in the U.S., as when most women and children join men abroad.

History shows that migrant destinations change, yet network theory has been unable to explain why. For example, between 1970 and 1990, Mexico City switched from being the major destination for Mexican migrants—far more important than the U.S.—to becoming the major origin for migrants in Mexico. However, network studies provided few clues as to how such a major shift could occur so quickly, although the major variables—fewer jobs, high housing and living costs, environmental factors, and social fears such as crime—probably reversed networks with ever-more social capital within 20 years.

One key variable in network breaks is family—when and why do wives and children join men in the destination area? It is clear that more Mexican women and children are migrating to the U.S. possible (Gonzalez de la Rocha 1989, Mummert 1996 in appendix, Lopez 1996 in appendix), but it is not clear whether the return to nuclear families in one place represents a significant change in gender relations, or a return to a situation of protection by the male.

The community studies commissioned for this report suggest that two factors are at work. First, more women seem to have decided that it is better to raise their families in the U.S., where children can complete secondary school. Second, many men apparently want the U.S. earnings of their wives to support themselves in the U.S.

The body of research based on interviews in the late 1980s of the past 40 years of migration cannot easily locate such “turning points” in migration networks. However, the new case studies suggest that a combination of economic instability since 1982, slow job growth, and restructuring that promises little economic future in some emigration areas certainly played a role in the decision to move to the U.S.

In addition to network turning points, the new case studies indicate that a rising percentage of unauthorized migrants are entering the U.S. on their first attempt. Based on interviews with 1,200 households in Jalisco in 1995-96, about 48 percent of those attempting illegal entry into the U.S. succeeded on their first try in 1980-84, 53 percent between 1985-93, and 59 percent in 1994-95. Reliance on coyotes also increased—50 percent of those attempting a first illegal entry used a coyote in 1990-93, versus 71 percent in 1994-95, and more migrants are attempting entry in Mexicali-Nogales.

Key Informants and Public Opinion

In early June 1997, key informants in west Central Mexico were asked about the extent, effects, and likely future patterns of emigration. Three themes dominated their responses:

1. Most migrants from central Mexico to the U.S. are rural, not urban residents. Many live in small “bedroom” communities that have less than 5,000 residents, and are dependent on rainfed agriculture and urban and farm jobs in nearby towns. Most key informants emphasized that the choice is occasional work in Mexico for 22 to 24 pesos (\$3) per day in rural Mexico, or minimum wage work in similarly uncertain labor markets in the U.S.
2. There is a culture of emigration, in the sense that many rural young men expect and are expected to migrate to get the money needed to buy a

house and marry. In other words, going and coming to the U.S. is such an everyday occurrence that someone with a U.S. network who does NOT go is considered the exception. Despite much discussed stepped-up U.S. border controls, and a great deal of misinformation about IIRIRA e.g., barring illegal alien children from U.S. schools, several key informants noted that it takes only 1 successful entry and return with money to offset 100 failures and induce more young men to make the trip.

3. The most surprising finding was that many key informants who seemed knowledgeable about migration stressed the NON-importance of remittances in launching local businesses, especially larger businesses that employed 10 or more workers. Indeed, even returned migrants with successful businesses stressed that they got the money to begin the business in Mexico, not in the U.S. All acknowledged that the spending of remittance money on food and housing has local multiplier effects on economic activity, and that some remittance savings were invested in agriculture, but we were struck by the inability of key informants to mention by name a local business success that was founded by a returned migrant with remittances, while all knew of the handful of multinationals such as Nestle that had operations in the area.

Key Informants

This section provides capsule summaries of several of the places that were visited. All were in Jalisco, the largest state in west central Mexico, and a place where agriculture means that farmers with a few hectares of land plant corn in mid-June, and hope that enough rain falls in the summer so that there is a harvest in October-November.

Zapotlanejo, about 20 minutes east of Guadalajara, Jalisco, is a city and municipality of 80,000 that represented the optimistic end of the development-slows-emigration spectrum. This “birthplace of the clothing industry” has 1,400 small retail shops selling a wide range of sports-oriented clothing for children and adults. The city of 47,000 has grown rapidly, as rural residents abandon farming and move into shanty towns on the edge of the city—at least 5,000 people in Zapotlanejo live without water or electricity. The 33,000 rural residents in the surrounding area, everyone agreed, are suffering from low farm prices and high costs of producing crops; some farm land is reportedly being abandoned.

Men began migrating to the U.S. from Zapotlanejo in the 1940s under the Bracero Program and illegally, but there was a sharp increase in emigration in the late 1960s, when many residents were able to obtain green cards from U.S. employers

and work in the U.S. as greencard commuters. Today, there are ex-Zapotlanejo residents settled in California, Chicago, and Texas; one estimate was that about 80 percent of those who worked in the U.S. stayed.

Zapotlanejo has experienced a boom in the past 10 years, as the number of retail clothing shops expanded by over 100 each year, reflecting its reputation for quality production. An estimated 5,000 local residents are employed in the clothing industry, and others are employed in support industries, including transport (2,000 visitors reportedly arrive every day). However, this still leaves 10,000 or more workers in the region—many on farms—who are unemployed or underemployed.

One such migrant was a father of 10 who worked most of each year in a Dallas factory, and who had at least one son working in Tennessee illegally. This farm family with 11 cows had several children who completed high school and went to college, as well as a newly-established retail clothing shop, but when asked how many of the children would go if there were a new guest worker program that offered legal entry and work permits, the mother thought that most or all of her children would go. The father reportedly goes into debt to farm in Mexico, and migrates to the U.S. to earn money to pay off the farm debts.

Perhaps the central migration issue in this town is the race between the U.S. and the clothing industry to absorb workers. Despite high wages—\$400 to \$500 per month for the men who cut fabric, and \$250 per month for the women who sew at piece-rate wages, there seems to be a combination of shortages of skilled and experienced workers for the clothing industry, and too many rural workers going into debt in agriculture. In an area where the minimum wage is 22 pesos or \$3 per day, we were told that all workers expect to be paid more than the minimum wage of 22 pesos per day (\$3).

It is expensive to set up a sewing shop in Zapotlanejo; little commercial space is rented, but if it were, 700 square meters of space to establish a sewing shop would rent for 2,000 pesos or \$250 per month, and sell for \$60,000—real estate prices may have tripled in the past 10 years in Zapotlanejo.

Most shops that have sewing machines buy rather than rent them, and establishing a sewing shop with 10 sewers can easily cost \$10,000, including sewing machines at \$600 each. In addition, larger sewing shops in town are subject to social security or IMSS taxes that add 25 to 30 percent to wages. But key informants said most sewing shops started with one or two machines in a home that could be bought with less than \$1,000, and used family labor to get established (usually the cutting was done in larger factories, who also paid for the fabric, and home workshops only did sewing for them). Over time, these home-based workshops expand or cease to exist.

The goal of the town is to decentralize sewing, to lend sewing machines to rural women, and to have them sew garments in their homes. This would prevent the growth of shanty towns around Zapotlanejo, and help sewing shop owners to avoid IMSS costs. IMSS are social security and other payroll taxes that add approximately 20 to 30 percent to wages.

While the decentralization of sewing might provide more jobs for local women, it is not likely to provide many additional jobs for local men in rural areas, who are most likely to emigrate. About 20 percent of the farm land around Zapotlanejo is in ejidos, and land prices seem to vary considerably, from \$3,600 per hectare for dryland crop land. There is a local dairy industry, but everyone agreed that milk prices were too low to make milk production profitable.

There is one American firm in Zapotlanejo, employing 250 seamstresses; it received a special municipal tax break to locate there. It does all its sewing in the shop, pays all labor and employment taxes, and exports garments to South America and U.S. markets.

Pegeuros is a town of 4,000, plus 4,000 in the surrounding countryside, that has a long tradition of emigration. The local economy is based on rainfed agriculture, but has developed a significant agribusiness industry centered on poultry, dairy, and hogs; these agribusinesses developed in Pegeuros because their owners were from the area, not because the area has either cheap animal feed or slaughtering facilities. Some key informants reported low wages of \$25 to \$40 per week for laborers were also a factor in the decision to locate in Pegeuros. Both large-scale dairy and poultry production are reportedly profitable.

The returned migrants in Pegeuros stressed the non-importance of remittances and skills acquired in the U.S. in starting local agribusinesses. Instead, they credited e.g., selling clothes in Mexico City with laying the foundation for local agribusinesses. Several noted that the amount of money needed to begin a viable agribusiness greatly exceed what a typical migrant can earn while in the U.S., so that most remittances are spent on current consumption and improved housing. Ironically, many of the workers employed for wages in these local agribusinesses are migrants from nearby towns, since Pegeuros residents tend to go to the U.S., or expect U.S. wages in Pegeuros (supervisors and accountants on large farms earn \$400 to \$500 per month).

There are as many persons born in Pegeuros in the U.S. as in Pegeuros, and some have been very successful, including several who started businesses in the Los Angeles area. The U.S. Pegeuros-residents have a club that returns money to Pegeuros for civic improvements, but some of the projects supported by the club have not benefited local residents, including a clinic that was built with club support in 1995, but in 1997 had no equipment because Mexican customs refused to

allow the entry of donated medical equipment. The U.S. clubs maintain ties to their Mexican villages of origin with beauty pageants in both the U.S. and Mexico that include contestants from the U.S. and Mexico; many week-long fiestas in Mexican villages include a day for migrants living in the U.S.

A typical lot in Pegeuros on which to build a house cost \$2,500, and the house another \$20,000, although one house built by an extremely successful Pegeuros migrant in Hollywood cost \$200,000. Many of the successful migrants who settle in the U.S. invest in real estate and businesses there; some local residents complain that those who settle in the U.S. reduce remittances and investments in their village of origin.

Pegeuros leaders feared a mass return of Mexicans after April 1, 1997, but so far, there have been almost no returns. There have been a few returned criminal aliens, and they have caused trouble, and inspired imitation by local youth.

The Los Altos area of Central Mexico has been exporting young men for centuries, for seminary and work. One village of 2,800 was mostly dependent on U.S. remittances and money earned in nearby towns—it was a “bedroom community” seemingly closer to the U.S. labor market than to local jobs that added residents despite emigration through births exceeding deaths. At least 500 persons born in the village were in the U.S.; there are also retired residents living in the village who worked in the U.S., and now receive U.S. Social Security benefits.

There is a marked contrast between public squalor and private affluence in these villages. The main street running through town was only quasi-paved, but the homes of migrants were immediately noticeable because of their satellite TV dishes. Migrant remittances were also being used to construct a fairly-elaborate hall for weddings and 15-year old coming out parties for girls.

When asked how many young men would go if there were a new guest worker program that permitted legal migration, most people expected most of the young men without education to leave for the U.S.

Lagos de Moreno is a town of 125,000 that has a long tradition of resistance to the federal government’s land and other reforms. Lagos de Moreno is actually two distinct areas; a city bustling with factories that process agricultural products, including milk, and shops selling a variety of goods, and a rural hinterland that includes over 300 villages often filled with struggling farmers. The major agricultural enterprise is dairying; Nestle has a plant in the town.

Lagos de Moreno has several enterprises that send workers to the U.S. for training, but it appeared that the workers sent to the U.S. for training were not those who would otherwise have migrated.

Key informants in Lagos de Moreno spent some time discussing differences between groups of residents, including Native Americans who married among themselves, and poor blond girls who were able to marry up because of their looks. All

agreed that a root cause of rural poverty in the area was a poorly-executed land reform in the 1950s and 1950s, when haciendas were divided up among peasants, but they were not provided with the credit that the hacienda owners provided, so farm production fell. One elderly Lagos resident recounted how her husband went to the U.S. as a *bracero* in the early 1940s, and with 5,000 in peso savings from 18 months of U.S. work was able to begin what turned into a profitable cattle business.

Opinion Polls

This section presents public opinion data from 1989 and 1995 on the factors that sustain migration across the U.S.-Mexican border. The Los Angeles Times interviewed some 1835 Mexicans August 5-13, 1989 in 42 Mexican cities and towns to determine whether IRCA was discouraging illegal migration to the U.S. About one-third of the Mexicans who responded to the poll reported they had already visited the U.S., 42 percent said they had relatives in the U.S., and 7 percent reported that they received funds from a U.S. relative.

About 6 percent of those polled in Mexico in the summer of 1989 reported that they were “very likely” to take up U.S. residence in 1990, and 16 percent said that they were “fairly” likely to move north within the next year. Since each one percent of respondents was assumed to represent about 850,000 Mexican residents, this was interpreted to mean that about 4.7 million Mexicans were “very likely” to move to the U.S. illegally in 1990. These polling data were used to conclude that, despite IRCA, many Mexicans planned to illegally enter the U.S. (Marjorie Miller, “The Times Poll—Despite New Laws, U.S. Still a Lure in Mexico,” Los Angeles Times, August 21, 1989).

Conclusions

Much has changed since Herbert Hoover in 1918 argued for removing restrictions on Mexican immigration by asserting that “we need every bit of this labor that we can get and... we will need it for years to come” (Quoted in Kiser and Kiser, 1979, 14). However, there has been one constant—a debate over whether Mexican workers were truly needed in the U.S. The Mexican Consul in Arizona, in 1918, noted that many Mexicans and Mexican Americans in that state were unemployed, so that “there is an abundance of labor here [in the U.S.] and what is lacking is a good wage and above all good treatment” (Quoted in Kiser and Kiser, 1979, 15).

The constants in Mexico-U.S. migration are at least threefold:

1. The pleas of U.S. employers, especially farmers, for supplementary foreign workers.

2. Arguments by U.S. unions, churches, and sometimes the Mexican government that there was no shortage of labor in the U.S., only a shortage of wages and decent working conditions.
3. Migration off the land in Mexico (Escobar and Roberts, 1996, 1).

After almost 80 years of Mexico-U.S. governmental interaction over Mexican migration to the U.S. for employment, there is still disagreement over facts, trends, and recommendations.

We believe that Mexico-U.S. migration for employment is initiated and sustained by three broad categories of factors; demand-pull factors in the U.S., supply-push factors in Mexico, and network factors that bridge the border. Our major conclusion is that the factor that initiated Mexican worker movement to the U.S.—government-approved U.S. employer recruitment—has been joined by supply-push and network factors as major motivators and sustainers of migration.

Given the importance of supply-push and network factors in current Mexico-U.S. migration flows, we argue that there is currently a peak or hump in Mexico-U.S. migration that should be reduced by economic and job growth in Mexico beginning in 5 to 15 years.

Notes

1. U.S.-Mexico migration for employment and retirement patterns are summarized in Volume 3, pages 869-1000.

2. According to Massey, 95 percent of Mexicans' first trips to the U.S. are unauthorized (1996). The INS estimated in 1997 that there were 5 million unauthorized aliens residing in the U.S. in October 1996. Of these, 54 percent—2.7 million—were Mexicans who the INS believes were residing in the U.S. 12 months or more. The number of unauthorized aliens settled in the U.S. was estimated to be increasing by 275,000 per year, including 154,000—69 percent—Mexican nationals (INS, 1997). In addition to resident illegal alien Mexicans, there are additional seasonal or sojourner migrants who are in the U.S. part of each year—perhaps 500,000 to 1.5 million.

3. Mexican estimates suggest an increase of 277,000 legal and unauthorized Mexican-born persons in the U.S. each year, while U.S. estimates suggest 340,000 per year. Between FY91 and FY95, the 1.5 million legal Mexican immigrants were almost 30 percent of the 5.2 million legal immigrants admitted to the U.S.

The number two country of emigration, the Philippines, reported that 4.2 million Filipino-born persons were living outside the Philippines in 1996, and that 654,000 Filipino workers were deployed abroad in 1995. The Philippine Central Bank reported that remittances from Filipino overseas contract workers increased over 63 percent to U.S. \$4.9 billion in 1995 (124 billion pesos), up from U.S. \$3 billion in 1994 .

4. The 4 million to 5 million Mexican workers employed in the U.S. are equivalent to 40 to 50 percent of the Mexican workers permanently employed in private formal sector jobs in Mexico.

There were 9,163,459 permanent workers enrolled in IMSS at the end of 1996, a record gain of 661,024 from 8.5 million at the end of 1995, reflecting in part the return of 274,493 IMSS jobs lost in 1995. Growth continued in 1996: some 282,782 permanent workers were enrolled between January and April 1997, bringing the total to 9,446,241 at the end of April 1997, including 103,000 additions in April. Of the permanent workers enrolled in IMSS, 40 percent were in manufacturing (377,000 new IMSS jobs in 1996), 36 percent in services (166,000), 19 percent in trade (103,000), and 5 percent in agriculture (16,000).

In addition to permanent IMSS participants, some 2 million to 4 million government employees are permanent workers affiliated with ISSSTE, the government workers social security institute.

It should be emphasized that not all Mexican workers in the U.S. are in formal sector jobs. However, according to the NAWS, virtually all Mexican born farm workers have social security taxes deducted from their wages.

5. Sometimes migrants repay smuggling costs by working in coyote-related employment in the U.S., suggesting that funds to pay for entry, border crossing, and U.S. employment are becoming more closely linked

6. Based on mid-1990s fertility levels, Mexican woman average three births in a lifetime, down from seven in 1970. If lifetime fertility in Mexico stabilizes at 2.5 children per woman, Mexico's population will rise from 96 million today to 192 million in 2050, according to PRB. If lifetime fertility stabilizes at 2 children per woman, the Mexican population would be 154 million in 2050.

The secretary-general of Mexico's National Population Board predicts that Mexico's fertility rate will fall to 2.1 births per woman by 2005, and then fall below replacement level. The growth in the number of Mexicans 0 to 5 is currently zero, and the growth of the 6 to 14 age group is about 0.6 percent per year.

7. There are several measures of employment and unemployment in Mexico. A May 1995 Banamex review of data from the National Employment Surveys of 1988, 1991, and 1993 (ENE), household income and expenditure surveys of 1984, 1989, and 1992 (ENIG), and the population censuses of 1980 and 1990, concluded that the labor force or economically active population 12 and older in 1995 was 36.1 million, up from 33.7 million in 1993, and 31.2 million in 1991—in 1993, about 10 percent of the 12-14 year olds in urban areas with 100,000 or more residents were in the labor force, and 30 percent of the 12-14 year olds in rural areas (152-3). According to Banamex, Mexico had 27.4 million paid employees in 1995, and a labor force of 37 million in 1997, including those who are self employed, unpaid family workers, and the unemployed. A 1995 report from the U.S. Embassy in Mexico City estimated that 35 percent of economically active Mexicans are either unemployed or underemployed.

8. Between 1993 and 1997, Mexican National Employment Surveys indicate that the labor force increased from 32.4 million to 36.7 million, or by over 1 million or 3 percent per year. The 37 million current labor force number includes about 4 million unpaid family workers and 2 million unemployed workers; those classified as employers or wage and salary workers totaled about 30 million in 1997.

9. Even if economic growth averages 4 percent per year, the Mexican economy should be able to generate enough jobs for the smaller entry labor force cohorts after 2000. At 4 percent GDP growth, and the 1.35 economic-employment growth ratio, Mexico would be generating about 950,000 jobs per year soon after 2000, which should fully absorb the entry cohort. With 3 percent growth, and the 1.35 growth-employment ratio, Mexico should generate

800,000 new jobs per year, which should absorb the entry cohort of 2005 (Mexico's total labor force may grow by more than 800,000 per year, as persons not in the labor force seek work if jobs are available).

10. Mexican manufacturing is considered capital intensive, and with a high import content, reflecting *maquiladora* assembly activities, e.g., television parts are imported, and assembled televisions are exported. Tijuana has become the world's TV-manufacturing capital, churning out 14 million sets a year.

11. In FY95, the 19,200 Mexican non-immigrants admitted to the U.S. with H, O, P, Q, and R visas were 10 percent of the total 196,800 non-immigrants admitted with such visas, including 6,100 H-2A farm worker admissions, and 3,500 H-2B nonfarm worker admissions. Current non-immigrant temporary worker programs permit U.S. employers to recruit foreign workers anywhere.

12. It is easy to emphasize the gap between U.S. and Mexican positions, or ways to narrow the gap. For example, most U.S. employers would agree that Mexican guest workers would have to be paid prevailing U.S. wages, and work under prevailing U.S. working conditions, as Mexico would likely insist. However, U.S. farm employers have proposed that temporary foreign workers receive a housing allowance in lieu of U.S.-government approved housing, something that may be hard to justify given that the foreign workers presumably have no knowledge of local housing conditions, and that they are entering the U.S. for seasonal work.

In other words, if the seasonality that some U.S. and Mexican advocates think characterizes Mexican-U.S. migration is real, then there may be pressure to adopt different and lower housing and protection standards for guest workers, which may increase opposition to a guest worker program.

Whatever protections are adopted, many worker advocates believe that U.S. enforcement is adequate to ensure that they are obeyed.

13. There is a debate over whether low wages or unemployment is the major push factor in Mexico that encourages emigration. Massey et al. 1994, 710 conclude that "employment related variables [in Mexico] generally equaled or exceeded those of wage-related indicators."

14. Lowell (1995, 15) notes that the number of legal immigrant entries into the U.S. is (1) negatively correlated with non-immigrant entries across 116 countries that send migrants to the U.S., and (2) positively correlated with illegal entries, suggesting that legal immigration is a proxy for "emigration pressure" from a country.

15. Both historically and today middlemen recruiters and transporters have been involved in the migration process. Today, these understudied middlemen—who might be considered as arbitrageurs of differences between international labor markets—play an role in facilitating illegal labor migration, extracting a fee from migrant workers or their employers equivalent to 25 to 100 percent of what the migrant will earn in his first year abroad.

16. It should be emphasized that unauthorized workers accompany legal guest workers in every country with a guest worker program. The ratio to unauthorized to authorized workers is amenable to policy intervention, as in the mid-1950s, when the U.S. launched "Operation Wetback" and simultaneously encouraged farmers to employ legal *bracero* workers.

17. In 1947, there was a smaller than usual cotton crop, and relatively little farm work available in southern California during the winter months. However, the fall 1948 cotton crop was much larger than usual, increasing the demand for labor in 1948.

18. Some Midwestern meatpacking plants offer “bounties” of \$200 to existing workers for each new worker referred. Many plants have recruiters who seek out workers within 50 or 100 miles of the plant, and some send recruiters to Texas or California in search of workers. For more details on how Mexican and other workers are recruited to work in Midwestern meatpacking plants, see Martin, Taylor, and Fix, 1996

19. Tomatoes are native to South America. Commercial U.S. production began in the 1880s. The U.S. produces about 20 percent of the world’s tomatoes.

Cannery or processing tomatoes are harvested by cutting the plant and shaking off the tomatoes. The tomatoes are then sorted by color as they move past an electronic eye, and then loaded onto 25 ton trucks for delivery to processing plants.

The tomatoes are washed, screened to remove debris, and then either sliced or processed into tomato paste.

20. In addition, there were in 1993-94 about 500,000 non-immigrant foreigners working temporarily in the U.S. labor market—temporary non-immigrant workers are often found in the same sectors as settled foreign workers, viz, construction, agriculture, and hotels and restaurants.

21. The 23 million rural Mexicans shared the \$30 billion rural GDP in 1994, giving them an average \$1,311 each, while the 67 million urban Mexicans who shared the remaining \$347 billion GDP had an average \$5179 GDP each. Mexico’s economy shrank by about 7 percent in 1995.

22. According to a Mexican proposal to the World Bank in 1995, 41 percent of Mexicans live in rural areas, and 84 percent of the extremely poor Mexican residents are in rural areas. Mexico-Agricultural Development and Rural Poverty Project, MXP7711.

23. At the other end of the spectrum, Mexico includes the fourth largest number of billionaire families—24—after the U.S., Japan, and Germany. The wealthiest Mexicans in 1994 included Carlos Slim Helu (\$6.6 billion in assets, Telmex), Emilio Azcarraga (\$5.4 billion, Grupo Televisa), Lorenzo Zambrano (\$3.1 billion, Cemex), and Aleko Peralta (\$2.5 billion, Grupo IUSA)

24. About 12 percent of the sample households included an adult who had migrated to the U.S. in the past four years, and 27 percent included an adult member who had migrated to the U.S. at least once (de Janvry and Sadoulet, 1997, 7).

25. There are a few commodities that can be produced cheaper in Mexico, including avocados. However, when the USDA held hearings on whether Mexican avocados could be imported into the American northeast, where the pests common in Michoacán could not survive the winter, California producers called for keeping trade barriers in place until there was much more study and information available on the possible risks to U.S. avocados and citrus. California has 60,000 acres of avocados, and California avocado sales in 1995 were about \$225 million.

26. Most Mexican vegetable exporters provide housing in 125 camps in the Culican Valley at no charge to their harvest workers, often 150 square feet for each family, which can range six to 10 family members. Government doctors visit the camps to dispense basic medicines and to teach techniques of birth control; however, the schools in the camps teach from 5 to 8 PM, so that children can help their parents in the fields

27. Helene Cooper and Bruce Ingersoll, “With little evidence, Florida growers blame tomato woes on NAFTA,” Wall Street Journal, April 3, 1996.

28. For example, a Mexican peasants organization, the National Union of Autonomous Regional Campesino Organizations (UNORCA), in April 1996 asserted that more than 80 percent of Mexico's of what it said were three million ejidatarios, and 2.5 million small farmers, were vulnerable to bankruptcy. In late April, 1996, the Mexican government announced a plan to provide \$1 billion in credit and technical assistance to 600,000 producers of grains on 11.5 million acres.

29. There were dozens of hearings on whether NAFTA should be approved by the U.S. Congress, but only one devoted specifically to how NAFTA would affect Mexico-to-U.S. migration. During the November 3, 1993, hearing before the House Judiciary Subcommittee on International Law, Immigration and Refugees, Chairman Romano Mazzoli (D-Ky) repeatedly asked Administration officials why they had not reached an agreement with Mexico on additional steps to control illegal immigration. They responded with variations on the statement of Deputy United States Trade Representative Rufus Yerxa: "NAFTA does not explicitly address the issue of illegal immigration, but in the long run, it is one of our best bets to reducing illegal immigration."

30. Tellez converted this to a labor displacement figure in May 1992, when he predicted that over 1.4 million farmers and workers would be displaced by 2002 due to freer trade and land reforms. Tellez projected that the farm work force would fall from 26 percent in 1992 (7.18 of 30 million) to 16 percent by 2002 (6.4 of 40 million). Cited in Cornelius, 1992, p. 6.

31. About \$12 billion is transferred outside the U.S. each year by money remitters or transmitters such as First Data Corp's Western Union and Moneygram Payment Services—these two collectively account for \$11 billion or 90 percent of the nonbank international transfer market in the U.S. U.S. banks transfer an estimated \$800 billion daily overseas. Wall Street Journal, May 20, 1997.

32. Some surveys indicate that employers prefer immigrants because their "right attitude" includes a tendency not to complain about labor law violations. Enforcement experience suggests that a majority of garment and agricultural employers inspected by labor law authorities are violating *some* labor law, but it is often very difficult to quickly prove the violation.

For this reason, labor inspection records indicate that many violations are "technical," such as failing to post safety notices, because such violations are clear, while others take time to prove. For example, it can take hours of investigative time to determine whether workers paid piece rate wages are earning the minimum hourly wage of \$4.25 to which they are entitled, and so, rather than go through incomplete records, the inspector may simply issue a citation for a missing poster and move on. For a review of enforcement practices in immigrant labor markets, see Martin 1994.

33. It might be noted that the Fair Labor Standards Law, which established minimum hourly wages, overtime pay, and child labor rules, is routinely violated by some firms. DOL's 800 labor inspectors open 20,000 investigations each year, mostly following complaints, and win settlements for workers in about 90 percent of the cases. One employer group estimates that U.S. workers are unlawfully denied \$19 billion per year in overtime pay—federal law requires that workers employed more than eight hours daily or 40 hours weekly be paid 1.5 times their normal wage (G. Pascal Zachary, "Many firms refuse to pay for overtime, employees complain," Wall Street Journal, June 24, 1996).

34. Wiest distinguished between temporary-recurrent migrants who were typically away for less than one year, indefinite migrants who those whom the household members

interviewed say that do not know if the absent member will return, and permanent relocation was the term applied to those who left the village.

35. Taylor (1987) emphasized that illegal migration to the U.S. does not contribute disproportionately to a Mexican household's income.

36. Cornelius concluded that Las Animas may be the exception in the sense that U.S.-bound migrants from there followed well-trod network paths to a few areas of the U.S. Cornelius argued that "social network-based migration does not necessarily tie a Mexican sending community to a single receiving area within the U.S."

37. Donato, Durand, and Massey concluded that IRCA was not deterring illegal entries. The 1987-89 drop in INS apprehensions, they concluded, was probably due to legalization, not to fewer Mexicans migrating to the U.S.

Espenshade agreed with the conclusion that the prospect of being apprehended seemed to do little to discourage Mexicans attempting illegal entry in the late 1980s and early 1990s, but he emphasizes that, once inside the U.S., the probability of apprehension goes down, but the costs of being apprehended goes up, since apprehension inside the U.S. can mean loss of a U.S. job (1994, 886).

Most evidence points to a probability of apprehension on any illegal attempt of about 0.3—about 74 percent of a sample of persons legalized under the general legalization program—and 68 percent of Mexicans—reported that they had never been apprehended by the INS between their entry—which should have been before January 1, 1992, and their application for legalization in 1987-88 (INS, 1992, 15).

Reports in 1995 from the single most labor-intensive activity in North American agriculture—the harvest of about 200,000 acres of raisin grapes around Fresno, California from mid-August to October—found that newly arrived and unauthorized workers were still getting into the U.S. and going to work. The unauthorized workers in the raisin fields reported that they paid higher fees to smugglers in summer 1995, \$300-\$400 versus \$200-\$300, but the larger increased cost was the lost days of work in the U.S. because of delays in crossing the border.

Most of the raisin workers, however, persisted until they succeeded in reaching the Fresno area (INS Evaluates Gatekeeper, SouthPAW, Migration News, October 1995).

38. Massey and Espinosa (1995, 51) argued that many Mexican migrants from West Central Mexico in the late 1980s and early 1990s were motivated to migrate to the U.S. to seek capital to invest in Mexico, not simply searching for higher incomes. These migrants could not obtain the capital they needed in Mexico because interest rates were high. However, high interest rates are also typically associated with slow economic growth and joblessness, so that high Mexican interest rates could just as plausibly be associated with more emigration for very traditional low wage and jobless reasons for migration.

39. In a September 10, 1992 speech to the Detroit Economic Club, President Bush said that the economic growth accelerated by NAFTA should "cut down on the cross-border flow of illegals that I think is burdening a lot of our country, particularly California."

40. For those who migrate to the U.S., interviewers asked whether the migrant was legally authorized to work in the U.S., so that persons crossing the border with tourist visas, border crossing cards, or borrowed or false documents were coded as making illegal entries.

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