

U.S.-Mexico Interdependence, Social Pacts,
and Policy Perspectives:
A Computable General Equilibrium Approach

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THE LAST TWO decades have seen an explosive growth of transborder movements of goods and factors which have made the future welfare prospects of many socioeconomic groups highly interdependent across countries. Unlike the postwar era of relative national insulation, policy-making across countries has now become intricately linked through a wide array of unintended feedbacks and repercussion effects. In this changing environment, policymakers and social groups across countries can choose from a number of policy responses ranging from attempts to wall off their countries behind protectionist barriers, which often result in inefficient resource allocation; a unilateral liberal opening and the bearing of resultant adjustment costs; or attempts to internationally coordinate a variety of policy areas in a context of greater global exchange. The development of public policy that is both internationally efficient and can generate broad social agreement and support across countries, especially in the asymmetrical context of North-South relations, is one of the greatest challenges faced in this new era of interdependence.

The United States and Mexico are the two countries that share the highest level of exchange across the North-South divide, including the largest debt, trade, border commerce, and labor migration relations between a developed and developing country. Although U.S.-Mexico interdependence is highly uneven, feedbacks and tradeoffs are now a recognized feature of the relationship in many policy areas: U.S. monetary

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policy, for instance, affects Mexico's debt serving burden which, in turn, impacts real wages and migration pressures in Mexico, undocumented migration to the United States and the U.S. trade balance. United States political reactions against exchange with Mexico, such as trade or immigration restrictions, intensify Mexican employment pressures, while the political implications of Mexico's social inequality has long made Mexico a central U.S. national security concern. Further research on the political economy of interdependence is needed to determine how this wide range of linkages influences both countries' ability to maintain historic social pacts governing employment and income levels.

Since the outbreak of the debt crisis in 1982, the United States and Mexico have come to a crucial crossroad in their relationship, provoking debates on a broad variety of policy and political options. Calls for trade protection, a debt moratorium, and migration restriction have characterized most of the 1980s. In the midst of a severe external adjustment and facing growing political opposition, Mexican policymakers have moved to unilaterally reduce high tariffs and foreign investment controls. In a move sure to test further the political limits of increased interdependence, both governments have most recently declared their intent to negotiate a free trade agreement.

In this context, a number of essential questions need to be addressed. What is the capacity of alternative combinations of policy options to provide renewed long-term growth with broad sociopolitical support across both countries? What tradeoffs exist between different policy combinations, such as attempting to use trade liberalization to reduce migration or changing debt policies in order to affect trade and migration patterns?

The purpose of this paper is to contribute to a new generation of political-economy models of complex interdependence that are designed to aid social actors in evaluating the welfare and employment effects of a wide range of unilateral and bilateral policies. Such a complex analysis requires a multi-period computable general equilibrium model with endogenous social strategic interactions where interdependence both sets the basis for, and is affected by, distributional conflicts and bargaining between socioeconomic groups.

The paper is divided into five sections. Section 1 introduces the formal model after mention is made of several papers with which this work claims intellectual kinship. In section 2, the results of a counterfactual simulation of continued postwar growth and social pact maintenance in the two countries through the year 2000 are reported and discussed. Section 3 analyzes briefly growth and social pact implications of three

alternative scenarios: protectionism; neo-liberal opening; and a managed interdependence approach. Section 4 offers some conclusions about the political and economic dynamics of continued interdependence.¹

COMPUTER GENERATED EQUILIBRIUM MODELING OF
INTERDEPENDENCE

The literature on U.S.-Mexican economic interdependence has developed through a series of tradeoffs. The models by Serra² and Reyes Heróles³ have more domestic detail of the Mexican economy, but less international detail. Noyola⁴ opts for more precise estimation of the actual migration parameters, but loses general equilibrium feedbacks in alternative scenarios. Hill and Mendez⁵ similarly impose partial equilibrium migration coefficients on a general equilibrium model, but do so in a case where the coefficients are much less reliable—for U.S.-Mexico undocumented migration as opposed to Noyola's study of internal Mexican migration. Huffman⁶ trades numerical results for comparative statistics. Reynolds and McCleery⁷ concentrate primarily on migration policy dynamics without endogenizing strategic political interactions.

The model presented here is unique in a variety of ways. It is the only CGE model to combine all three critical areas of interaction between the United States and Mexico: trade, migration, and capital flows. The model is thus highly flexible and adaptable to a variety of policy concerns and combinations. The occasional deviations from standard neoclassical modeling techniques come in response to the stylized facts of the U.S.-Mexico

¹Space constraints prohibit all but the barest sketch of the model and policy options, and the interested reader is directed to our theses for more comprehensive treatments of these issues. See Raúl Hinojosa Ojeda, "The Political Economy of North-South Interdependence: Debt, Trade, and Class Relations Across Mexico and the United States," Ph.D. diss., Univ. of Chicago, 1989; and Robert K. McCleery, "U.S.-Mexico Economic Linkages: A General Equilibrium Model of Migration, Trade, and Capital Flows," Ph.D. diss., Stanford Univ., 1988.

²Jaime Serra Puche, "A General Equilibrium Model for the Mexican Economy: An Analysis of Fiscal Policies," Ph.D. diss., Yale Univ., 1979.

³Jesus Reyes Heróles, G. G., *Política Macroeconómica y Bienestar en Mexico* (Mexico City, 1983).

⁴Pedro Javier Noyola de Garagorri, "Urban Migration in Mexico: A General Equilibrium Analysis," Ph.D. diss., Stanford University, 1985.

⁵J. Hill and J. Mendez, "The Effect of Commercial Policy on International Migration Flows: The Case of the United States and Mexico," *Journal of International Economics* 17 (1984), 41-53.

⁶W. Huffman, "The U.S.-Mexican Labor Market," mimeo, Iowa State Univ., 1984.

⁷Clark W. Reynolds and Robert McCleery, "The Political Economy of Immigration Reform: The Impact of IRCA on the U.S. and Mexico," *Journal of Economic Perspectives*, 1988.

experience. It is designed to incorporate some of the international factors that affect equilibrium wages in each country but have not been previously featured in models of this type. It is the only CGE model in which the migration decision rests on firm microeconomic foundations and which also incorporates multi-period demographic projections. Finally the model explicitly endogenizes a strategic interaction between capitalist and workers over the setting of wages and savings behavior. In this way we can see whether a particular policy approach and resulting pattern of interdependence can provide for a compromise or "social pact" solution to distributional competition between economic classes.

Exposition of the Model

In this model, there are two countries with two goods being produced in each country. The heart of the economic model consists of a set of production functions by country and sector; a set of marginal conditions for each production function by factor of production; a set of demand functions for each sector's output by social group (factor owner); behavioral equations regulating movement of labor from the low wage sector to the high wage sector in each country and across countries; a (Stackelberg-type) bargaining "game" between unions and capitalists over the size of the wage bill in the high wage sector; and a set of equilibrium conditions and adding-up constraints. Each type of equation will be described, and the salient points and implications noted. The annotated equation list at the end of this paper contains all of the relevant equations, and data appendix 2, which follows the equations, lists the values and sources of the coefficients used.

Supply, Demand, and Sectoral Definitions

The CES (constant elasticity of substitution) production functions and marginal conditions for the United States are of the standard form (equations 1 and 2). The nature of the CES production function ensures that the Inada conditions hold on marginal productivities.⁸ The production functions exhibit constant returns to scale and factor incomes are based on, if not always equal to, marginal productivities.

The high wage sector (sector 1) in the United States produces a tradeable good with labor and capital that is consumed in the United States but is used as an intermediate good in the production of Mexico's good 1.

⁸ Marginal productivities are diminishing, approaching zero as the quantity of a factor approaches infinity, and all factors are necessary for production (in that marginal productivities approach infinity as the quantity of a factor approaches zero).

As is the case in Mexico, sector 1 is more technologically advanced and capital intensive. It comprises about 90 percent of the labor and 95 percent of the output of the U.S. economy.

Mexico's high wage sector (sector 1) produces output using labor, capital, and an imported intermediate good. Its output is sold as consumer goods both domestically and in the United States. Labor productivity is much higher in this sector, with one-third of the labor force combining with just under half of the country's capital stock to produce over half of GDP in the base year of 1982.

The low wage sector (sector 2) in the United States represents the areas in which Mexican migrants compete directly with U.S. citizens for employment. In sector 2 capital and labor combine to produce non-traded services. While it is true that many migrants still work in agriculture, and some now work in manufacturing, the emerging profile of the 1980s undocumented migrant is that of a construction worker, janitor, maid, gardener, or other service worker producing goods and services that cannot be traded internationally.⁹

In the low wage sector in Mexico (sector 2), labor and capital combine with a fixed factor we shall call *land* in a production function that exhibits decreasing returns to scale in the first two factors. Output of the sector, which will be called *subsistence agriculture and services*, is not traded internationally. While technically tradeable, rain-fed corn production on small plots in central and southern Mexico is largely for household consumption and cannot compete effectively in international markets with other major grain producers under any reasonable set of factor prices and exchange rates. The resemblance of this economic activity to the service sector in capital/output ratio and wage level justifies the grouping. Irrigated, mechanized agribusiness in the north, which produces fruits and winter vegetables for export to the United States, is grouped with the manufacturing sector.

The model allows for a perpetuation of a sectoral dualism in labor mobility within countries. Empirical evidence that wages are bimodal in Mexico and that an underclass of unskilled labor exists in the United States necessitates a departure from the neoclassical assumption that labor moves to equalize its marginal product. Two behavioral equations regulate the movement of labor from the low wage sector to the high wage sector over time. Equations 6 through 8A describe the movement of labor between sectors within a country, defining an incremental capi-

⁹See Wayne Cornelius's chapter in this book, "From Sojourners to Settlers: The Changing Profile of Mexican Migrants to the United States."

tal/labor ratio (IKL) that links labor growth in the high wage sector with the level of new investment and the savings behavior of capitalists.

The adding-up constraints (equation set 2) merely ensure that the total product is exhausted in the form of factor payments (Euler's theorem) and that production takes place on the production possibilities frontier. The demand specification used in the model (equation set 3) is the Stone-Geary linear expenditure system. An individual's demand for a good has two components: a constant or subsistence level of demand and a second term that is proportional to income. In addition to displaying proper relative price and income effects, the subsistence demand levels allow changes in the population of a country to have a significant impact on relative prices and production levels. The utility functions implied by the form of demands are log linear in non-subsistence or discretionary demand.¹⁰

The parameters of the CES production functions are drawn from other work by economic modelers in this area¹¹ and from data on the functional distributions of income. The former influenced the choice of rho, and thus the value of the (constant) elasticity of substitution in each production function and our use of constant returns to scale. The latter determined the values of the distributional parameters.

There was considerably less theoretical and empirical guidance for choosing the parameters of the demand functions, however. Work on demographic complementarities between the United States and Mexico stresses the growing demand for services such as health care, restaurants, domestic services, and care for the elderly, related to both continual income growth in the United States and demographic shifts in the U.S. population.¹² For that reason, sector 2 in the United States is modeled as having a slightly higher income elasticity of demand than sector 1. Sector 2 in Mexico consists in large part of rain-fed agriculture (more than one-third of Mexico's labor force is still employed in agriculture), whose output has a low income elasticity of demand. Thus sector 1 in Mexico is modeled as having a significantly larger

¹⁰Samuelson proves that ordinal utility must be of the form $U = F[B_1x_1 + \dots + B_nx_n]$, where the B's are the income shares in demand and F is any function with $F' > 0$. See P. Samuelson, "Some Implications of Linearity," *Review of Economic Studies* 15 (1947), 88-90. For linear expenditure systems for Mexico see Pascual Garcia Alba, *Estudios Economicos* (1987).

¹¹Alan Manne and T. Rutherford, "LTM: A Long-Term Model of Mexico's Growth and Balance-of-Payments Constraints," presented to the Trade and Investment Working Group of the U.S.-Mexico Project at Stanford University, mimeo, 1983; Jaime Serra Puche, 1979.

¹²David E. Hayes-Bautista, Werner O. Schink, Jorge Chapa, *The Burden of Support: Young Latinos in an Aging Society* (Stanford, Calif., 1988).

income elasticity of demand, but sector 2 makes up the lion's share of the subsistence level of consumption.¹³

Internal Equilibrium Conditions

There are five types of equilibrium conditions. In the first (equation 28), the equality of the value of the marginal product of capital between the two sectors within each country is based on the microeconomic assumption that investment by profit maximizing capitalists drives the marginal return to capital to equality between sectors. Except in an extreme case (free migration, autarky in labor flows, or free capital mobility between countries), maintaining the equality between sectors does not require mobility of existing capital, just the freedom to allocate new investment by sector in accordance with rates of return.

In equations 29 and 30, prices work to equate supply and demand for each good in each country. By Walras's law, there is only one free relative price in Mexico and two in the United States that clear the product markets; good 2 in each country is the numeraire, with its price set equal to 1.

International Equilibrium Conditions: Modeling Labor Flows

The first international equilibrium condition to be discussed is one affecting the labor market. Obviously if the wage differential is critical to the migration decision, then modeling the wage determination process is a crucial intermediate step, with estimating demographic trends and their implications for labor force growth a necessary starting point.¹⁴

Projections of U.S. labor force growth for the years 1990 and 2000 are done every two or three years by the Bureau of Labor Statistics.¹⁵ Their projected employment figures are used in the model, with minor modifications, and can be expected to approximate the year 2000 labor force to within a half of 1 percent, adjusting for business cycles.¹⁶

Labor force estimates for Mexico are less frequent and systematic.¹⁷

¹³See Nora Lustig, "Distribution of Income, Structure of Consumption, and Economic Growth: The Case of Mexico," Ph.D. diss., Univ. of California, Berkeley, 1979.

¹⁴See data app. 2 for the sources and assumptions used in creating the labor force series.

¹⁵H. Fullerton, "The 1995 Labor Force," *Monthly Labor Review* vol. 108, no. 11 (Nov. 1985), 15-25.

¹⁶*Ibid.*

¹⁷A flurry of demographic work followed on the heels of the publication of Mexico's 1980 census data in 1982-1984, following in the tradition of the work of Keesing and Urquidi in the 1970s. D. Keesing, "Employment and Lack of Employment in Mexico, 1900-1970," in *Quantitative Latin American Studies: Methods and Findings (Statistical Abstract of Latin America, supp. 6)*, ed. J. W. Wilkie and K. Ruddle (Los Angeles, Calif., 1977), 3-22; V. Urquidi, "Empleo y Explosión Demográfica," *Demografía y Economía* vol. 8, no. 2 (1974), 141-53.

Demographers have concluded from the 1980 census that Mexico has experienced a dramatic decline in the crude birth rate in the mid to late 1970s.¹⁸ Since entrants into the labor force through 1992 had already been born in 1976, the drop in the birth rate will not be translated into a similar reduction in labor force growth from the recent peak of nearly 4 percent per year to 2.5 percent or less until between 1992 and 1996.¹⁹

These labor force projections feed into the wage determination process in each country. Wages for Mexicans in both economic sectors of Mexico and wages for U.S. citizens in the United States are determined in the standard neo-classical fashion; they are the value of the marginal product of labor for each group.²⁰ Yet the interpretation of the wage-setting procedure in the high wage sector of each country is not standard.

In both countries, all labor force entrants who are not accommodated in the high wage sector are crowded into the low wage sector. To the extent that those unable to find work in the U.S. high wage sector have the option in the real world of collecting unemployment or welfare benefits rather than accept unskilled work, the number of those willing and available for unskilled work is overstated in the model.²¹ In Mexico, it is argued that self-employed farmers, vendors, and artisans function in a setting of truly competitive factor and product markets, more so than the larger import substituting industries.

The only individuals that do not receive the value of their marginal product are Mexican migrants working in the United States. Their marginal product is lower than their U.S. counterparts due to a language and skill differential. Additionally, discrimination on the part of employers and the government against these migrants based on superior legal and market power further reduces their earnings.²²

If capitalists directly received the earnings differential referred to above

¹⁸D. Kirk, "Recent Demographic Trends and Present Population Prospects for Mexico," *Food Research Institute Studies* vol. 9, no. 1 (1983), 93-111.

¹⁹Francisco Alba and J. Potter, "Population and Development in Mexico Since 1940: An Interpretation," *Population and Development Review* vol. 12, no. 1 (Mar. 1986), 47-75.

²⁰The marginal products are computed from the CES production function (eqs. 1, 2, 1a, and 2a of the equation list) by differentiating with respect to labor.

²¹The real minimum wage in the United States eroded during the Reagan years to the point that it is a binding constraint for only a few job categories and the prevailing unskilled wage is determined by market forces. Piecework in agriculture and construction is an example of tying earnings directly to the value of the marginal product of labor.

²²Martin Carnoy, Hugh Daley, and Raúl Hinojosa Ojeda, *Latinos in a Changing Political Economy: Comparative Perspectives on Inequality in the U.S. Labor Market Since 1940* (New York, 1990). See also the note on discrimination in app. 2.

as discrimination, then they would prefer hiring migrants at a wage ratio equal to the ratio of the marginal products of labor. Under the assumptions of the Becker theorem, a wage differential not based on productivity differences is unsustainable in the type of competitive economy modeled here.²³ Thus all discrimination must take the form of taxes paid to the government for services the undocumented worker is not able to receive, such as social security, most state and federal income taxes, and unemployment and disability insurance.

The utility levels attainable by consumer utility-maximizing behavior are compared for migrants and non-migrants in equation 40 based on the comparative wage levels for unskilled labor in each country and the consumption levels these wages support. If one can move to a higher level of utility, migration will take place up to the point that the marginal potential migrant is indifferent between migrating and remaining in Mexico. In this comparison, one must subtract the cost of migration from the wage earned in the United States to make it comparable to income earned in Mexico. The cost of migration can be modeled as a rising function of the level of migration. In some models this increasing cost stems from an underlying distribution of potential migrants with regard to distance from the border, with those closest to the border migrating first. In the more complex context here, it is a proxy for the sum of several distributions: the distribution of cost, preferences, skill, and so forth, over individuals.²⁴ The Mexicans' preference for remaining in Mexico at a given level of consumption is also built into the utility comparison.

In equilibrium there remains a significant gap between unskilled wage levels in the two countries reflecting (1) differences in labor productivity, (2) transportation costs and U.S. migration policies, and (3) the intensity of the preference of migrants for living in Mexico. The way migration is modeled leads to a stable equilibrium. An inflow of migrants will raise wages in the sending sector and lower them in the re-

²³ G. Becker, "The Economics of Discrimination," in *Readings in Labor Economics and Labor Relations*, ed. L. G. Reynolds, S. H. Masters, and C. Moser (Englewood Cliffs, N.J., 1974), 181-85.

²⁴ In other words, any important heterogeneity in Mexico's low-wage labor force causes an ordering of potential migrants by their reservation wage differential. An interesting possibility is raised when one allows for differences between individual migrants. If migrants are the best and the brightest of those in the sending region, their relocation could actually decrease average productivity in the sending region, and perhaps increase the wage differential. But so-called brain-drain migration of this kind does not seem to be a large fraction of observed migration. See J. E. Taylor, "Undocumented Mexico-U.S. Migration and the Return to Households in Rural Mexico," *American Journal of Agricultural Economics* (Aug. 1987), 626-38.

ceiving sector, driving down the adjusted wage differential and reducing the closely related utility differential to zero.

Other International Equilibrium Conditions

In addition to labor migration, financial and trade dynamics are modeled, allowing for the estimation of tradeoffs between all three flows. Debt-service payments on Mexico's current foreign debt and imports of needed intermediate goods and capital goods are paid for through exports to the United States, migrant remittances, and flows of new finance to Mexico. Capital inflows to Mexico can be in the form of direct foreign investment or new loans with a concomitant flow to the United States of repatriated profits or additional interest payments. The dollar value of debt-service payments is a product of the endogenous level of the debt and the exogenous world interest rate. Mexico's balance of payments constraint, given in equation 32, ensures that dollar denominated obligations match dollar revenues exactly.

Equation 33 introduces a "shadow price of foreign exchange," which is defined as the value of the additional quantity of goods that could be produced given a one unit relaxation of the constraint of a non-oil export ceiling. The shadow price is related to both the marginal product of intermediate imports and the marginal product of capital, in the following way. Suppose one additional unit of good 1 (the manufacture) could be exported. Its sale to the United States would net dollars, which could be spent to import either intermediate goods or capital goods (subject to applicable tariffs). The additional quantity of each that could be purchased is multiplied by the value of the marginal product of that factor, and from this value (in pesos) is subtracted the return to selling the unit domestically to judge the profitability of the venture. Importing based on the relative profitability of the two goods drives the two shadow prices toward equality, and relaxing the export constraint would drive both to zero. Thus the value of the shadow price (the higher of the two, if they are different) reflects the tightness of the foreign exchange constraint on the Mexican economy.²⁵

International transfers of goods feed into the domestic price determination process, leading to the establishment of an equilibrium purchasing power parity exchange rate at which this level of Mexican exports is an equilibrium. Thus the law of one price does hold for tradeable goods in

²⁵The profits from increasing exports must be diminishing, because of the convexities involved. As exports increase along the demand curve, the price of exports declines. Increased demand for imports raises their price, and increased use of a factor in production given relatively fixed amounts of other factors will decrease its marginal product.

this model; a dollar buys the same quantity of the tradeable product on each side of the border when exchanged for pesos at this endogenously determined equilibrium rate. It must be pointed out that the process of exchange rate determination in the model is quite different from the workings of the actual market process. In the model, the exchange rate is determined solely by the interactions of real variables, whereas the monetary approach to the balance of payments holds that relative rates of monetary growth should be the dominant factor, especially when such rates are as disparate as in the U.S.-Mexico case.²⁶ Yet serious problems can arise from tacking a monetary "superstructure" on to a real CGE model.²⁷ Speculative demand for a currency is another potential factor excluded by the nature of this model but present in the real world. While capital flight has been an important feature of the U.S.-Mexico experience,²⁸ the model was not designed with the intent of explaining it. The model does, however, take into account the historical behavior of this variable and can deal with alternative assumptions about the path of capital flight in the future.

Dollar Transfers and the Government Clearinghouse

A simplified treatment of the government sectors portrays them primarily as clearinghouses, taking in revenues based on tax rates and levels of economic activity and making transfer payments to individuals (equation set 5). In the United States, the relationships are relatively simple. Tariff revenues on imports from Mexico and income taxes are collected. On the expenditure side, interest is paid on the existing debt and transfer payments are made to dependents, which can be thought of as social security payments to retirees. The difference between revenues and expenditures is the deficit.

The workings of the Mexican government are much more involved, even though goods and services are not directly consumed and the basic purpose of a government sector is the same as in the United States. The two primary reasons for the added complexity are the modeling of the oil sector and the special nature of dollar denominated obligations and incomes. Oil is treated as a resource endowment providing a constant stream of product for the government to export over the time horizon of

²⁶ M. Mussa, "A Monetary Approach to Balance of Payments Analysis," *Journal of Money, Credit, and Banking* vol. 6, no. 3 (Aug. 1974), 333-51.

²⁷ K. Dervis, J. de Melo, and S. Robinson, *General Equilibrium Models for Development Policy* (New York, 1982).

²⁸ Capital flight was an important part of the Mexican economic crisis, with the dollar exodus totaling approximately \$25 billion between 1981 and 1986. Morgan Guaranty Trust Company, "LDC Capital Flight," *World Financial Markets* (Mar. 1986).

the model. In actuality, of course, the amount of oil to be exported is a policy decision, yet in practice the Mexican government has proven to be very reluctant to adjust the "export platform" even under emergency circumstances.²⁹

Oil revenues are just one of a set of dollar denominated credits and debits that must balance for the Mexican economy as a whole. On the government's balance sheet, tariff revenues, oil revenues, new lending, and migrant remittances constitute dollar inflows, while debt service payments are the primary outflow. When the government's dollar balance is positive, it supplies dollars to the private sector at the purchasing power parity exchange rate for use in importing intermediate and capital goods (the private sector will always be willing to pay at least that many pesos per dollar). When the dollar balance is negative, due perhaps to high interest rates or low oil prices, the government must buy dollars from the private sector.³⁰

Balancing the dollar accounts for the Mexican government results in a peso transfer to or from the private sector. The other peso inflow is the value-added tax, which is assumed to be paid by capitalists. Peso costs include interest on the domestic debt and peso payments to those who were sent remittances. The annual peso deficit is added to the domestic debt.

Class Strategic Bargaining

Expanding the scope of a largely neoclassical CGE framework to incorporate class conflict and bargaining outcomes is another important feature of this model. Following Przeworski and Wallerstein,³¹ capitalist and workers each have an objective function which is expressed in equation 8. Workers choose a level of wage militancy (STAKMAX), which maximizes the current discounted value of their future wages where the expected path of wages depends on capitalist level of savings and the productivity of the economy. Capitalists, on the other hand, choose a level of savings out of profits which maximizes the current dis-

²⁹The model is neither meant to nor able to track short-term economic fluctuations based on monetary policy or the two key exogenous variables: the world oil price and the world interest rate. The price of oil has followed a roller coaster path in the recent past, defying medium-range prediction even by models designed expressly for that purpose. Thus the results of the model presented in the following sections should be viewed as trends, which will, no doubt, be buffeted by various shocks affecting both economies.

³⁰It is assumed that the same exchange rate holds on these transactions, despite the fact that the shadow price of foreign exchange may be higher. There are no efficiency implications of the dollar transfer price; production is the same as it would be were the government to expropriate the needed dollars without payment.

³¹Adam Przeworski, *Capitalism and Social Democracy* (Cambridge, Eng., 1985).

counted value of their future consumption which, in turn, is dependent on the level of wages. This approach assumes that classes act strategically with knowledge of their opponent's likely response to one's own choice of action.

A social pact, or "class compromise," can be reached if there exists a "Stackelberg³² solution." Such a solution allows for the maximization of the material interests of both classes at rates higher than the rates at which they discount the future over a given time horizon.

In principle, high wage labor in each country uses its bargaining power and political influence to maximize some objective function. The objective function we postulated in our work was the wage bill in the unionized sector, reasoning that increases in the wage, holding employment constant, benefit both union members and leaders, and similarly raising membership (employment) at a given wage provides non-monetary benefits in terms of political power and prestige. The operation of this model reflects closely the historical record of the union/government coalition in Mexico,³³ subject to the constraints of the capitalists' reaction function (the endogenous savings propensity). In the United States, however, a hypothesis based on historical data must be restated to assert that U.S. unions act to maximize the wage bill within a constraint of maintaining a specific weighted balance between employment levels and wages. The 1960s and early 1970s in particular were a time of rising real wages but falling union membership as a fraction of total employment. By the 1980s, the calibration period for the model, a Stackelberg solution for the U.S. union workers given an unweighted wage-bill objective function would yield a much lower unionized wage, extremely high migration levels, and a very militant Stackelberg solution in Mexico. This solution is so far removed from the U.S. historical data that it was not used; instead, the Mexico Stackelberg was solved based on a point consistent with actual U.S. data and a weighted wage-bill objective, yielding a solution for Mexico that was likewise consistent with its historical data.

This modeling approach highlights an important point about interdependence and social pacts across countries. The solutions in the two countries are quite strongly related; in particular, the Stackelberg equilibrium for Mexico depends on the level of militancy in the United States, thus on wages in the United States, the incentive to migrate, and the size of the labor force in Mexico. A high level of militancy in the United States means that wages are high and employment low in the U.S. high wage sector, and that the reverse holds true in the low wage sector. This sur-

³²H. von Stackelberg, *The Theory of the Market Economy* (London, 1952).

³³Hinojosa (1989), chap. 4.

plus of low wage labor results in lower levels of migration, giving Mexican labor less opportunity and incentive for militancy while providing for potentially higher savings out of profits.

THE POSTWAR STATUS QUO SIMULATION

The previous section presented the basic structure of a general equilibrium model of the Mexican and U.S. economies, with special attention to how the two are linked through flows of labor, goods, and finance capital. While the model is complex in terms of linkages between countries and interactions and feedbacks between sectors and groups, it is kept simple by minimizing the number of factors, sectors, and social groups, having just those necessary to the stories being told.

In the 1980s, the United States and Mexico stood at a crossroads. The postwar era of rapid growth had reached its end along with the seeming complementarity in industrial, trade, financial, and migration relations. Also in serious trouble were the postwar social pacts in both countries wherein workers had grown to expect continued increases in real wages commensurate with continued capitalist investments and resultant productivity increases.

With the global recession of the early 1980s and the triggering of the debt crisis in 1982, a new era of conflict arose. A rapid expansion of U.S. imports and a public sense that undocumented immigration was "out of control" were seen as threats to the employment levels and incomes of U.S. labor, despite the continued growth of consumption. The U.S. political response to the perceived threats was twofold. Many pieces of protectionist legislation were introduced, particularly for the shoe, apparel, steel, automotive, and semiconductor industries. In 1986, after years of contentious debate, the U.S. government enacted the Immigration Reform and Control Act (IRCA).

This section explores a future that might have taken place in the absence of significant crisis and conflict in the 1980s. In actuality, the forces that undermined the postwar status quo were already in place before the 1980s, and while this scenario will serve as the backdrop against which the alternative options presented in section 4 can be evaluated, it cannot itself be viewed as a feasible alternative either then or now. Thus the following projections of U.S. and Mexican economic variables and interactions represents a counterfactual world in which IRCA was not adopted, voluntary lending to Latin America did not stop, and Mexico was not forced into a radical and rapid alteration in wage and trade policies. We assume that oil prices recover to 1982 levels (\$29 per barrel) by 2000. Mexico receives \$6 billion in net new loans per year. The world nominal

interest rate is stable at 8 percent, with 4.5 percent inflation. The foremost implicit assumption is that the Mexican economy is efficient, overcoming its problems allocating investment efficiently, intermediating between domestic savings and domestic investment, and controlling the government sector.

In order to create a basis for comparing the policy options to be presented in section 4, we must answer the following counterfactual question: Under the postwar migration, trade, and capital market policies and the above assumptions, what would the pattern of output, employment, and undocumented migration to the United States be over the next fifteen years, as determined by the interaction of demographic trends, savings behavior, and technological progress and diffusion, in a setting of profit maximizing capitalists and utility maximizing consumers? In this context, what are the minimal components of a Stackelberg solution that would represent the continuation of the postwar social pacts?

Results and Their Implications

The following graphs are intended to give the reader a feel for the time paths of the important endogenous variables of the counterfactual simulation. The reasonableness of these time paths is a necessary but not sufficient indication of the reasonableness of the underlying model. Figures 1A and B record real output growth in Mexico and the United States, respectively. The volatility of growth over the past four years in Mexico stands in stark contrast to the smooth path of recovery and growth projected in Figure 1A. The caveat that this model is based on long-term trends and makes no claim to usefulness as a predictor of any given year's output level bears repeating in this light. Despite the linear nature of many of the assumptions and the observation that equilibrium (or constrained equilibrium) is reached each year, the path has some dynamic properties. Capital accumulation in each country is determined by augmenting a fixed net savings rate out of GDP of 7 percent in Mexico and 5.8 percent in the United States with a term raising the savings rate when the profitability of investment exceeds historical averages, and reducing savings when profit rates are depressed. Although the adjustment parameters are modest (0.3 for the United States and 0.4 for Mexico), this formulation is crucial to the convergence of the Stackelberg solution, because it represents the capitalist's reaction function. As workers demand higher wages, profitability declines, leading to a reduction in savings, investment, productivity growth, and future increases in earnings and investment.

Defining Mexico's long-term growth rate to be approaching 5 per-

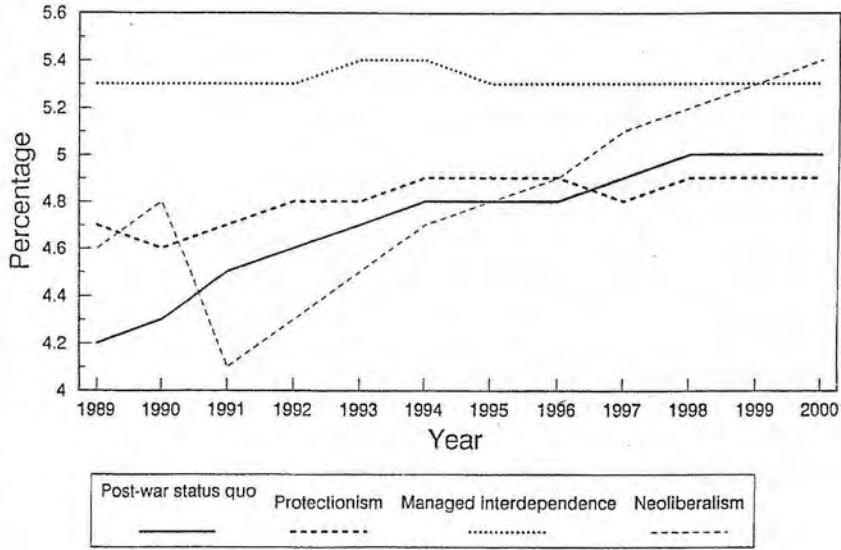


Fig. 1A. Mexico: Real GDP growth.

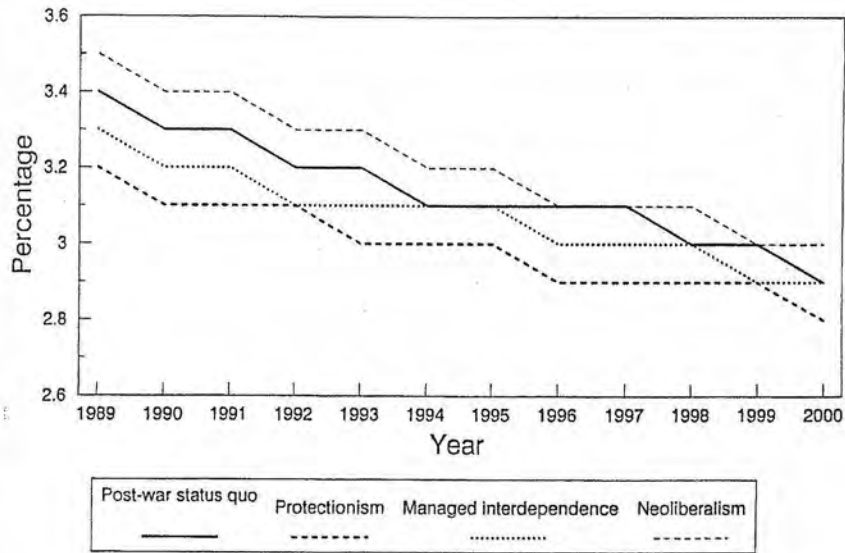


Fig. 1B. United States: Real GDP growth.

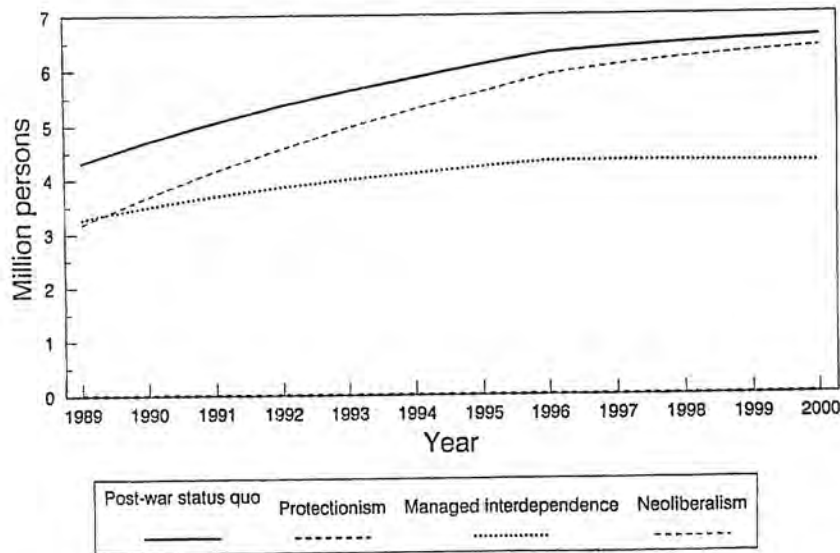


Fig. 2. Migration (stock).

cent, the recovery path shows the growth rate increasing at a decreasing rate, reaching 5 percent in 1999. The U.S. growth rate declines from 3.4 percent in 1989 to 2.9 percent in the year 2000. The United States would need a higher savings rate, more rapid technological progress, or an even larger influx of labor than in the status quo (see the projected migration path in Figure 2) to sustain 3 percent growth through the end of the century.

Figure 2 introduces the basic form of the migration path that will characterize many of the scenarios to come. The inverted U shape that will result from our model is very robust to alternative assumptions about the levels or time paths of the important exogenous variables. After rising at a decreasing rate to a peak of just over 6.65 million in 2000, the stock of migrants falls. This path would bring migration back down to the levels of recent experience shortly after 2010. At the risk of oversimplifying complex interactions, it can be said that the downturn is due to growth in Mexican demand for unskilled labor finally exceeding labor force growth. The demand for unskilled labor in the United States continues to grow throughout, but once real wages begin to rise significantly in the low wage sector in Mexico, migration levels decrease.

Even with an income elasticity of demand of about 2.5, the rapid

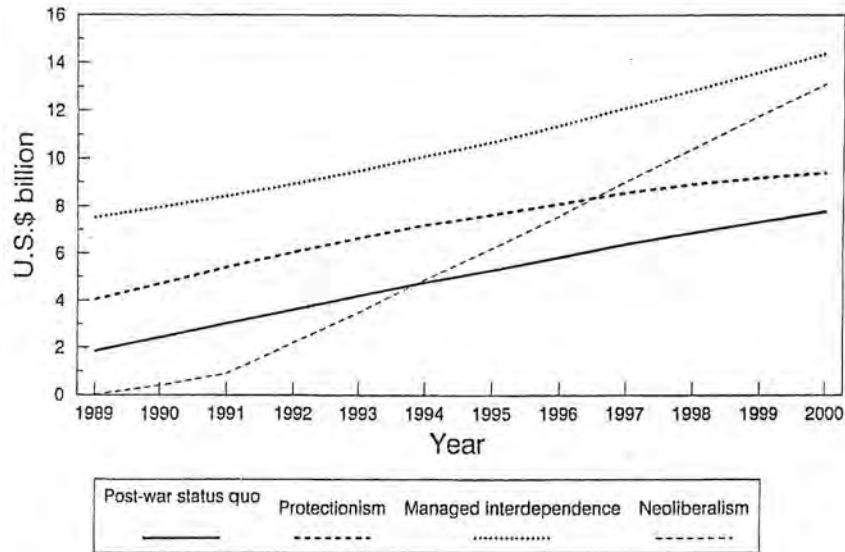


Fig. 3. U.S. capital goods exports.

growth of exports over the course of the scenario drives down their price. The real exchange rate (the ratio of the peso price to the dollar price of a unit of Mexico's traded good) increases (depreciates) by 25 percent over the course of the simulation. The terms of trade, defined as the price of exports divided by the price of imports, deteriorates by almost 22 percent.

Figure 3 displays time paths of Mexico's imports of capital goods. After a sharp drop in all imports following the fall in oil prices during 1985–86 (not shown), intermediate imports rise smoothly from \$5.8 billion in 1988 to over \$10 billion by the year 2000. Mexico's capitalists allocate scarce foreign exchange between intermediate good imports and capital imports to maximize output and profits, as explained in section 3. Early in the scenario, relative profitabilities are such that few capital goods are imported, but capital good imports rise rapidly thereafter, approaching \$8 billion annually by the year 2000.

Mexican wage growth is balanced in absolute terms, but in relative terms favors the high wage sector. Figure 4A graphs wages in the high wage sector throughout the scenarios. The real annual wage in sector 1 grows 15 percent from 1987 through 2000, from \$5,200 to \$5,950. The non-union wage grows more rapidly (27 percent) as seen in Figure 4B, but absolute wage growth is less than in the high wage sector. The wage

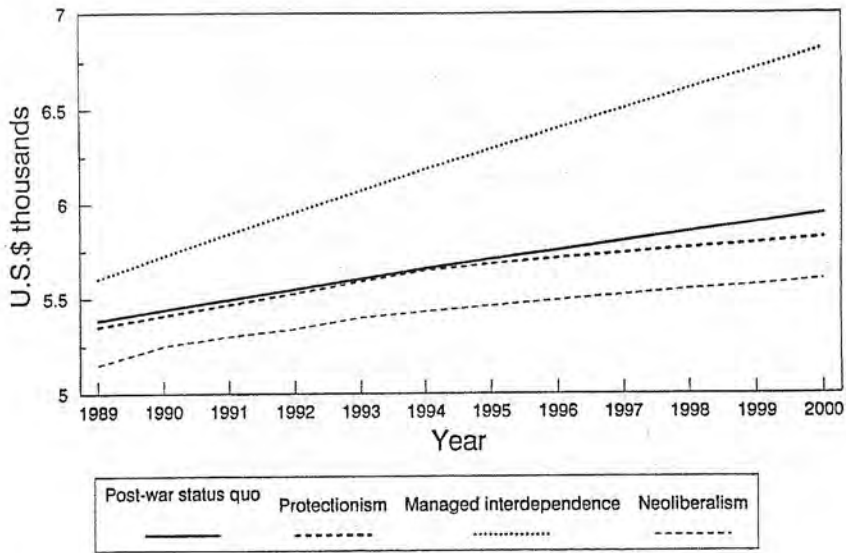


Fig. 4A. Mexico: High wage growth.

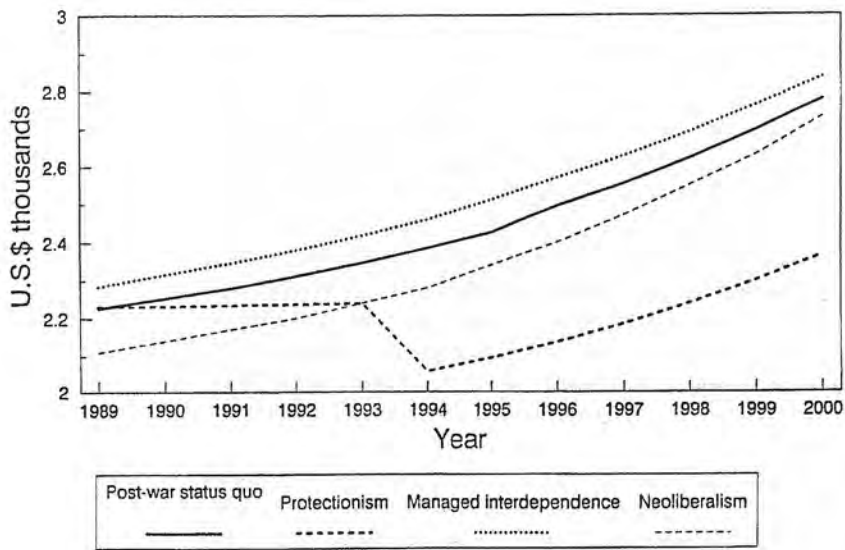


Fig. 4B. Mexico: Low wage growth.

gap increases despite the fact that high wage labor is an increasing fraction of total employment, rising from 35 percent to 41 percent.

Figures 5A and 5B indicate that U.S. earnings growth follows a similar path. Unionized wages in the year 2000 are 18 percent higher than in 1987, and low wage earnings growth is an impressive 50 percent, despite the increase in migration. The absolute magnitude of the difference remains very large, however, with the high wage (\$33,000) dwarfing the low wage (\$11,750) by over \$21,000 in the year 2000. While wages in sector 2 are held down somewhat due to the migration linkage with sector 2 in Mexico, the effect of adverse shocks would be dampened as well.

The split of output between sectors changes in both countries during the course of the scenarios. In the United States the fraction of production represented by sector 2 falls slightly, from 6.3 percent to 5.4 percent, although its relative price rises some 20 percent. Additional labor inflows would be necessary to meet year 2000 demand at the 1982 relative price. In Mexico the relative rise in sector 1 production from 49 percent to 58 percent of total product is a normal part of the development process. The rise reflects both the pattern of demand growth and the distribution of technological gains. More rapid technological progress and output expansion have the net effect of lowering the relative price of good 1 in Mexico as well, by about 25 percent.

REVIEW OF ALTERNATIVE SCENARIOS

Three alternative scenarios were run with the intent of covering a stylized range of options each containing a different combination of policies concerning trade, capital, and migration flows. Their implications for growth, trade, migration, and wages are analyzed, particularly in terms of labor's willingness in both countries to agree to a social pact qua Stackelberg solution. The highlights of each scenario's assumptions and results are presented below, followed by a summary table. Welfare implications of the alternative scenarios will generally be based on the concept of Hicksian compensating variations (CVs), which represent the amount of money that would be required to compensate individuals for the change in utility between the status quo and the alternative scenario, measured at the status quo prices.

The neo-liberal scenario corresponds fairly closely to what has actually happened during the 1980s. Principal features of the scenario are a stoppage of non-concessionary lending to Mexico, necessitating balance of trade surpluses and a net transfer of resources from South to North; a more restrictive (at least in intent) migration policy; and a reduction

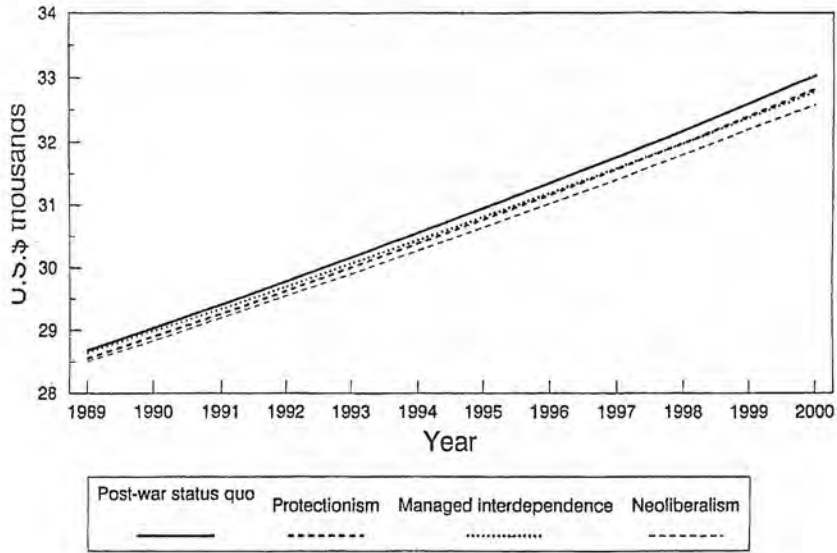


Fig. 5A. United States: High wage growth.

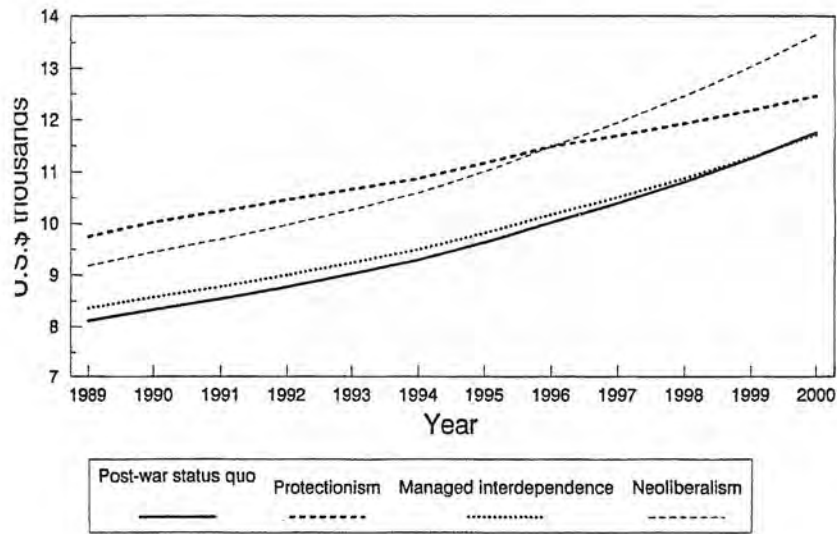
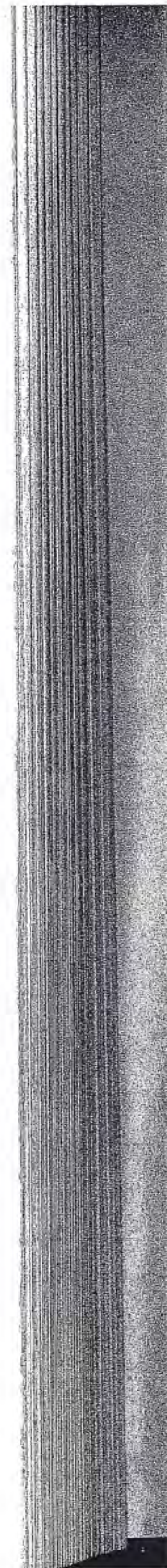


Fig. 5B. United States: Low wage growth.



(again, in principal) of trade barriers in both countries leading to the implementation of a Free Trade Agreement (FTA). In keeping with actual experience, Mexico chooses to pay its international debt, which cripples its industrial sector by depriving it of the capital goods it needs in order to grow, if not the intermediate goods necessary to sustain past production levels. In other words, the entire burden of adjustment is placed on trade flows, and trade is incapable of bearing the full adjustment load in the short run. Thus we have the debt crisis, which takes the form of a recession, a fall in real wages, and a collapse of the postwar class compromise. Given the imposed constraints, a Stackelberg solution to class bargaining is not possible because organized workers are unwilling to accept these conditions and their implications.

The scenario is very unstable for two reasons. First, the path of high wage earnings is unacceptable to the workers in the unionized sector, and their discontent would take the form of both raising their discount rate in an effort to move income and consumption forward in time, lobbying to change domestic policies, as well as strikes and other actions. Secondly, the unrest of unionized labor brings into question the stability of the economic and even political systems, reducing new loans, and raising interest rates, reflecting the rising risk premium on loans to Mexico. Workers would have the choice of either increasing their militancy, risking the economic and political consequences of their actions, or accepting a strategic defeat and settling for highly discounted lower wages.

Note that in the long run, a stable neo-liberal scenario could provide net benefits to both countries. With the decrease in militancy stemming from the collapse of social pacts in both countries, capitalists get a larger share of income. They use part of the larger share to invest, however, creating more high wage jobs and raising wages for the poorer workers. Wage growth is actually more rapid, after an initial wage fall, yet even this more rapid growth does little to improve worker's welfare, as it is offset by higher worker discount rates. By our computation, wages to the poor in Mexico are driven below the subsistence level by the workings of the enforced free market. Low wage workers need consumption subsidies from some source to maintain a minimum level of human needs, at a time when there is tremendous pressure on the government to reduce expenditures. Thus, while economic growth is more rapid, the discounted sums of wages are lower, and the long-term viability of the scenario must remain questionable.

Without correcting for the discount rate changes, all social groups except low wage U.S. labor and Mexican capitalists lose from the neo-

liberal policy. U.S. low wage labor is protected somewhat by IRCA, while Mexican capitalists are protected from competition from the United States through capital controls and migration restriction, as well as aided by lower wages. U.S. capitalists gain from low wages but are net losers from lower migration and less direct interaction with Mexico. Capital goods exports to Mexico are nearly \$10 billion less through 1994, although they recover in the second half of the simulation. At the country level, the United States is worse off by \$30 billion through the year 2000 and non-capitalists in Mexico lose by \$30 billion, while capitalists gain \$55 billion. Thus Mexico gains slightly, but at the cost of a further deterioration in income distribution, and binational welfare declines. After taking into account the discount rate changes, all workers in both countries see themselves as losers in this scenario.

A second policy alternative, protectionism, can be conceived of as a response by organized labor to the long and painful adjustment problems of the neo-liberal scenario. Protectionism is modeled as default on Mexico's foreign debt, triggering a cessation of capital flows, trade retaliation, and a prohibitive immigration policy. We realize that no policy, including armed conflict at the border, could entirely halt migration, but the costs faced by migrants could be raised drastically.

In Mexico, GNP is higher due to the larger domestically employed labor force, but growth is slower. As a whole, Mexico gains in the short term from escaping the burden of the debt, but the gains accrue primarily to capitalists and land owners. Wages for the poor in Mexico are collapsed by a return of the deported migrants, again falling below subsistence levels, and the reduction in wages spills over into the high wage sector through a decline in militancy. By the year 2000, combined current dollar losses from the two countries are \$85 billion, split proportionately according to their GDPs. Within Mexico, capitalists and landowners benefit from low wages, while workers lose. Despite its promising allure of offering protection for some social groups in some countries, a Stackelberg compromise along the lines of the postwar social pacts is not possible in either country. Small gains for the country as a whole through the year 2000 are erased when the present value of future losses are considered, leaving a net loss of \$10 billion 1986 dollars.

The present value of U.S. losses is almost \$200 billion, despite the fact that halting immigration does effectively protect low wage labor. U.S. GDP growth averages 0.2 percent less, with high wage labor bearing most of the loss.

The final scenario, called managed interdependence, is meant to ad-

TABLE I
Summary of the Scenarios' Results

	Postwar status quo	Neo-liberal	Protectionism	Managed interdependence
Avg. migration level	5.48	4.55	0	3.89
<i>United States</i>				
Year 2000 GDP	\$5,792.2	\$5,830.7	\$5,617.9	\$5,719.0
Year 2000 CVs	\$0.0	-\$17.9	-\$81.0	-\$32.9
Discounted CV sums, 1986-2000	\$0.0	-\$29.7	-\$144.8	-\$51.6
Upper class	\$0.0	-\$207.0	-\$256.1	-\$75.4
Lower class	\$0.0	\$177.3	\$111.3	\$23.8
<i>Mexico</i>				
Year 2000 GDP	\$298.1	\$301.1	\$316.3	\$334.3
Year 2000 CVs	\$0.0	\$11.0	-\$4.3	\$31.1
Discounted CV sums, 1986-2000	\$0.0	\$24.9	\$4.8	\$109.8
Upper class	\$0.0	\$40.0	\$22.1	\$73.9
Lower class	\$0.0	-\$15.1	-\$17.4	\$35.9

SOURCE: Hinojosa Ojeda, "The Political Economy of North-South Interdependence: Debt, Trade, and Class Relations Across Mexico and the United States" (Ph.D. diss., Univ. of Chicago, 1989), Tables 6-1 through 6-10.

NOTES: Dollar figures in billions. CVs are Hicksian compensating variations. The U.S. upper class are high wage labor and capitalists and the lower class is low wage labor. In Mexico, the upper class is the aggregation of high wage labor, capitalists, and landowners, while the lower class consists of low wage labor and migrants.

Mexico's low wage workers, thus reducing the incentive to migrate from the sending side.

In this scenario, all social groups in Mexico gain relative to the postwar status quo. Capitalists and low wage labor (including migrants) gain about \$36 billion each through the year 2000, while unionized labor gains some \$32 billion. The infinite sum of the gains to the country as a whole, expressed in 1986 dollars, exceeds \$200 billion. Average migration levels decrease, capital goods trade (indeed all trade) increases, workers in Mexico should be content relative to feasible alternatives, and income distribution is not worsened. The Stackelberg solution for Mexico is a relatively favorable one for labor, not only relative to neo-liberalism but also compared to the postwar status quo.

In the United States, low wage labor and capitalists gain \$24 and \$23 billion respectively through the year 2000. Unfortunately, this scenario is not Pareto improving in the sense that everyone wins. High wage labor in the United States is hurt by the capital transfers to Mexico and by the relative price shifts caused by lower migration and more consumption imports from Mexico. Notice in Table 1, however, that a fall in welfare for the U.S. high wage sector is a necessary result of the break-

down in the postwar status quo, and that the declines associated with the other two options are much larger. An application of the compensation principle directly, or an adjustment of the split of migration tax revenues or capital transfer profits, may be necessary to enlist U.S. participation, despite the apparent inevitability of the stagnation in U.S. unionized wages.

CONCLUSIONS: INTERDEPENDENCE WITH SOCIAL PACTS?

A computable general equilibrium model was developed that reflects the complexity of North-South economic interactions—migration, trade, and capital flows—that have linked the welfare of social groups and have made class strategic interaction and policy-making more complex. Calibrated to the uniqueness of the U.S.-Mexican situation, it can provide a means of analyzing some fundamental questions of North-South asymmetrical interdependence. Questions include: What are the tradeoffs between different policy combinations, such as using trade to reduce migration or a change in debt policy to affect trade and migration? What are the impacts of these strategies in terms of employment and income distribution and their ability to generate broad social support and sustain social pacts between organized agents in society?

We analyzed a series of alternative scenarios for U.S.-Mexico relations, ranging from protectionism to neo-liberal opening to managed interdependence. The results point to a long run and society wide superiority of increased exchange, while also revealing a short run dilemma for workers' welfare—a dilemma that poses serious obstacles to the neo-liberal approach to greater exchange.

An attempt to close off either economy from exchange with the other, the protectionist alternative, emerges as the worst long-term welfare option for most workers groups in both countries as well as for overall compensating variations. Yet for high wage workers in the United States and Mexico as well as low wage U.S. workers, protectionism provides higher welfare in the short run than the neo-liberal policy mix, although less than in managed interdependence.

While escaping the burden of debt produces short-term gains that accrue primarily to capitalists and land owners, this occurs at the cost of a sharp reduction in trade and subsequent growth. Wages for the poor in Mexico fall below subsistence levels with the return of the deported migrants, and this reduction in wages spills over into the high wage sector through a decline in militancy. The present value of U.S. losses is almost \$200 billion, despite the fact that halting immigration effectively protects low wage labor in the short run (with high wage labor absorbing most of

the loss). Despite its promise of short term protection for some social groups in some countries, a Stackelberg compromise along the lines of the postwar social pacts can still not be maintained in either country.

The protectionist scenario also demonstrates the way changes in migration levels affect low wage labor in both countries. The elimination of migration raises welfare for the U.S. lower classes and lowers the welfare of Mexico's lower classes. Yet the costs to other groups in the United States indicate that the reduction in migration and benefits to the poor in the United States are achieved at a huge cost in efficiency and growth.

While closing off from exchange is clearly the worst option in the long run, different combinations of policies through which open exchange occurs can generate very different levels of growth, employment, and income distribution. The ways in which the benefits to open exchange are distributed will have very important consequences for the pattern of development and the quality of social support for interdependence across countries.

The neo-liberal alternative, which is modeled on the current policy directions in the United States and Mexico, implies a free trade agreement, continued debt servicing, and restrictive immigration (at least in intent) à la IRCA. We show that changes in trade policies, as opposed to capital and labor policies, generally have smaller impacts on production and welfare. An FTA by itself is not capable of reducing migration as some have claimed. Migration, in fact, will increase substantially in the absence of significant capital inflows to increase employment and wages in Mexico.

While the burden of adjustment is placed principally on trade, a change in trade itself is also shown to be incapable of bearing the adjustment load in the short run, despite a fall in real wages. For high wage workers in Mexico and the United States, as well as low wage Mexican workers, neo-liberalism is the worst option in the short run. Given the continuation of imposed debt servicing constraints, a Stackelberg solution to class bargaining is not possible as organized workers remain unwilling to accept these conditions.

While a stable neo-liberal scenario in the long run could provide net benefits to both countries, this can only be achieved through lower wages and a decrease in wage militancy stemming from the collapse of social pacts in both countries and from capitalists getting a larger share of income. Eventual higher rates of growth, employment, and most wages can result from higher savings and investment rates, but only if social stability with lower wages can be maintained.

Of the three alternative scenarios, only managed interdependence can provide for continued growth, international exchange, and a basis for strategically agreed upon social pacts in both countries. The key to this approach is developing an optimal combination of debt, trade, and migration policies that maximizes growth and welfare on both sides of the border.

The migration tax was designed as a way to make a given level of migration more efficient in bringing about convergence in wage levels. When the gains to migration are maximized by minimizing costs, then split equally rather than accruing overwhelmingly to the United States, binational welfare can be increased even as migration levels fall. Mexico's use of migration tax revenues for capital and intermediate goods imports is beneficial to both countries, as about 70 percent of Mexico's imports come from the United States.

Moving capital from the United States to Mexico in order to exploit differences in factor returns is another main element of the managed interdependence scenario. Such a transfer can be modeled as resulting from a temporary postponement in debt servicing, a binational co-investment facility, and/or the funding of a regional development bank. Binational output under the capital transfer is about the same, however, as the capital inflow raises wages in Mexico, which reduces migration. Binational welfare rises, as the dead weight costs of migration are reduced and the gains from increased exchange are captured in goods markets as well.

The managed interdependence scenario also indicates that a trade-off between the welfare of the poor and workers in the two countries is not a necessary one. Instead, it stems from the perspective of attempting to use migration policy to alter the number of migrants, as opposed to using a wider range of migration, trade, and capital market policies to attack the cause of migration: depressed wages in the sending region. In the managed interdependence scenario, the average stock of migrants is actually 1.5 million lower with capitalists and low wage labor in the United States gaining along with Mexico's poor. The Stackelberg process by which wages are set in Mexico is also quite sensitive to the pattern of interdependence, and thus the U.S. equilibrium. For unionized wages to grow at or above the postwar pace would require more than just trade expansion. More access to the U.S. labor market and/or U.S. capital than the neo-liberal scenario provides would be necessary to just maintain the class compromise on which the United States and Mexico's postwar growth was based.

The relationship between interdependence and its impact on GDP and welfare has become more apparent through this modeling. Inter-country

flows are inevitable and symptomatic of the differences in wages and rental rates between the two countries, and attempts to stem them in one area can provoke compensating changes in other areas that may be surprising and perverse from the perspective of the social actors and policymakers. The results of the model indicate that greater exchange yields more economic benefit, although the distribution of benefits between countries and social groups is subject to the precise form of the policy change. While protectionism results in sizable long-term losses across countries and social groups, freer trade without significant net capital inflows cannot be expected to increase employment and wages and reduce migration in the short run. While providing potentially long-term benefits, the current neo-liberal approach is producing severe hardship on groups that can be expected to block moves towards greater exchange. The managed interdependence scenario indicates, however, that there are significant gains to policy coordination that promote increased U.S.-Mexican economic interaction, through capital flows from North to South, labor flows from South to North, and increased trade flows in both directions. While solutions that can generate growth and broad social support across countries are possible, much more attention will have to be given to the institutional process of international policy coordination necessary for their implementation.

APPENDIX I: ANNOTATED EQUATION LIST

Note: All variables are implicitly time subscripted. The index i refers to sectors of the economy, the index j denotes the country, while k denotes social group within the country. Where equations are substantively different by country or sector, sector suffixes 1 or 2 or a prefix M for Mexico are used. In addition, equations for the United States were often given the same equation number as the corresponding equation for Mexico, with an "A" suffix. Alternative equations are noted with a prime (').

Section 1: Production Functions and Factor Allocations

$$1) \text{MGDP1} = \text{MP} * \text{MA1} * (\text{Ma1} * \text{ML1}^{-p1} + \text{Mb1} * \text{MK1}^{-p1} + \text{Md1} * \text{MIMP}^{-p1})^{-1/p1}$$

$$1\&2A) \text{GDP}_i = P_i * A_i * (a_i * L_i^{-pi} + b_i * K_i^{-pi})^{-1/pi}$$

$$2) \text{MGDP2} = \text{MA2} * (\text{Ma2} * \text{ML2}^{-p2} + \text{Mb2} * \text{MK2}^{-p2} + \text{Md2} * \text{MLAND}^{-p2})^{-1/p2}$$

$$3) \text{GDP} = \text{GDP}_{ij} + \text{GDP}'_{ij}$$

- 4) $GDPRL_{ij} = GDP_{ij}/P_{ij}$
 5) $ML1A = ML1_{t-1} + (MK1 - MK1_{t-1})/(MIKL * MSTAKMAX)$
 5A) $ML1B = ML1_{t-1} * ML1GRO$
 6) $ML1 = \min(ML1A, ML1B)$
 6A) $L1 = L1_{t-1} * LGRO_t$
 6A') $L1A = L1_{t-1} + (K1 - K1_{t-1})/(IKL * STAKMAX)$
 7) $ML2 = MLINIT - ML1 - MMIG$
 7A) $L2 = LUSINIT - ML1 + MEXMIG * SKILL$
 8) $\max M1WGBIL = \int_{-t=0,b} (ML1 * MW1) * (MDISRAT)^{t-1986}$
 8A) $SAVRT_j = SAVIN_j + IELAS_j * (RK_j - NORMPROF_j)$

GDP = gross domestic product (bill 1982 \$)

GDPRL = real GDP (at 1982 prices)

P = relative price of good1/good2

PIM = the price of Mexican exports in the U.S., in dollars

A = the production function constant, indicating the technological level

a = 'alpha', the labor share coefficient of the production function

L = the amount of labor, either in thousands of man-years or efficiency units (see eq. 9A)

b = 'beta', the capital share coefficient

K = the amount of capital, in billions of 1982 dollars

d = 'delta', the distribution parameter related to the third factor of production in Mexico

MIMP = the amount of the imported intermediate good, in billions of 1982 dollars

MLAND = the amount of land, in millions of hectares, assumed to be a constant

p = 'rho', the coefficient related to the elasticity of substitution (s) by the eq. $s = 1/(1 + p)$

SAVRT = the marginal propensity to save out of real production

MEXPORTS = Mexican exports to the U.S. of consumer goods

LINIT = the initial (pre-migration) labor force in millions of man-years

MMIG = undocumented Mexican migration to the U.S. in millions

SKILL = a constant adjustment factor to convert migrants into efficiency units of labor

MIKL = an incremental capital/labor ratio, which in turn, defines a time path of the minimum wage

ML₁GRO = the maximum rate of growth of the labor force in sector 1, based on the capacity of Mexico to educate and train new entrants for work in manufacturing

LGRO_t = the growth rate of the U.S. labor force in time *t*

M_rWGBIL = wage bill

MDISRAT = discount rate

MSTAKMAX = index of wage militancy

MSAVIN = historical savings rate

MIELAS = interest elasticity of savings

MNORMPROF = profit rate consistent with historical savings rate

Section 2: Marginal Conditions

$$9) \text{MRK1} = \text{MP} * \text{MA1} * \text{Mb1} * \text{MK1}^{(-p1-1)*} [\text{Ma1} * \text{ML1}^{-p1} + \text{Mb1} * \text{MK1}^{-p1} + \text{Md1} * \text{MIMP}^{-p1}]^{-(1/p1)-1}$$

$$10) \text{MRK2} = \text{MA2} * \text{Mb2} * \text{MK2}^{-p2-1*} \times [\text{Ma2} * \text{ML2}^{-p2} + \text{Mb2} * \text{MK2}^{-p2} + \text{Md2} * \text{MLAND}^{-p2}]^{(1/p2)-1}$$

$$9A, 10A) \text{RKi} = \text{Pi} * \text{Ai} * \text{bi} * \text{Ki}^{-pi-1*} [\text{ai} * \text{Li}^{-pi} + \text{bi} * \text{Ki}^{-pi}]^{-(1/pi)-1i} = 1, 2$$

P2 = 1

$$11) \text{MW1} = \text{MP} * \text{MA1} * \text{Ma1} * \text{ML1}^{(-p1-1)*} [\text{Ma1} * \text{ML1}^{-p1} + \text{Mb1} * \text{MK1}^{-p1} + \text{Md1} * \text{MIMP}^{-p1}]^{-(1/p1)-1}$$

$$12) \text{MW2} = \text{MA2} * \text{Ma2} * \text{ML2}^{-p2-1*} [\text{Ma2} * \text{ML2}^{-p2} + \text{Mb2} * \text{MK2}^{-p2} + \text{Md2} * \text{MLAND}^{-p2}]^{-(1/p2)-1}$$

$$11A, 12A) \text{Wi} = \text{Pi} * \text{Ai} * \text{ai} * \text{Li}^{-pi-1*} [\text{ai} * \text{Li}^{-pi} + \text{bi} * \text{Ki}^{-pi}]^{-(1/pi)-1i} = 1, 2$$

P2 = 1

$$13) \text{MPMIMP} = \text{MP} * \text{MA1} * \text{Md1} * \text{MIMP}^{(-p1-1)*} [\text{Ma1} * \text{ML1}^{-p1} + \text{Mb1} * \text{MK1}^{-p1} + \text{Md1} * \text{MIMP}^{-p1}]^{-(1/p1)-1}$$

$$14) \text{MPMLAND} = \text{MA2} * \text{Md2} * \text{MLAND}^{(-p2-1)*} [\text{Ma2} * \text{ML2}^{-p2} + \text{Mb2} * \text{MK2}^{-p2} + \text{Md2} * \text{MLAND}^{-p2}]^{-(1/p2)-1}$$

RK_i = both the value of the marginal product of and return to capital in sector *i* *i* = 1, 2

W_i = both the value of the marginal product of labor and the wage rate in sector *i* *i* = 1, 2

MPMIMP = the value of the marginal product of the imported intermediate good

MPLAND = the value of the marginal product of land

*Section 3: Aggregate Demands and Sectoral Incomes,
Demands, and Utilities*

$$15) \text{MAD1} = \text{MG1} + (\text{MB1}/\text{MP}) * (\text{MGDPC} - \text{MP} * \text{MG1} - \text{MG2}) \\ + \text{MEXPORTSRL}$$

$$15A) \text{AD1} = \text{G1} + (\text{B1}/\text{P}) * (\text{GDPC} - \text{P} * \text{G1} - \text{G2}) + \text{MIMPRL} \\ + 0.87 * \text{DSLVL} * \text{DEPEND}$$

$$16) \text{MAD2} = \text{MG2} + \text{MB2} * (\text{MGDPC} - \text{MP} * \text{MG1} - \text{MG2}) \\ + (\text{MEXMIG} + \text{ML1} * 0.8 + \text{ML2} * 0.6) * \text{MDSLVL}$$

$$16A) \text{AD2} = \text{G2} + \text{B2} * (\text{GDPC} - \text{P} * \text{G1} - \text{G2}) + 0.13 * \text{DSLVL} * \text{DEPEND}$$

$$17A) \text{AD3} = \text{MEXPORTSRL} = (\text{B3}/\text{PIM}) * (\text{GDPC} - \text{P} * \text{G1} - \text{G2})$$

18) $\text{MIGY} = \text{W2} * \text{SKILL} - \text{COST} - \text{DISC} - \text{REMIT}$ note: $\text{REMIT} = \text{MDSLVL}/\text{PPPE}$, SKILL and DISC are constants, while cost is defined immediately below

$$19) \text{COST} = \text{COST1982} + 0.1 * (\text{MEXMIG} - 2.5)$$

$$20^*) \text{MIGDi} = \text{giMIG} + (\text{Bi}/\text{Pi}) * (\text{MIGY} - \text{P} * \text{g1MIG} - \text{g2MIG} \\ - \text{PIM} * \text{g3MIG}) \quad i = 1, 2 \quad \text{P2} = 1, \text{P3} = \text{PIM}$$

$$21) \text{UMIG} = [_{-i=1,3} \text{Bi} * \text{LOG}(\text{MIGDi} - \text{giMIG})] - \text{PREF}$$

$$22) \text{ML2Y} = \text{MW2} - 0.6 * \text{MDSLVL} * \text{ML2}$$

$$22A) \text{L2Y} = \text{W2}$$

$$23) \text{MD}_{ik} = \text{Mg}_i + (\text{MB}_i/\text{MP}_i) * (\text{MY}_k - \text{MP} * \text{Mg1} - \text{Mg2}) \quad i = 1, 2 \text{ and} \\ k = \text{L2, L1, MK, LAND}$$

$$23A^*) \text{D}_{ik} = \text{g}_i + (\text{B}_i/\text{P}_i) * (\text{Y}_k - \text{P} * \text{g1} - \text{g2} - \text{PIM} * \text{g3}) \quad i = 1, 3 \text{ and} \\ k = \text{L1, L2, K}$$

$$24) \text{UTIL}_{jk} = [_{-i=1,2} \text{and } 3, \text{ for the U.S.}] \text{B}_{ij} * \text{LOG}(\text{D}_{ijk} - \text{g}_{ij})$$

$$25) \text{ML1Y} = \text{MW1} - 0.8 * \text{MDSLVL} * \text{ML1}$$

$$25A) \text{L1Y} = \text{W1} * (1 - \text{USINCOMETAX})$$

$$26) \text{MKY} = \text{MRK} * \text{MK} - \text{MGDPRL} * \text{MSAVRT} - \text{MGDPRL} * \text{MTAX} \\ + \text{MIMP} * (\text{MPMIMP} * (\text{PIM} - \text{P}))$$

$$26A) \text{KY} = \text{RK} * \text{K} - \text{GDPRL} * \text{SAVRT} - \text{NEWLOANS} + \text{KEXP}$$

$$27) \text{MLANDY} = \text{MPLAND} * \text{MLAND}$$

AD_i = aggregate demand for sector *i* output

G_i = the aggregate 'subsistence' level of demand G_i > 0 implies an income elasticity < 1 G_i = g_i * L_i

note: G₃ = 0

B_i = the share of 'discretionary income' spent on good *i*

PIM = the dollar price of Mexican exports in the U.S.

MIGY = the amount of money migrants spend on goods which they consume

SKILL = the productivity of Mexican migrants in the U.S. relative to native unskilled labor (see section 1)

COST = all costs of migration, from bus tickets to lost wages and bribes

COST₁₉₈₂ = cost in the base year of 1982

DISC = discrimination against migrants due to their undocumented status

REMIT = remittances from migrants to dependents who remain in Mexico, in dollars

MDSL_V = the subsistence level of the dependents of migrants who remain in Mexico

DSL_V = the subsistence level of demand of U.S. dependents, at 1982 prices. The elderly consume more services (health care, etc.) thus the fraction of demand representing good 2 is somewhat higher than B₂, the 'marginal propensity to consume' good 2 of employed households

DEPEND = the number of dependents in the U.S. living outside the households of the employed; it can be thought of as the number of elderly receiving government transfers

PPPE = the peso/dollar exchange rate, converting target levels of Mexico good 2 consumption to dollar flows

MIGD_i = consumption of good *i* in the U.S. by a representative migrant

g_i = an individual's required consumption of good *i*

note: B's are the same for all social groups within each country

UMIG = utility of the representative migrant

PREF = the preference of Mexicans for living and working in Mexico

note: in starred equations, PIM includes the U.S. tariff

RK = average return in capital

K = total capital stock of the country

DEBT = Mexico's total foreign debt

RATE = the average interest rate on the debt (exogenous)

NEWLOANS = net inflow of lending in dollars

KEXP = the dollar price of capital exports to Mexico

MTAX = the Mexican tax rate, or average rate if rates differ between sectors

Section 4: Equilibrium Conditions

$$28) RK1_i = RK2_i$$

$$29) 0 = EXD_{ij} = [GDP_{ij}/P_{ij} * (1 - SAVRT_i)] - AD_{ij} \quad i = 1, 2$$

$$30) 0 = EXD3 = MEXPORTS - AD3$$

$$31) 0 = UTILDIFF = UMIG - UML2$$

$$32) 0 = GOVBP = MTAR * MIMP + OILREV + NEWLOANS \\ + MEXMIG * REMIT - DEBT * RATE - DOLTRANS$$

$$33*) 0 = SPFOREX = MPMIMP * PIM/P - MP \\ = MRK * PIM/PMKUS - MP$$

$$34) 0 = PRIVBP = (PIM * MEXPORTS - P * MIMP - KEXP) \\ + DOLTRANS - CAPITALFLIGHT$$

$$35) CAPITALFLIGHT (1982-85) = (PIM * MEXPORTS \\ - P * MIMP - KEXP) + DOLTRANS$$

$$36) CAPITALFLIGHT (1986-2000) = -(CAPITALFLIGHT (1982- \\ 85)/15)$$

$$36') CAPITALFLIGHT (1986-2000) = 0$$

EXDi = excess demand for good *i*

SPFOREX = the shadow price of foreign exchange, i.e. the value of the additional product that could be made and sold given a one unit relaxation of the export ceiling constraint

GOVBP = the balance of payments of the public sector. DOLTRANS is the free parameter

PRIVBP = the balance of payments constraint of the private sector. Here, DOLTRANS and

CAPITALFLIGHT (after 1985) are the only true exogenous variables

MTAR = the tariff rate set by the Mexican government on imports

UTILDIFF = the utility differential between migrants and non-migrants

note: in starred equation, P includes Mexican tariff

DOLTRANS = the Mexican government's dollar deficit (surplus), which is borrowed from (loaned to) the private sector

KEXP = capital exports from the U.S. to Mexico

PMKUS = the price of Mexican capital in the U.S., which can differ from the price of U.S. capital

CAPITALFLIGHT = the model estimates capital flight for the years 1982-

1985, then an assumption is made about the time path of the variable for future years

Section 5: The Government Sector

$$37) \text{MGOVREV} = \text{MTAX1} * \text{MGDP1} + \text{MTAX2} * \text{MGDP2}$$

$$37A) \text{GOVREV} = \text{TAR} * \text{MEXPORTS} + \text{USINCOMETAX}$$

$$38) \text{MGOVEXP} = \text{PDEBTSRV} + \text{DOLTRANS} + \text{MTRANSFERS}$$

$$38A) \text{GOVEXP} = \text{DSLVS} * \text{DEPEND} + \text{TRANSFERS} + \text{USDEBTSERV}$$

$$39) \text{DEFICIT}_j = \text{GOVREV}_j - \text{GOVEXP}_j$$

$$40) \text{GOVDEBT}_j = \text{GOVDEBT}_{j,t-1} + \text{DEFICIT}_j$$

GOVREV = government revenue

TAR = tariff rate (percent)

GOVEXP = government expenditure

PDEBTSRV = payments on the government's internal (peso) debt

TRANSFERS = transfer payments to individuals

DEFICIT = the government deficit

GOVDEBT = internal government debt

Section 6: Updating Exogenous Variables

$$41) \text{LINIT}_{jt} = \text{LINIT}_{j(t-1)} * \text{LGRO}_{jt}$$

$$42) K_{jt} = K_{j(t-1)} + \text{SAVRT}_j * \text{GDPRL}_{jt}$$

$$43) A_{ij,t} = A_{ij,t-1} * \text{AGRO}_{ij,t-1} \text{ for } 1983-1986, \text{ else} \\ = A_{ij,t-1} * \text{AGRO}_{ij}$$

$$44) \text{DEPEND}_t = \text{DEPEND}_{(t-1)} * \text{DEPENDGRO}$$

o

LINIT_t = the initial (pre-migration) labor force

LGRO_t = growth rate of the labor force in year _t

K_t = the capital stock

AGRO_{ij,t} = the rate of technological progress in year _t

DEPENDGRO = growth of dependents

APPENDIX 2: BASE YEAR DATA AND SOURCE LIST

Subscripts refer to sectors within a country and prefixes US and M refer to the United States and Mexico respectively. Data are in millions of people or billions of 1982 dollars unless otherwise specified.

The 1982 values of:

The U.S. Labor Force— $USL_1 = 90$ $USL_2 = 10$ $USLINIT = 98$

Sources: National Income and Product Accounts (NIPA)—employment by industry (note that only 8 of USL_2 represent U.S. citizens).

The Mexican Labor Force— $ML_1 = 8.0$ $ML_2 = 14.0$ $MLINIT = 24.5$

Sources: Mexican census data—with corrections—assuming approximately six percent labor force growth from 1980–1982.

The U.S. Capital Stock— $USK_1 = \$7054$ $USK_2 = \$546$ $USK = \$7600$

Sources: Estimates drawn from Survey of Current Business (SCB).

The Mexican Capital Stock— $MK_1 = \$170$ $MK_2 = \$180$ $MK = \$350$

Sources: Estimates computed by updating the 1975 capital stock estimate of Reynolds—with net investment figures from “International Financial Statistics” (IFS).—Capital allocation across sectors appears to be consistent with available wage and productivity data for the U.S.—and for Mexico from Anuario Estadístico (AE).

U.S. GDP data— $USGDP_1 = \$3014$ $USGDP_2 = \$147$ $USGDP = \$3161$

Sources: U.S. GDP data is from SCB, with sector 2 consisting of parts of the agriculture (20%), construction (10%), and services (25%) sectors.

Mexican GDP data— $MGDP_1 = \$85$ $MGDP_2 = \$75$ $MGDP = \$160$

Sources: Mexican GDP data is from Banco de Mexico Informe Anual (IA) 1984, with sector 2 defined as Agriculture, Services, and Construction.

Undocumented migrants— $MEXMIG = 2.5$

Sources: Serious studies have estimated undocumented Mexican migration at anywhere from 1 to 6.5 million in this time frame. Studies whose point of departure is the unexplained difference between 1980 census data and predictions based on 1970 base data and crude birth and death rates tend to place on the low end of the scale.

Studies based on border apprehensions and so-called “get away” ratios tend to be on the high end.

The estimate used here, 2.5 million, is a reasonable compromise between the two camps, and closer to the mid-point than one might think, since the high-range estimates include a considerable number of non-working dependents, which do not formally exist in this model. One could interpret the 80% factor used to convert migrants to efficiency units of labor as a participation ratio with no change in the results.

- SKILL = 80% This factor represents the difference in productivity between migrants and native labor due to education, training, and language (see above comment).
- COST₁₉₈₂ = All costs of migrating from Mexico to the U.S. \$1,200/person. Two-thirds of this figure represents unavoidable costs, like bus fares, wages lost in travel time, and job search costs, which are independent of the legality of migration. The other third consists of resources wasted avoiding the border patrol, time spent being detained or deported, and bribing officials or smugglers for crossing, all of which are a direct result of U.S. migration restrictions.
- DISCRIMINATION = This is the cost of being illegal, in terms of \$1,200/person lower net pay. Overt discrimination, the paying of different gross wages to two people doing the same work because one is undocumented, exists but is not common. Covert discrimination, in terms of withholdings for social security, income taxes, and various other health or insurance programs for which the migrant is not eligible, is the important source of this difference.
- PREFERENCE = 1.7 Utility units It is the preference of migrants for living and working in Mexico rather than the U.S., measured in utility units. This figure is arrived at by parameterizing the model to consider the estimated 1982 migration level in equilibrium. In dollar terms, this means that a potential migrant would require a wage about \$3,000 higher than that available in Mexico in order to be better off if he migrates.

Constant elasticity of substitution production coefficients

Sector	Labor	Capital	Int. Good	Land
MS ₁	M alpha 1 = 0.498	M beta 1 = 0.404	Mdelta1 = 0.098	
MS ₂	M alpha 2 = 0.467	M beta 2 = 0.450		Mdelta2 = 0.083
USS ₁	US alpha 1 = 0.76	US beta 1 = 0.24		
USS ₂	US alpha 2 = 0.67	US beta 2 = 0.33		

These CES production function coefficients were chosen to be consistent with the 1982 functional income distribution for each country and reflect constant returns to scale production (the sum of the coefficients = 1). Mexican data on wages and income distribution is drawn from the 1980 census and from selected United Nations and Secretaria de Programacion y Presupuesto (SPP) publications.— Differences between sectors conform to observed wage differentials and technological differences where such data is available. The parameter p , related to the elasticity of substitutions s by the formula $s = 1/(1+p)$, was chosen such that $ms_1 = s_1 = 0.9$ and $ms_2 = s_2 = 0.93$. Thus the manufacturing sector has a lower elasticity of substitution, in keeping with the conventional wisdom.—

Technological efficiency coefficients for each sector were inferred from the other data by inverting the CES production functions in the base years. In 1982, the figures were:

$$\text{MEXA1} = 3.533 \quad \text{MEXA2} = 1.773 \quad \text{USA1} = 13.500 \quad \text{USA2} = 4.409$$

Class Strategic Bargaining Coefficients

$$\begin{aligned} \text{SAVIN} &= 0.058 & \text{IELAS} &= 0.3 & \text{NORMPROF} &= 0.09 & \text{DISRAT} &= 0.84 \\ \text{MSAVIN} &= 0.07 & \text{MIELAS} &= 0.4 & \text{MNORMPROF} &= 0.19 & \text{MDISRAT} &= 0.9 \end{aligned}$$

Demand function coefficients

$$\begin{aligned} \text{MG1} &= .317 & \text{MB1} &= .7 \\ \text{MG2} &= 1.700 & \text{MB2} &= .3 \\ \text{G1} &= 5.568 & \text{B1} &= .934 \\ \text{G2} &= -.066 & \text{B2} &= .060 \\ \text{G3} &= -5/98 & \text{B3} &= .006 \\ \text{migG2} &= .035 \\ \text{migG3} &= .000 \end{aligned}$$

These coefficients are not directly estimated, but are based on a variety of information, from estimates of the income elasticity of demand for key components of each sector to general $\text{migG1} = 3.714$ rules such as Engel's law.— See table 5-2 for the price = 1 demand expansion path consistent with the status quo income and population growth paths. Lluch, Powell, and Williams provide a source of estimates of budget shares, income elasticities, and Frisch parameters for linear expenditure systems based on various cross-country studies.³⁴ These provide checks on the reasonableness of the parameters used here.

³⁴Constantino Lluch, Alan A. Powell, and Ross A. Williams, *Patterns in Household Demand and Saving* (New York, 1977).

Other 1982 Data

MIMP = \$9.0	Intermediate good imports in 1982, from Comercio Exterior (CE), Banco de Mexico. As a simplifying assumption, all imports are treated as originating in the U.S. and all exports go to the U.S. In the past 10 years, some 70 percent of Mexican exports have gone to the U.S., while 65 percent of imports are bilateral. Alternatively, one can consider U.S. totals as underestimates of Latin American trade rather than overestimates of trade with Mexico.
MEXICAN NON-OIL	Mexican non-oil exports from CE, with an EXPORTS = \$6.0 adjustment for underinvoicing made in order to reconcile Mexican and U.S. trade data. The adjustment factor is about 10%.
NEWLOANS = \$8.2	New loans plus the fall in reserves for 1982, from IA.
DEBT = \$85.0	Mexico's foreign debt in 1982, from IA, and IFS.
RATE = 9%	Average interest rate on Mexico's debt, from IA and IFS.
MDSLVS = \$0.125/migrant	Dependent's subsistence level for migrants. For Mexican labor, MDSLVS is one of the demand parameters.
DSLVS = \$5.4/dependent	Dependent's subsistence level for the U.S. Each dependent consumes 4.7 units of good 1 and 0.7 units of good 2. As mentioned in the text, since $0.7/5.4$ (\sim (difference) 0.13) exceeds B_2 (0.06), increases in dependents relative to the labor force increases the demand for good 2 relative to good 1.
DEP = 37.9	Number of dependents in the U.S.

$$\text{MIKL} = 24 * 1.0125^{(t-1)}$$

Mexico's incremental capital/labor ratio, in thousands of dollars of capital per job created, inferred from recent Mexican government development plans. If Mexico reduces the capital intensity of growth further, this would have a significant effect on the results of the model. t is a time index, equal to 1 in 1982 and 19 in the year 2000.

"Simulating the Past": The Years 1983-1985

Growth rates of the labor force and savings rates are supplied for these years as described below, as well as observed values of production, imports and exports, and new loans. The split of capital and labor between sectors, migration, prices, factor rewards, etc., are endogenous. A's are solved for as described above.

	1983	1984	1985
MGDPRL =	\$149.70	154.85	159.16
MGDP1/MP =	\$77.42	81.01	83.08
MGDP2 =	\$72.28	73.84	76.08
GDPRL =	\$3279.84	3487.96	3562.47
GDP1/P =	\$3121.58	3322.32	3394.62
GDP2 =	\$158.26	165.63	167.85
MA1 =	3.287	3.237	3.219
MA2 =	2.696	2.709	2.702
A1 =	13.681	14.256	14.272
A2 =	4.420	4.441	4.357
NEWLOANS =	\$7.5	2.8	5.0
MIMP =	\$5.493	7.170	8.027
N-O EXPORTS =	\$6.345	7.839	7.054

Growth Rates of Exogenous Variables for the Simulation

Labor force growth rates for the U.S. and Mexico are computed in a similar fashion to those reported in an earlier work,— but have been modified to take advantage of recent work based on 1980 Mexican census data.— On the U.S. side, estimates are updated to reflect recent BLS projections.— The first numbers below are the percentage increases in the labor force of Mexico and the U.S. from 1982 to 1983, and the eighteenth row is the growth from 1999 to 2000. Thus year 1982 + t labor force is $_{-i=1,t}(1 + \text{LGRO}_i)$.

MLGRO ₁ = 3.7	LGRO ₁ = 2.2	MLGRO ₁₀ = 3.25	LGRO ₁₀ = 1.7
MLGRO ₂ = 3.7	LGRO ₂ = 2.1	MLGRO ₁₁ = 3.1	LGRO ₁₁ = 1.65
MLGRO ₃ = 3.7	LGRO ₃ = 2.0	MLGRO ₁₂ = 2.95	LGRO ₁₂ = 1.6
MLGRO ₄ = 3.65	LGRO ₄ = 1.95	MLGRO ₁₃ = 2.7	LGRO ₁₃ = 1.55
MLGRO ₅ = 3.65	LGRO ₅ = 1.9	MLGRO ₁₄ = 2.5	LGRO ₁₄ = 1.55
MLGRO ₆ = 3.6	LGRO ₆ = 1.85	MLGRO ₁₅ = 2.35	LGRO ₁₅ = 1.5
MLGRO ₇ = 3.6	LGRO ₇ = 1.8	MLGRO ₁₆ = 2.2	LGRO ₁₆ = 1.5
MLGRO ₈ = 3.55	LGRO ₈ = 1.75	MLGRO ₁₇ = 2.1	LGRO ₁₇ = 1.45
MLGRO ₉ = 3.45	LGRO ₉ = 1.75	MLGRO ₁₈ = 2.05	LGRO ₁₈ = 1.4

ML₁GRO = 5 The maximum labor absorption capacity of the high wage sector.

Productivity Growth:

Mex 1 = 1.8% Mex 2 = 0.8%

US 1 = 1.2% US 2 = 0.4%

Historical trends, 1970-1982 for the U.S., in ERP, 1983 "Increases in Output per hour," adjusted for capital increases. For Mexico, 1970-1980 trend based on shift-share update for change in output per worker, adjusted for changes in capital and labor.—

MDISRT = 0.91

Mexican and U.S. discount factors USDISRT = 0.93 (one minus the discount rates). Mexico discounts the future more heavily, an assumption consistent with consumers close to the subsistence level and a relatively high rate of return to capital.

DEPGRO = 3%

Growth of the "dependency burden" as the U.S. population ages.

NEWLOANS = \$3.0

COST = \$1.2 + \$0.1*(MEXMIG-2.5)

Net new loans yearly for 1986-2000.

As the number of migrants rises in a given year, the cost of migration is assumed to increase slightly. Possible justifications include the effects of a distribution of migrants by distance

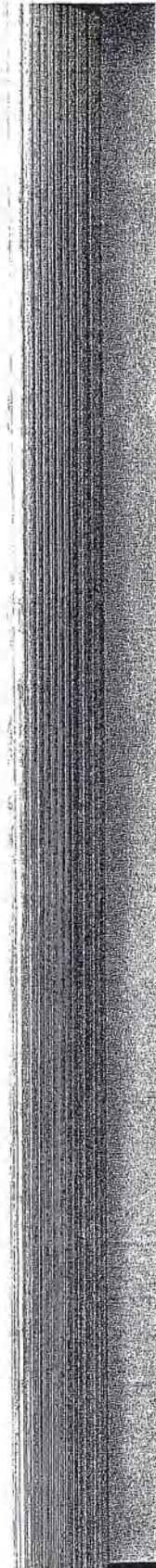
from the border, bidding up the scarce resources associated with border crossing, and the possibility that apprehension percentages and detention time increase with higher migration levels.

From Sojourners to Settlers: The Changing Profile of Mexican Immigration to the United States

Wayne A. Cornelius

THE OBJECTIVES of this paper are to highlight several important changes in the profile of Mexican migration to the United States since the 1970s, to offer some tentative explanations for these shifts, and to discuss briefly their implications for public policy, especially at the local level. The profile of the contemporary Mexican immigrant population that I present here is necessarily a composite, assembled from many different fragments. It draws heavily on data from a series of field studies conducted between 1982 and 1989 on both sides of the border by the Center for U.S.-Mexican Studies at the University of California at San Diego (UCSD). The research design, sampling methods, and data collection procedures for these studies are described more fully in the appendix to my paper. Our studies have included censuses, sample surveys, unstructured interviewing and ethnographic observation among U.S. employers, immigrant and U.S.-born workers employed in the same firms, recently arrived migrants who were seeking work as day-laborers in southern California's street-corner labor markets, and returned migrants and prospective first-time migrants living in three rural communities in west-central Mexico that traditionally export labor. These data are supplemented by findings from other sample surveys and ethnographic studies, Immigration and Naturalization Service (INS) apprehension statistics, samples of U.S. Border Patrol apprehension records, and evidence from El Colegio de la Frontera's ongoing studies of would-be unauthorized entrants, photographed and interviewed on the Mexican side of the border.

It must be emphasized at the outset that the available data, while suggestive of trends, are far from conclusive, and problems of comparability limit our ability to generalize from them. With very few exceptions, we



lack historical time-series data, longitudinal studies of specific sending or receiving areas, and panel studies of samples of Mexican immigrants, which together would permit us to describe and explain changes in migration to the United States from Mexico (and other Latin American countries) with greater certainty and precision. Cross-sectional data, even when collected at various points in time using reasonably comparable sampling and interviewing techniques, are no substitute for systematic longitudinal evidence. Nevertheless, the available data provide a base from which certain plausible propositions about the changing character of Mexican immigration can be derived.

THE EROSION OF A STEREOTYPE

When the *bracero* program of contract labor importation ended in 1964, and for up to a decade thereafter, Mexican migration to the United States consisted mainly of a circular flow of mostly undocumented, mostly young adult males who left their immediate relatives behind in a rural Mexican community to work in seasonal U.S. agriculture for several months (normally six months or less) and then returned to their community of origin. Most came from a small subset of communities, located in seven or eight Mexican states that for many years had sent the bulk of Mexican migrants to the United States. Thus, the typical undocumented Mexican worker of the late 1960s and early 1970s strongly resembled his or her predecessors, who worked under legal contracts. In fact, in many cases the post-1964 illegal entrants had themselves worked in the United States as *braceros* up to 1984. This was the picture that emerged from data collected from apprehended "illegals" interviewed in the United States,¹ returned migrants interviewed in traditional "sending" communities,² and a national sample of 62,000 Mexican households interviewed in 1978 by Centro Nacional de Información y Estadísticas del Trabajo (CENIET), a Mexican government agency.³

¹David S. North and Marion F. Houstoun, *The Characteristics and Role of Illegal Aliens in the U.S. Labor Market: An Exploratory Study* (Washington, 1976).

²Wayne A. Cornelius, "Outmigration from Rural Mexican Communities," in Interdisciplinary Communications Program, *The Dynamics of Migration: International Migration*, ICP Occasional Monograph Series, vol. 5, no. 2 (Washington, 1976); Wayne A. Cornelius, *Mexican Migration to the United States: Causes, Consequences, and U.S. Responses*, monograph C/78-9 (Cambridge, Mass., 1978); Raymond E. Wiest, "Wage-Labor Migration and the Household in a Mexican Town," *Journal of Anthropological Research* 29 (1973), 180-209; Raymond E. Wiest, "Implications of International Labor Migration for Mexican Rural Development," in Fernando Cámara and Robert Van Kemper, eds., *Migration Across Frontiers: Mexico and the United States* (Albany, N.Y., 1979), 85-97.

³Jorge A. Bustamante and Gerónimo Martínez, "Unauthorized Immigration from Mexico: Beyond Borders but Within Systems," *Journal of International Affairs* 33 (Fall-Winter

Because of their research designs and methods of data collection, these studies tended to understate the importance of permanent settlement in the United States by Mexican immigrant families. The 1980 U.S. Census, which some demographers believe counted a substantial portion of the illegal aliens in the United States at that time, found that most Mexicans were living with their immediate relatives.⁴ To the extent that living with their families in the United States can be treated as a proxy for permanent settlement, the 1980 U.S. Census depicted a much more settled stock of Mexican immigrants than the stereotypic illegal alien population dominated by transient, mostly male, farmworkers living on their own or with unrelated persons. Of course, those enumerated in the U.S. Census were supposed to be settlers rather than sojourners, so Mexican migrants who stay for only a short time are virtually unrepresented in the census data. But evidence from more recent studies done on both sides of the border, using methodologies that enable us to differentiate with much greater precision among the various fractions of the stock and flow of migrants, have confirmed that Mexican migration to the United States has become much more heterogeneous, in terms of settlement patterns, gender, legal status, employment experience before and after migration to the United States, and in other ways—so much so that it increasingly defies generalization.

I hypothesize that the erosion of the stereotypic illegal alien population, which probably began in the late 1960s or early 1970s, has been intensified during the last ten years by four principal factors: (1) changes in the U.S. economy that have affected the nature and magnitude of the demand for Mexican immigrant labor, (2) the long-running economic crisis in Mexico, (3) the 1986 U.S. Immigration and Reform Act (IRCA), and (4) the maturation of transnational migrant networks, whose formation was initiated by earlier waves of migrants to the United States.

Origins in Mexico

In the last ten to fifteen years, Mexican migration to the United States has become increasingly diversified in terms of its points of origin in Mex-

1979), 265–84; Carlos H. Zazueta and Manuel García y Griego, *Los trabajadores mexicanos en Estados Unidos: Resultados de la encuesta nacional de emigración a la frontera norte del país y a los Estados Unidos* (Mexico City, 1982); Susan Ranney and Sherrie Kossoudji, "Profiles of Temporary Mexican Labor Migration to the United States," *Population and Development Review* 9 (1983), 475–93.

⁴Robert Warren and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census," *Demography* 24 (Aug. 1987), 375–93; George J. Borjas, *Friends or Strangers: The Impact of Immigrants on the U.S. Economy* (New York, 1990).

ico. In 1973, 47.4 percent of the undocumented Mexicans apprehended in the San Diego area—which accounts for more than 40 percent of all apprehensions along the U.S.-Mexico border—originated in just two states: Jalisco and Michoacán. Other major sending states were Baja California Norte, Sinaloa, and Guerrero.⁵ These data, from a sample of 3,204 "I-213" forms completed in the San Diego Border Patrol sector, reflect the high concentration within states like Jalisco and Michoacán of towns and rural communities that have built up their own multigenerational traditions of migration to California.

More recent data on Mexican migrants in southern California show greater diversity in states of origin within Mexico. In a random sample of 871 illegal Mexican entrants apprehended by the U.S. Border Patrol in the San Diego sector during 1987, only 28.7 percent had originated in Jalisco or Michoacán.⁶ Among Mexicans (both legal immigrants and unauthorized migrants) employed in one hundred southern California nonagricultural firms in 1987-1988, 37.8 percent had resided in Jalisco or Michoacán just before their most recent migration to the United States (see Table 1). Twenty-seven out of Mexico's 32 states had sent migrants to these firms. An even more dispersed pattern is shown in our data collected from recently arrived, job-seeking, unauthorized migrants in southern California in 1987-1988 (Table 2, column 2). Jalisco and Michoacán accounted for just 21.9 percent of these post-IRCA migrants, while six nontraditional sending states (the Federal District, Puebla, Hidalgo, Estado de México, Morelos, and Oa-

⁵W. Tim Dagodag, "Illegal Mexican Immigration to California from Western Mexico," in Robert C. Jones, ed., *Patterns of Unauthorized Migration: Mexico and California* (Totowa, N.J., 1984), 61-73; Richard C. Jones, "Macro-Patterns of Unauthorized Migration Between Mexico and the U.S.," in Richard C. Jones, ed., *Patterns of Unauthorized Migration: Mexico and California* (Totowa, N.J., 1984), 45-49.

⁶Unpublished tabulation provided by the Statistics Division, U.S. Immigration and Naturalization Service, Washington, Apr. 1990. The data were drawn from a borderwide sample of 1,575 "I-213" forms filled out by Border Patrol agents on apprehended Mexicans (see John A. Bjerke and Karen K. Hess, "Selected Characteristics of Illegal Aliens Apprehended by the U.S. Border Patrol," paper presented at the Annual Meeting of the Population Association of America, May 1987). The sampling interval was one out of every 500 Mexican I-213 forms. The sampling error for migrants originating in Jalisco was plus or minus 2.3 percentage points, and 2.4 percent for those originating in Michoacán (95 percent confidence level). It must be kept in mind that this sample was designed to represent those clandestine entrants who were apprehended by the U.S. Border Patrol (about 97 percent of whom, in recent years, have been Mexican nationals); it is not necessarily representative of the overall flow of unauthorized aliens into California. Information on state-of-origin within Mexico is collected continuously by the U.S. Border Patrol, as part of the I-213 forms completed on each apprehended alien. However, this information is not keyed into the INS's computerized database on apprehensions, because of a shortage of data-entry personnel; hence the need to draw special samples of I-213 forms.

TABLE I
Points of Origin of Mexican Immigrants Employed in Southern California

State	Birthplace (N = 315)	Last place of residence before most recent migration to U.S. (N = 324)
Baja California Norte	8.6%	20.4%
Jalisco	24.8	18.8
Michoacán	13.0	11.1
Federal District (Mexico City)	6.7	9.9
Guerrero	9.8	7.1
Guanajuato	5.7	4.6
Oaxaca	4.1	3.4
Zacatecas	3.8	3.1
Nayarit	2.9	2.2
Chihuahua	1.6	1.9
Durango	2.5	1.9
Sinaloa	1.0	1.9
Puebla	1.6	1.5
Querétaro	1.3	1.5
Colima	1.6	1.2
Edo. de México (mostly Mexico City)	1.6	1.2
Sonora	1.9	1.2
Yucatán	1.0	1.2
Coahuila	1.0	0.9
Morelos	2.2	0.9
San Luis Potosí	1.6	0.9
Aguascalientes	0.6	0.3
Nuevo León	0.3	0.3
Tlaxcala	0.3	0.3
Veracruz	0.0	0.3
Hidalgo	0.3	0.0
Tamaulipas	0.3	0.0

SOURCE: Personal interviews with Mexican-born workers employed in 100 "immigrant-dependent" firms in San Diego, Orange, and Los Angeles counties, conducted in 1987-88 by the Center for U.S.-Mexican Studies.

xaca) accounted for 45.5 percent.⁷ The state of Guerrero, while previously among the major sending states for Mexican migration to the

⁷For most of this century, about eight Mexican states have contributed the bulk of Mexican migrants to California (70 percent or more, according to most estimates). However, it has not always been the *same* eight states. For example, Sonora and Coahuila were important sending states in the 1920s, but are no longer important sources. The four entities that consistently have ranked among the top sending states are Jalisco, Michoacán, Guanajuato, and Zacatecas (see Jones, "Macro-Patterns of Unauthorized Migration Between Mexico and the U.S."). These, more than any others, merit the label "traditional sending states."

TABLE 2
*Points of Origin of Recently Arrived Unauthorized Mexican Migrants
 to Southern California*

State	Birthplace (N = 184)	Last place of residence before migrating to U.S. (N = 187)
<i>Federal District (Mexico City)</i>	9.8%	17.7%
Guanajuato	11.4	11.2
Michoacán	12.5	10.7
Puebla	8.7	8.0
Guerrero	10.3	7.5
Hidalgo	7.1	7.0
Jalisco	5.4	5.9
<i>Edo. de México (mostly Mexico City)</i>	6.0	5.4
Baja California Norte	1.1	4.3
Morelos	3.8	3.7
Oaxaca	5.4	3.7
Chihuahua	2.2	2.7
Nayarit	2.2	2.1
Chiapas	1.6	1.6
Querétaro	1.6	1.6
Sinaloa	1.6	1.6
Sonora	2.7	1.6
Veracruz	1.6	1.1
Zacatecas	2.2	1.1
Aguascalientes	0.5	0.5
Colima	0.5	0.5
Nuevo León	0.5	0.5
Durango	1.1	0.0

SOURCE: Personal interviews with job-seeking, unauthorized migrants who arrived in San Diego, Orange, and Los Angeles counties in 1987 or 1988, conducted by the Center for U.S.-Mexican Studies.

United States, increased its relative contribution to the migrant flow in the 1980s.⁸

The increasing importance of the Mexico City metropolitan area (the Federal District and contiguous municipalities in the state of Mexico) as a source for unauthorized migration to the United States in recent years is particularly striking. Before the 1980s, the Federal District never

⁸This increase in contribution is reflected in data collected by El Colegio de la Frontera Norte, Tijuana, and Baja California (Jorge A. Bustamante, "Measuring the Flow of Unauthorized Immigrants: Research Findings from the Zapata Canyon Project," in Cornelius and Bustamante, eds., *Mexican Migration to the United States* [1990], 95-106), and two surveys conducted in southern California by the Center for U.S.-Mexican Studies, UCSD, in 1981-82. See Cornelius, Chávez, and Jones, *Mexican Immigrants and Access to Health Care*. Also, for 1987-88, see Wayne A. Cornelius, "The United States' Demand for Mexican Labor," in *Mexican Migration to the United States*, 25-47.

ranked among the top seven sending states. Several sample surveys conducted among apprehended Mexican illegal entrants during the 1970s found that *capitalinos* constituted from 0.6 to 3.0 percent of those interviewed.⁹ The Mexico City metropolitan area accounted for only 3 percent of the unauthorized Mexican migrants apprehended in the San Diego sector in 1973;¹⁰ in a 1987 sample of "illegals" apprehended in the same sector, it accounted for 8.2 percent.¹¹ Among 4,269 would-be illegal entrants interviewed from August 1987 through April 1989 as they prepared to cross the border in the Tijuana area, 11.7 percent came from the Mexico City metropolitan area.¹² The Federal District was the fourth most important sending state (after Michoacán, Jalisco, and Oaxaca) among migrants represented in this sample. Another study, based on interviews with 656 apprehended unauthorized immigrants interviewed in Laredo, Texas, in the first half of 1986, found that the Federal District was the third most important state of origin—accounting for 9.6 percent of the sample—behind Nuevo León and Guerrero.¹³ As shown in Tables 1 and 2, among our 1987–1988 interviewees in southern California, the Mexico City metropolitan area was the top-ranking sending area for recently arrived unauthorized migrants (23.1 percent of the sample, combining those whose last place of residence was either the Federal District or the State of Mexico), and the fourth most important sending area for more settled, employed immigrants (11.1 percent of the sample). In sum, the available evidence indicates that at least one out of ten Mexican migrants entering the United States clandestinely in recent years has come from their country's largest city.

Such evidence suggests that while traditional source areas have by no means dropped out of the U.S.-bound migration flow, important new

⁹ Jorge A. Bustamante, "Emigración indocumentada a los Estados Unidos," in Centro de Estudios Internacionales, *Indocumentados: mitos y realidades* (Mexico City, 1979), 33–35.

¹⁰ Jones, "Macro-Patterns of Unauthorized Migration Between Mexico and the U.S.," 45.

¹¹ Data for this observation was obtained from the Statistics Division, U.S. Immigration and Naturalization Service, in particular, the above-referenced sample of I-213 forms completed in the San Diego sector during 1987. The sampling error for migrants originating in the Federal District was plus or minus 1.5 percentage points; for those originating in the state of Mexico, it was 1.1 percentage points.

¹² Unpublished data was provided by the Canyon Zapta Project, El Colegio de la Frontera Norte (COLEF), Tijuana, Baja California, March 1990. The figure for the Mexico City metropolitan area combines the shares of migrants from the Federal District (9.8 percent) and from the state of Mexico (1.9 percent). Each weekend since August 1987, COLEF's research project has interviewed 75 persons in Tijuana, selected at random from those gathered at the two points of entry most frequented by migrants attempting clandestine entry into California. See Jorge A. Bustamante, "Measuring the Flow of Unauthorized Immigrants," 95–106.

¹³ Khosrow Fatemi, "The Unauthorized Immigrant: A Socioeconomic Profile," *Journal of Borderlands Studies* vol. 2, no. 2, (Fall 1987), 85–99.

ones have come "on stream" in recent years.¹⁴ The economic crisis of the 1980s—which reduced real wages for most Mexicans by 40 to 50 percent—propelled into the migratory flow people from families, communities, and states without a long history of U.S.-bound migration. And the 1986 U.S. immigration law has not prevented the formation of new migrant networks originating in these nontraditional sending areas. To the contrary, the extensive publicity surrounding IRCA's legalization and Replenishment Agricultural Worker (RAW) programs seems to have attracted into the migratory flow persons from communities and states that heretofore had not participated significantly.¹⁵

Mexican migrants to the United States in the 1980s included skilled, urban-born workers from Mexico's principal cities, as well as destitute *campesinos* from some of Mexico's most underdeveloped states, such as Guerrero, Oaxaca, Hidalgo, and Puebla. These states all have large indigenous populations.¹⁶ It is significant that several of the nontraditional

¹⁴Nor does the available evidence indicate that *within* principal sending states U.S.-bound emigration has become less geographically concentrated than in previous decades. On the contrary, a sample of U.S. Border Patrol apprehension records for the 1983-1986 period shows that the bulk of unauthorized migration from Mexico to the United States continued to originate in a relatively small number of highly migration-prone municipios. In this study, only 141 municipios of a total of 2,394 represented in the sample sent more than five unauthorized migrants to the United States. See Richard C. Jones, "Micro Source Regions of Mexican Undocumented Migration," *National Geographic Research* vol. 4, no. 1 (1988), 11-22.

¹⁵The same effect was observed in connection with the *bracero* program of contract labor importation, implemented beginning in 1942 (see Jorge Durand, "Los migradóláres," *Argumentos* [Nov. 1988], 12). In 1989, the RAW program, which would provide short-term visas to foreign agricultural workers, attracted some 650,000 applicants, virtually all of them Mexican nationals. These applicants—the majority of whom are already working in the United States, mostly in California—are now in a registry maintained by the INS, awaiting the issuance of RAW visas. No such visas have been issued for 1990, and there is substantial doubt whether any will be issued in the remaining three years of the RAW program authorized by the U.S. Congress as part of IRCA, because the U.S. Departments of Agriculture and Labor have determined through national sample surveys of farmworkers and employers that there is an ample supply of legal resident farmworkers to meet anticipated demands for labor in perishable crop agriculture. The government surveys and determinations of the farm-labor demand and supply will be repeated annually through 1993, at which time Congress will reassess the RAW program.

¹⁶On the "new" migration of Oaxacan Indians (esp. from the Mixteca region) to California, Oregon, and Washington state, which actually began in the late 1960s, see Michael Kearney, "Integration of the Mixteca and the Western U.S.-Mexican Border Region via Migratory Wage Labor," in Ina Rosenthal-Urey, ed., *Regional Impacts of U.S.-Mexican Relations*, Monograph no. 16 (La Jolla, Calif., 1986), 71-102; Carole Nagengast and Michael Kearney, "Mixtec Ethnicity: Social Identity, Political Consciousness, and Political Activism," *Latin American Research Review* vol. 25, no. 2 (1990), 61-91; Carol Zabin, "New Migrants in California Agriculture: Farmworkers from Oaxaca," unpublished paper, Center for U.S.-Mexican Studies, University of California, San Diego, 1990. For many Mix-

TABLE 3
Step-Wise Mexican Migration to Southern California via Large Cities in Mexico

Migration sequence	No. of step-wise migrants in	
	Sample of employed migrants (N = 320)	Sample of recently arrived migrants (N = 184)
Birthplace→Mexico City→S. Calif.	15 (4.7%)	18 (9.8%)
Birthplace→Guadalajara→S. Calif.	8 (2.5%)	3 (1.6%)
Birthplace→León, Gto.→S. Calif.	1 (0.3%)	3 (1.6%)
Birthplace→Baja Calif. N.*→S. Calif.	41 (12.8%)	6 (3.3%)
Total	65 (20.3%)	30 (16.3%)

SOURCE: Personal interviews with Mexican workers in San Diego, Orange, and Los Angeles counties, conducted by the Center for U.S.-Mexican Studies, 1987-1988.

* Includes cities of Tijuana, Mexicali, and Ensenada.

areas now sending migrants to the United States are among the Mexican states most adversely affected by the economic crisis of the 1980s (the Federal District, Morelos, Hidalgo, all of whose economies contracted by more than 2 percent during the 1980-1985 period; and Guerrero and Puebla, whose economies contracted by 0.1-2.0 percent in the same years).

Another indication that the economic crisis of the 1980s pushed more residents of Mexico's principal cities into the U.S.-bound migration stream is provided by a comparison of migrants' birthplaces with their last place of residence in Mexico before migration. As shown in Table 3, one of five migrants employed in our 1987-1988 sample of southern California firms were "step-migrants," who had moved initially to a major Mexican city and subsequently to California. Sixteen percent of our sample of recently-arrived, job-seeking, unauthorized migrants in southern California also came via one of these Mexican cities.¹⁷ Rather than simply absorbing internal migrants from the countryside and provincial cities as they have done for many years, Mexico's large urban centers

tecos, the agricultural areas of Baja California and the city of Tijuana have become important way-stations. See Everardo Garduño, Efraín García, and Patricia Morán, *Mixtecos en Baja California: El caso de San Quintín* (Mexicali, Baja Calif., 1989).

¹⁷This pattern of stepwise migration to California was not common in the 1960s or 1970s. For example, in Dagodag's sample of apprehended unauthorized aliens, there was a very close (98 percent) correspondence between migrants' birthplace and their last place of residence in Mexico prior to migrating to the United States. See W. Tim Dagodag, "Illegal Mexican Immigration to California from Western Mexico," 64.

today are serving increasingly as platforms for migration to the United States. In the 1980s, internal migrants encountered saturated labor markets, skyrocketing living costs, dangerously high levels of air pollution, and rising crime in Mexico City and other large cities. Having failed to solve their economic problems there, many of them headed for cities in the United States.

As our data suggest, the native-born populations of large Mexican cities have also become increasingly important sources of migration to the United States. Further support for this contention comes from several surveys conducted among the population of Guadalajara during the 1980s by Agustín Escobar Latapí and Mercedes González de la Rocha. They found that in the 1982-1987 period, 23 percent of Guadalajara households were receiving regular cash remittances from household members living in the United States. Additional households had immediate kin in the United States who did not remit income to their Guadalajara relatives. In a separate 1982 sample of 1,223 Guadalajara workers in manufacturing, construction, and public-sector manual labor, 18.3 percent had worked in the United States. Another sample of Guadalajara manufacturing workers, interviewed in 1987, reported fewer sojourns in the United States. The researchers believe that this difference was not caused by fewer workers migrating to the United States, but occurred because more of them were staying there longer.¹⁸

This phenomenon is consistent with the widely held notion that, in relative terms, the economic crisis from which Mexico has suffered since 1982 has affected urban dwellers (especially residents of the largest cities) even more severely than the rural population. Prior to the economic crisis and the government austerity measures that it provoked, Mexico City and other large urban centers were heavily subsidized as places to live and work. Moreover, they were major centers of government employment, and the wages of government workers filtered back into the general urban economy. Therefore, crisis-induced austerity has disproportionately impacted Mexico's large cities.¹⁹

Even with a sustained economic recovery in the 1990s, we can anticipate that by the end of this decade the majority of new (first-time) Mexi-

¹⁸ Unpublished tabulations provided by Agustín Escobar-Latapí and Mercedes González de la Rocha (Centro de Investigaciones y Estudios Superiores en Antropología Social-Occidente, Guadalajara).

¹⁹ Agustín Escobar-Latapí Mercedes González de la Rocha, and Bryan Roberts, "Migration, Labor Markets, and the International Economy: Jalisco, Mexico, and the United States," in Jeremy Eades, ed., *Migrants, Workers, and the Social Order*, Monograph no. 26 (Washington, 1987), 42-64.

can migrants to the United States will come from urban Mexico. This trend reflects not only the emptying-out of traditional rural sending communities, as urbanization proceeds, but also the saturation of labor markets in Mexico's largest cities. Over half of the Mexican population now lives in large-scale urban areas (one out of every four in the Mexico City metropolitan area alone), and rates of labor force growth in these cities remain quite high despite declining fertility.

CALIFORNIA: THE PREFERRED DESTINATION

One of the constants in the profile of Mexican migration to the United States in recent decades is the leading role of California as a destination. The 1978 national survey of households in Mexico by CENIET found that California was the destination of 47.3 percent of Mexican migrants to the United States (49.2 percent of "long-stayers").²⁰ Although many parts of the United States attract Mexican labor—including the Pacific Northwest, Chicago and other midwestern cities, parts of the Southeast, eastern Pennsylvania, and even New York City—California now appears to be the preferred destination for the majority of Mexico's U.S.-bound workers and their dependents. This trend is reflected in national-level statistics on legal immigration and the unauthorized alien population, evidence gathered in Mexican sending communities, and applications for legalization under the two "amnesty" programs created by IRCA.

INS statistics show that since the 1970s California has absorbed about half of the total flow of legal immigrants from Mexico. In recent years, four of ten metropolitan areas receiving the most legal Mexican immigrants have been located in California (Los Angeles-Long Beach, San Diego, Anaheim-Santa Ana, and Riverside-San Bernardino); these and seven other California urban areas accounted for 50 percent of all Mexican legal immigrants admitted to the United States in fiscal year 1988.²¹ The Los Angeles-Long Beach metropolitan area received 6.6 times more legal Mexican immigrants than any other metropolitan statistical area in the country.²²

²⁰"Long-stayers" (designated as "Population V" in the CENIET survey) were defined as Mexicans 15 years of age or older who were in the United States working or seeking work at the time of the December 1978 survey—a month when most short-term or seasonal Mexican migrants traditionally have returned to their home communities. See Zazueta and García y Griego, *Los trabajadores mexicanos en Estados Unidos*.

²¹The other seven principal receiving metropolitan statistical areas in California were San Jose, Oakland, Oxnard-Ventura, Fresno, San Francisco, Sacramento, and Stockton, in order of importance.

²²INS, *1988 Statistical Yearbook of the Immigration and Naturalization Service* (Washington, 1989), Table 18, p. 38.

It is probable that the distribution of unauthorized Mexican migrants is roughly the same as previously, because most of these migrants are now part of extended-family networks anchored by long-staying legal immigrants in the United States. Jeffrey Passel and Karen Woodrow have estimated that 67 percent of Mexican undocumented aliens counted in the 1980 U.S. Census lived in California.²³ One-third of all censused, unauthorized immigrants in the United States (of all nationalities) were located in the Los Angeles metropolitan area alone.²⁴ Another study, based on a large, comprehensive sample of INS apprehension records covering the period from 1983 to 1986, found that among the thirty-five Mexican municipios having the highest density of unauthorized migrants to the United States per 1,000 residents, more than half sent workers principally to a California destination.²⁵

Studies done at points of origin in Mexico have often found even higher proportions of California-bound migrants. In our study of three sending communities in the states of Jalisco, Michoacán, and Zacatecas, we found that among those residents who were considering a permanent or long-term move to the United States, more than 70 percent planned to go to California. California was even more dominant as a destination for short-term labor migrants from these communities. Among all residents aged 15 to 64 who had ever migrated to the United States, 81.7 percent had gone most recently to California, followed by Oklahoma (5.7 percent), Texas (5.0 percent), and Illinois (3.1 percent). Two of the three communities send virtually all of their migrants to California (95.5 percent and 99.0 percent, respectively); in the other community, 50.9 percent of those with U.S. migratory experience had chosen California as their most recent destination.

Another indicator of California's predominance in the Mexican migration stream is the distribution of applications for the general (pre-1982 arrival) and Special Agricultural Worker (SAW) legalization programs created by IRCA. California accounted for more than 54.4 percent of total applicants for the general amnesty program and 53 percent of the SAW applicants—far more than any other state.²⁶ The Los Angeles-Long

²³ Jeffrey S. Passel, and Karen A. Woodrow, "Geographic Distribution of Unauthorized Immigrants: Estimates of Unauthorized Aliens Counted in the 1980 U.S. Census by State," *International Migration Review* 18 (1984), 651.

²⁴ Unpublished data tabulations by Jeffrey S. Passel, U.S. Bureau of the Census, 1985.

²⁵ Richard C. Jones, "Micro Source Regions of Mexican Undocumented Migration," Table 2, p. 16.

²⁶ U.S. Immigration and Naturalization Service (INS), "Provisional Legalization Application Statistics," Statistics Division, Office of Plans and Analysis, U.S. Immigration and Naturalization Service (16 May 1990).

Beach metropolitan area alone generated 36 percent of the national total of applications for the general "amnesty" program, and 24 percent of the SAW applicants. Together, the general amnesty program and the SAW program may have legalized more than 1.5 million Mexican immigrants in California's work force.²⁷

A substantial portion of the recent growth of California's Mexican immigrant population is the inevitable product of the maturation of immigrant networks that began to form in the early 1950s.²⁸ Data from sending-

²⁷The final number of legalized aliens will not be known for some time. Those who secured temporary legal status under the general amnesty program—70 percent of whom were citizens of Mexico—had until sometime in 1989 or 1990 (depending on the date when their temporary *permiso* was issued) to apply for permanent legal residency. They must also meet English proficiency and requirements for knowledge of U.S. history during this period in order to retain their legal status. As of July 1990, more than 100,000 of the 900,000 persons who were legalized provisionally under the general amnesty program in California had not yet filed their "Phase II" (permanent residence) applications and were at risk of losing their legal status. Another complicating factor is the apparently high degree of fraud among applicants for the SAW legalization program. Only 250,000 to 350,000 SAW applicants were originally expected; 1,276,682 applications—82 percent from Mexican citizens—were actually filed nationwide by the November 30, 1988 deadline, leading some observers to argue that the SAW program had been "too successful." Researchers at the University of California, Davis have estimated that as many as two-thirds of the SAW applications from California could be fraudulent. See Philip L. Martin, "Harvest of Confusion: Immigration Reform and California Agriculture," *International Migration Review* vol. 24, no. 1 (Spring 1990), 69–95; Philip L. Martin and J. Edward Taylor, "California Farm Workers and the SAW Legalization Program," *California Agriculture* (Nov.–Dec. 1988), 4–6. My own research conducted in three Mexican sending communities in 1988–89 suggests that 76 percent of SAW applicants from those communities could actually have qualified, although the eligibility rate varied greatly from one community to another (the range was 42 percent to 92 percent). By May 1990, the INS has denied only 3.9 percent of total SAW applications, but 49 percent of the applications remained to be adjudicated (see INS, "Provisional Legalization Application Statistics").

²⁸Roger C. Rouse, "Mexican Migration to the United States: Family Relations in the Development of a Transnational Migrant Circuit," Ph.D. diss., Stanford University, 1989; Richard Mines, *Developing a Community Tradition of Migration: A Field Study in Rural Zacatecas, Mexico, and California Settlement Areas*, Monograph no. 3 (La Jolla, Calif., 1981); Richard Mines, "Network Migration and Mexican Rural Development: A Case Study," in Robert C. Jones, ed., *Patterns of Unauthorized Migration: Mexico and the United States* (Totowa, N.J., 1984), 136–55; Joshua S. Reichert and Douglas S. Massey, "Patterns of U.S. Migration from a Mexican Sending Community: A Comparison of Legal and Illegal Migrants," *International Migration Review* 13 (1979), 599–623; Douglas S. Massey, Rafael Alarcón, and Jorge Durand, *Return to Aztlán: The Social Process of International Migration from Western Mexico* (Berkeley, Calif., 1987); Omar Fonseca, "De Jariipo a Stockton, Calif.: Un caso de migración en Michoacán," in Thomas Calvo and Gustavo López, eds., *Movimientos de población en el Occidente de México* (Mexico City and Zamora, Mich., 1988), 359–72; Celestino Fernández, "Migración hacia los Estados Unidos: Caso Santa Inés, Michoacán," in Gustavo López Castro and Sergio Pardo Galván, eds., *Migración en el Occidente de México* (Zamora, Mich., 1988), 113–24; Gustavo López, *La casa dividida: Un estudio de caso sobre la migración a Estados Unidos en un pueblo michoacano* (Zamora, Mich., 1986).

community studies indicate that the social networks linking these communities to U.S. receiving areas have become the key factor affecting the choice of migration destinations. Among the interviewees in the three rural sending communities that we studied in 1988–89 who were considering permanent emigration, 45.1 percent explained their choice of destination by citing the presence of relatives and friends in that place, and an additional 14.6 percent mentioned job opportunities (in many cases, to be arranged by relatives) as the principal attraction. New migrants generally tend to follow their predecessors, settling in the same U.S. communities and often working in the same firms, where they will be more likely to have social support as well as assistance in finding jobs and housing.

Migration based on social networks does not necessarily tie a Mexican sending community to a single receiving area within the United States. While cases of “specialization”—migration to a single destination—can be found, the more common pattern entails multiple migration networks leading to a variety of U.S. communities, both urban and rural. For example, in a 1975–76 study of Unión de San Antonio, a town in the Los Altos region of Jalisco, I found that emigrants from that community were living in 110 different U.S. localities, 57 of which were in California.²⁹ Another community in the same municipio, studied in 1975–1976 and again in 1988–1989, had established immigrant networks linking it to the San Francisco Bay area, the Sacramento area, Watsonville, Los Angeles, Palm Springs, and other California cities; several cities in Texas and Illinois; Oklahoma City; Las Vegas, Nevada; and agricultural towns in the states of Oregon and Washington.³⁰ In the case of Las Animas, Zacatecas, Richard Mines found concentrations of *Animeños* working in four different agricultural towns in California and four urban areas in 1977.³¹ Emigrants from this and other long-time, labor-exporting sending communities that we have studied in Mexico have dispersed geographically within California in the last two decades. Established migrant communities in the initial receiving areas have served as springboards for “settled-out” immigrants to move elsewhere in search of higher-paying, more stable (usually nonagricultural) employment opportunities.³²

²⁹ Cornelius, “Outmigration from Rural Mexican Communities.”

³⁰ Cornelius, “Outmigration from Rural Mexican Communities”; and field research in Jalisco by the Center for U.S.-Mexican Studies, 1988–89.

³¹ Mines, *Developing a Community Tradition of Migration*.

³² Mines, “Network Migration and Mexican Rural Development,” 136–55; Wayne A. Cornelius, “Labor Migration to the United States: Development Outcomes and Alternatives in Mexican Sending Communities,” final report to the Commission for the Study of International Migration and Cooperative Economic Development (Washington, Mar. 1990).

California's attractiveness to the most recent wave of Mexican migrants also reflects the more robust, more diversified employment growth in that state, relative to other potential destinations. Following the 1980–1982 recession, a boom occurred in most sectors of the highly diversified California economy. Since 1986, this boom has coincided with a sharp contraction in employment opportunities in “oil-bust” Texas, whose economy only recently has begun to revive. In the last two decades, employment growth in California has been far more robust than in the United States as a whole. During the 1970s, for example, blue-collar jobs increased in California at twice the national rate, and manufacturing employment expanded at nearly four times the national rate.³³ This pattern continued in the 1980s, and during the first half of the present decade, economists estimate that the California economy will generate about 300,000 to 350,000 new jobs each year. From 1988 to 2000, one of every six jobs created in the United States—an estimated 3.4 million jobs—will be located in California.³⁴ While new technologies continue to eliminate many blue-collar jobs in heavy industry, data for the 1984–1989 period indicate that “low-tech” light manufacturing continues to expand in California and other western states, more than offsetting job losses due to automation in higher-technology industries.³⁵

In addition to its overall dynamism and diversity, there are certain structural features of the contemporary California economy that increase the demand for immigrant labor. For example, the system of contracting out labor-intensive tasks to small, largely nonunion, immigrant-dominated firms in such industries as garment, electronics, and construction appears to be advancing more rapidly in California than in other parts of the nation.³⁶ And while the demand for entry-level work-

³³ Thomas Muller and Thomas J. Espenshade, *The Fourth Wave: California's Newest Immigrants* (Washington, 1985).

³⁴ Estimates by the Bank of America and Wells Fargo Bank, reported in *The Los Angeles Times*, 6 May 1990; and by the Bureau of Economic Analysis, U.S. Department of Commerce (Washington, 10 June 1990).

³⁵ David Birch, “The Contribution of New, Locally-Owned Firms to Growth in the U.S. Western Economy,” paper presented at the first annual Broadmoor Symposium “Beyond Decline: America's Resurgence in the New Century,” sponsored by the Center for the New West, Colorado Springs, Col. (22–23 Jan. 1990).

³⁶ Edna Bonacich, “Asian and Latino Immigrants in the Los Angeles Garment Industry: An Exploration of the Relationship Between Capitalism and Racial Oppression,” Institute for Social Science Research, UCLA, *Working Papers in the Social Sciences* vol. 5, no. 13 (1990), 4; Wayne A. Cornelius, “The United States Demand for Mexican Labor,” 25–47; M. Patricia Fernández-Kelly and Anna M. García, “Hispanic Women and Homework: Women in the Informal Economy of Miami and Los Angeles,” in Eileen Boris and Cynthia R. Daniels, eds., *Homework: Historical and Contemporary Perspectives on Paid Labor at Home* (Urbana, Ill., 1989), 165–79.

ers in manufacturing and construction is likely to remain strong, the largest numbers of new jobs to be created in California during the next twenty years will be relatively low-paying, low-skill, low-status jobs in restaurants, hotels, and other parts of the urban service sector—precisely the kinds of jobs that are increasingly shunned by young, better-educated, native-born Californians. The need for personal services among the rapidly expanding business-financial-professional elite has been a significant source of jobs for female immigrants in Los Angeles in recent years.³⁷ Similarly, Roger Rouse has described the most recent emigrants from Aguililla, Michoacán to Redwood City, California (a bedroom suburb of northern California's high-tech "Silicon Valley") as that community's janitors, dishwashers, gardeners, hotel workers, and house cleaners—"proletarian servants in the paragon of 'post-industrial' society."³⁸

As long as California's economy continues to outperform the national economy, the state will be a strong magnet for future waves of Mexican migrants. Jobs in both California agriculture and nonagricultural industries are likely to remain plentiful, quick to obtain, and high-paying, at least in comparison with those in other southwestern states.³⁹ A strong feedback effect also operates, in which consumer spending by Mexican immigrants and their availability as a large, young, flexible labor pool stimulates the creation of new, locally-owned small businesses (especially in the service sector), while helping to retain older labor-intensive industries like garment and shoe manufacturing. This feedback effect is strongest in the largest metropolitan areas, where California's immigrant population is increasingly concentrated. Los Angeles, for example, became the principal manufacturing center in the United States during the 1980s because of its combination of "a first-world infrastructure and a third-world work force."⁴⁰ In the Los Angeles

³⁷ Rebecca Morales and Paul Ong, "Immigrant Women in Los Angeles," Institute for Social Science Research, UCLA, *Working Papers in the Social Sciences* 5 (1990).

³⁸ Roger C. Rouse, "Mexican Migration to the United States: Family Relations in the Development of a Transnational Migrant Circuit," Ph.D. diss., Stanford University, 1989.

³⁹ Based on field interviews with illegal border crossers conducted by El Colegio de la Frontera Norte in Tijuana and other Mexican border cities since 1986, Jorge Bustamante concludes that "at any given time, close to 60 percent of the total of unauthorized immigrants from Mexico in the United States can be found in the state of California, where employer demand for Mexican unauthorized immigrants is higher and more diversified than in any other state, according to our survey data." See Jorge A. Bustamante, "Measuring the Flow of Unauthorized Immigrants," 98.

⁴⁰ Philip L. Martin, "Testimony Before the Immigration Task Force of the Committee on Education and Labor, and the Subcommittee on Immigration, Refugees, and International Law," Washington, 1 Mar. 1990, p. 2.

area, the number of manufacturing jobs increased between 1969 and 1987, from 880,000 to 906,000, even as manufacturing employment fell in Chicago, New York, and other major metropolitan areas.⁴¹ In addition to favorable labor-market conditions and mature immigrant networks, California offers to prospective migrants from Mexico a variety of other inducements, including a superior climate and—for those who enter clandestinely—a relatively easy point of entry, the border city of Tijuana.

The reservoir of potential California-bound migrants in Mexico is likely to remain quite large in the foreseeable future. One indicator comes from a national sample of 1,835 Mexicans living in 42 randomly selected towns and cities throughout the country, who were interviewed in August 1989 for *The Los Angeles Times* poll. Thirteen percent of this national sample had already been to California at least once, and 23 percent expressed a desire to live in the state (14 percent in Los Angeles alone)—far more than any other potential destination.⁴² While the gap between preferences and actual behavior undoubtedly will prove to be quite large, such data are suggestive of the powerful attraction that California exerts upon would-be migrants in Mexico today.

GENDER, FAMILY, AND DURATION OF STAY

The shift from a migrant population consisting mainly of highly mobile, seasonally employed “lone males” (unmarried or unaccompanied by dependents) toward a more socially heterogeneous, year-round, de facto permanent Mexican immigrant population in the United States accelerated in the 1980s. To be sure, the absolute number of young, temporary Mexican male farmworkers in the United States did not decline during the 1970s and 1980s, but it grew slowly in absolute terms and, in relative terms, this fraction of the Mexican immigrant population was overtaken and overwhelmed by migrants who remained in the United States for long periods, accompanied by their dependents. Ethnographic and survey studies of both sending and receiving communities, interviews with would-be illegal migrants at the border, and INS apprehension statistics all show that there is now considerably more migration

⁴¹ Rebecca H. Morales, “Transitional Labor in the Los Angeles Automobile Industry,” in Wayne A. Cornelius, ed., *The Changing Role of Mexican Labor in the U.S. Economy: Sectoral Perspectives* (La Jolla, Calif., forthcoming).

⁴² Unpublished data provided by *The Los Angeles Times* poll. The margin of error in this survey (*The Los Angeles Times* poll #192) is plus or minus 3 percentage points. As in all “national” sample surveys conducted in Mexico, the population residing in the smallest rural localities is underrepresented to some unknown degree.

by whole family units (moving together), more family-reunification migration (women and children joining family heads already established in the United States), and more migration by single women than there was a decade ago.⁴³

Increased Female Migration

There are many indications that the female component of the Mexican migratory stock and flow has expanded in recent years. An analysis of data from the U.S. Census Bureau's Current Population Survey of June 1988 suggests that females may now constitute a majority of the "settled" undocumented immigrant population from Mexico.⁴⁴ Our data from traditional sending communities in Mexico show that the probability of migration to the United States—especially temporary migration—is still much higher among males than among females. Nevertheless, we found substantial female participation in U.S.-bound migration in certain communities and age groups, especially women currently in their twenties.⁴⁵ A study of Mexican immigrants residing in rural and urban areas of San Diego County conducted in 1981-82 found that female immigrants are especially likely to originate in urban areas of Mexico; almost two-thirds declared their place of origin to be a city.⁴⁶

Increased female migration to the United States reflects, in part, generational changes in the attitudes and expectations of Mexican women. González de la Rocha has summarized her findings from a high-migration town in Jalisco as follows: "During the last three years more women have left the town to be reunited with their husbands in the United States. . . . Upon getting married, the woman no longer stays in the town. . . . The young women do not want to repeat the loneliness that their mothers

⁴³ Frank D. Bean, Thomas J. Espenshade, Michael J. White, and Robert F. Dymowski, "Post-IRCA Changes in the Volume and Composition of Unauthorized Migration to the United States: An Assessment Based on Apprehensions Data," in Frank D. Bean, Barry Edmonston, and Jeffrey Passel, eds., *Unauthorized Migration to California: IRCA and the Experience of the 1980s* (Washington, 1990); Bustamante, "Measuring the Flow of Unauthorized Immigrants," 95-106; Wayne A. Cornelius, "Impacts of the 1986 U.S. Immigration Law on Emigration from Rural Mexican Sending Communities," *Population and Development Review* vol. 15, no. 4, (Dec. 1989), 689-705; Cornelius, "Labor Migration to the United States."

⁴⁴ Karen A. Woodrow and Jeffrey S. Passel, "Post-IRCA Unauthorized Immigration to the United States: An Assessment Based on the June 1988 CPS," in Bean, Edmonston, and Passel, eds., *Unauthorized Migration to the United States* (1990).

⁴⁵ Wayne A. Cornelius, "The United States Demand for Mexican Labor," 30-31.

⁴⁶ Rosalía Solórzano Torres, "Female Mexican Immigrants in San Diego County," in Ruiz and Tiano, eds., *Women on the U.S.-Mexico Border* (1987), 41-59.

experienced nor the hardships that they had to endure [while their husbands worked in the United States]."⁴⁷

The higher propensity of females to migrate to the United States in recent years is also a consequence of Mexico's economic crisis, which has driven more wives, single women, and children into the work force. Especially among Mexico's urban poor, the male family head's income is not nearly sufficient now to meet the family's needs.⁴⁸ Among our 1988-89 southern California sample of recently arrived undocumented migrants who still had no regular employment and were found looking for work in street-corner labor markets and other public areas, 8 percent were women; and among the male interviewees who were married, 17 percent had brought their spouses with them to southern California.⁴⁹

IRCA also gave new impetus to female migration, by encouraging whole-family migration and family reunification in the United States. Frank Bean and his colleagues found that by the third year after IRCA's enactment, there was a statistically significant increase in the number and proportion of females and children being apprehended by the INS.⁵⁰ Another indicator of IRCA-related migration for family reunification is the 82 percent increase in the appearance at the U.S. Consulate in Tijuana of Mexicans seeking non-immigrant visas during the last quarter of 1989, as compared with the same period in 1988. Most of these visa applicants were dependents of persons who were granted amnesty under IRCA. In 1986, the U.S. Border Patrol apprehended and expelled an average of three to five unaccompanied children (ages 5 to 17) each day from California at Tijuana; in the first quarter of 1990, an average of fifteen such minors were returned to Mexico each day.⁵¹

In the immediate post-IRCA period, there was widespread fear in Mexican sending communities that the "door was closing" because of employer sanctions and the deadlines attached to the legalization programs created

⁴⁷ Mercedes González de la Rocha, "El poder de la ausencia: Mujeres y migración en una comunidad de Los Altos de Jalisco," paper presented at the 11th Coloquio de Antropología e Historia Regionales, Zamora, Mich., 25-27 Oct. 1989.

⁴⁸ Field studies in Guadalajara by Agustín Escobar Latapí and Mercedes González de la Rocha (CIESAS-Occidente, Guadalajara, Jalisco), 1982-1987.

⁴⁹ Fieldwork in 1987-88 by the Center for U.S.-Mexican Studies, University of California, San Diego.

⁵⁰ Bean, Espenshade, White, and Dymowski, "Post-IRCA Changes in Unauthorized Migration to the United States"; also, compare with Bjerke and Hess, "Characteristics of Illegal Aliens Apprehended by the U.S. Border Patrol."

⁵¹ Data from the U.S. Consulate, Tijuana, and Baja California; and from Jorge Bustamante, *El Colegio de la Frontera Norte*, Tijuana, Baja Calif.

by the 1986 law.⁵² Especially in the first half of 1988, thousands of undocumented women and children left Mexican sending communities with their husbands, many for the first time, in hopes of gaining legal-immigrant status.⁵³ Many others were summoned to the United States by family heads who had secured amnesty for themselves or made application for it; they used "coyotes" to guide them across the border. Many of these dependents were disappointed, since they could not possibly meet the five-year, continuous-U.S.-residence requirement for the general amnesty program. More of them were able to secure legalization under the SAW program, since the eligibility criteria and documentation requirements for that program were much less stringent than for the general amnesty program.⁵⁴

Female emigration to the United States also has been increasing because of the abundance of new employment opportunities for which women are the preferred labor source. For example, there is a booming market in California's largest urban areas for undocumented female Mexican labor to provide child care, clean houses and offices, and iron clothes.⁵⁵ In the San Diego area, recently arrived female Mexican migrants now find house-

⁵² Interestingly, the abrupt shift toward restrictive immigration laws and policies in Germany and other West European countries in the last half of the 1970s had a similar effect—increasing family reunification immigration and speeding up the process of permanent settlement in the host country. See Judith-Maria Buechler, "A Review: Guest, Intruder, Settler, Ethnic Minority, or Citizen—The Sense and Nonsense of Borders," in Hans Christian Buechler and Judith-Maria Buechler, eds., *Migrants in Europe: The Role of Family, Labor, and Politics* (Westport, Conn., 1987), 283–304; and James F. Hollifield, "Immigration Policy in France and Germany: Outputs Versus Outcomes," *The Annals of the American Academy of Political and Social Science* 485 (May 1986), 113–28.

⁵³ Fieldwork by the Center for U.S.-Mexican Studies in three rural sending communities in Zacatecas, Jalisco, and Michoacán, 1988–89; and a sample survey by Germán Vega (El Colegio de la Frontera Norte, Tijuana) in the municipio of Jalostotitlán, Jalisco, conducted Jan.–Mar. 1990. See also Nancy Cleland, "Many More Women Decide to Flee Mexico," *San Diego Union* 27 Aug. 1989; and Agustín Escobar-Latapí and Mercedes González de la Rocha, "The Impact of IRCA on the Migration Patterns of a Community in Los Altos, Jalisco, Mexico," working paper no. 41 (Washington, Commission for the Study of International Migration and Cooperative Economic Development, June 1990).

⁵⁴ Experienced observers of the migratory flow from the state of Oaxaca to California have reported that IRCA's legalization programs stimulated a great deal of first-time migration by women and children in 1988 and 1989. They observed that male heads of the family already employed in California encouraged their dependents to join them there almost immediately after the head of the family applied for legalization. Since the vast majority of these family members could not qualify for amnesty themselves, and had entered California illegally, they are now "stuck" there, unable to travel to and from their home community as easily as the head of the family. (Unpublished research reported at a workshop "Oaxacan Migration to California's Agricultural Sector," Center for U.S.-Mexican Studies, University of California, San Diego, and California, San Diego, and California Institute of Rural Studies, 15 Feb. 1990.)

⁵⁵ Fieldwork by Rafael Alarcón and Macrina Cárdenas (El Colegio de Jalisco and Center for U.S.-Mexican Studies, University of California, San Diego) in the San Francisco Bay area, 1988.

cleaning work by going door-to-door, as males have done (for gardening work) for many years. In San Diego and other U.S. border cities, such as El Paso, Texas, domestic work has become institutionalized as an occupation performed almost exclusively by unauthorized female immigrants.⁵⁶ And Mexican immigrant women are still the preferred work force for low-level production jobs in California's garment firms, Silicon Valley semiconductor manufacturing firms, fruit and vegetable canneries, and packing houses.⁵⁷ Moreover, the recent relaxation of federal laws restricting "homework" for the apparel industry enables increased employment of recently arrived undocumented women in their own homes.⁵⁸

Sojourners vs. Settlers

The shift from a temporary to a long-staying or permanent Mexican immigrant population in the United States was well underway by the 1970s,⁵⁹ and it accelerated in the 1980s. Among Mexican workers employed in southern California non-agricultural firms whom we interviewed in 1983–84, 50 percent stated that they definitely intended to stay in the United States permanently; the proportion of "permanent settlers" among Mexicans working in the same firms in 1987–88 was 69 percent. Traditional temporary migrants—those working about six months in the United States during each sojourn, and returning regularly to their home community—certainly have not disappeared, especially in the agricultural sector.⁶⁰ Even in urban areas, Mexican migrants still pre-

⁵⁶Solórzano Torres, "Female Mexican Immigrants in San Diego County," 55–56; Vicki L. Ruiz, "By the Day or the Week: Mexicana Domestic Workers in El Paso," in Vicki L. Ruiz and Susan Tiano, eds., *Women on the U.S.-Mexico Border* (Boston, 1987), 61–76.

⁵⁷Karen J. Hossfeld, "Small, Foreign, and Female: Immigrant Women Workers and Racial Hiring Dynamics in Silicon Valley," paper presented at the Annual Meeting of the American Sociological Association, San Francisco, Sept. 1989; Gail Mummert, "Mujeres de migrantes y mujeres migrantes de Michoacán: Nuevos papeles para las que se quedan y para las que se van," in Calvo and López, eds., *Movimientos de población*, 290.

⁵⁸In both the garment and electronics industries of California, large numbers of immigrant women are now employed as "homeworkers." See M. Patricia Fernández-Kelly and Anna M. García, "Economic Restructuring in California: The Case of Hispanic Women in the Garment and Electronics Industries of Southern California," in Wayne A. Cornelius, ed., *The Changing Role of Mexican Labor in the U.S. Economy: Sectoral Perspectives* (La Jolla, Calif., 1990).

⁵⁹Harley Browning and Néstor Rodríguez, "The Migration of Mexican Indocumentados as a Settlement Process: Implications for Work," in George Borjas and Marta Tienda, eds., *Hispanics in the U.S. Economy* (Orlando, 1985); Cornelius, Chávez, and Jones, *Mexican Immigrants and Access to Health Care*; María de Lourdes Villar, "From Sojourners to Settlers: The Experience of Mexican Undocumented Migrants in Chicago," Ph.D. diss., Indiana University, 1989.

⁶⁰For example, Massey and his associates found that two-thirds to three-quarters of the household heads, and 55 to 65 percent of all U.S.-bound migrants from four Mexican sending communities surveyed in 1982, adopted a temporary migration strategy.

fer to think of themselves as sojourners rather than permanent settlers.⁶¹ But the reality is that most of these urban-based immigrants are settled more-or-less permanently in the United States.

The shift toward more "settled-out" Mexican migrants in the United States is directly related to the maturation of transnational migrant networks during the last fifteen years. Kinship/friendship networks reduce the costs and risks of long-term stays in the United States and facilitate integration into U.S. society, and they can offer extensive support systems for dependent family members. U.S.-born children and wives quickly become strong supporters of remaining permanently in the United States.⁶² Teenagers are attracted to the lifestyle of U.S. young people, and housewives find that domestic chores are considerably easier in the United States, with all its modern conveniences, than in Mexico. Financial obligations—debts owed to friends and relatives in the United States, home mortgages, and so forth—accumulate. All these factors strongly increase the probability of permanent settlement. Indeed, many long-staying Mexican immigrants, irrespective of their legal status, feel trapped in the United States by these family and financial circumstances.

Greater "settling-out" is also very much related to changes in the U.S. economy that have increased the demand for year-round low-skilled labor.⁶³ Even in agriculture, recent changes in crop mix and technology have made it possible for many growers to engage in year-round production and have increased the labor-intensity of agricultural production.⁶⁴ Thus, year-round employment in the United States has become a realistic option for a growing segment of the Mexican migrant population. Many of the firms and industries in which Mexican migrants are now employed—including construction, landscaping, light manufacturing, restaurants, and hotels—are still subject to seasonal or cyclical fluctuations

⁶¹Leo R. Chávez, "Settlers and Sojourners: The Case of Mexicans in California," *Human Organization* 47 (Summer 1988), 95-108; Rouse, "Mexican Migration to the United States."

⁶²In a 1986 study of unauthorized Mexican and Central American immigrants in San Diego and Dallas, over 80 percent of the respondents believed that their children did not want to return to the parents' country of origin. See Leo R. Chávez and Estévan T. Flores, "Unauthorized Mexicans and Central Americans and the Immigration Reform and Control Act of 1986," in Center for Migration Studies, *In Defense of the Alien* 10 (1988), 137-56.

⁶³Wayne A. Cornelius, "The United States Demand for Mexican Labor," 25-47.

⁶⁴Juan Vicente Palerm, "Transformation in California Agriculture," *UC MEXUS News* (University of California, Riverside), nos. 21-22 (1987), 1-3; Juan Vicente Palerm, "Latino Settlements in California," in University of California Task Force on Senate Concurring Resolution no. 43, *The Challenge: Latinos in a Changing California*, (Riverside, Calif., University of California Consortium on Mexico and California, 1989), 149-67; Juan Vicente Palerm, *The Formation and Extension of Chicano-Mexican Enclaves in Rural California* (Sacramento, Calif., 1990).

in demand for their product or service. Nevertheless, it is usually possible for migrants to ride out these slack periods. Thus migrants have a strong incentive to remain in the United States, and their employers prefer to have them continuously available—if not always on the payroll.

Accordingly, increasing numbers of Mexicans are being forced to choose, finally, between long-term residence in Mexico and long-term residence in the United States. With the option of more economically secure, year-round residence in the United States now open to them, more migrants from traditional sending communities view migration to the United States as a permanent change in their life situation, instead of just a short-term income-earning strategy. And high-emigration communities in central Mexico are being transformed increasingly into rest-and-recreation centers for families whose principal base is now in the United States.⁶⁵

EMPLOYMENT PATTERNS IN MEXICO AND THE UNITED STATES

The Exodus from Agriculture

Since the late 1960s, the share of Mexican migrants working in the agricultural sector of the U.S. economy has declined sharply. According to recent estimates, agriculture currently employs no more than 10 to 15 percent of the Mexican immigrants (legals and illegals) in California, Texas, and Arizona, and a much smaller proportion of the Mexicans working in Illinois.⁶⁶ Among the males born in Mexico who do not have U.S. citizenship included in the 1980 U.S. Census, only 17.3 percent of those who had moved to the United States between 1975 and 1980 were employed in agriculture (or mining) at the time of the census; and an even smaller proportion—10.4 percent—of post-1975 female Mexican immigrants were working in these sectors.⁶⁷ This occupational distribution is not surprising, since any census or household survey conducted in the United States will record very few temporary migrants, who are more likely to be agriculturally employed than permanent settlers from Mexico. This does not necessarily mean, however, that most temporary Mexican migrants are still employed in agriculture. In fact, only about one-third of the “short-stay” migrants to the United States detected in the 1978 CENIET survey of households in Mexico were employed in agri-

⁶⁵ Cornelius, “Labor Migration to the United States”; Rouse, “Mexican Migration to the United States.”

⁶⁶ Steven P. Wallace, “Central American and Mexican Immigrant Characteristics and Economic Incorporation in California,” *International Migration Review* 22 (1988), 664–65.

⁶⁷ Frank D. Bean and Marta Tienda, *The Hispanic Population of the United States* (New York, Russell Sage Foundation, Census Monograph Series, 1987), Table 4.12, p. 132.

culture in the United States.⁶⁸ And as noted below, there is more recent evidence from Mexico-based research indicating that the majority of unauthorized, mostly temporary migrants to the United States are now working in nonagricultural occupations.

Especially since the enactment of IRCA, there has been much speculation about the rate of attrition of Mexican labor from U.S. agriculture. In our recent fieldwork, we found that Mexican migrants with extensive employment experience in the U.S. agricultural sector are not abandoning farm work in large numbers; but young workers migrating for the first time in the 1970s and 1980s were much more likely to choose less arduous, higher-paying jobs in nonagricultural enterprises as their point of entry into the U.S. labor market, and to remain in urban occupations for the duration of their U.S. migratory careers. Those most committed to working in U.S. agriculture tend to be older men who began their migratory careers as agricultural workers and have remained in that sector, acquiring permanent legal immigrant status along the way.

Those who legalized themselves through the Special Agricultural Workers (SAW) program created by the 1986 U.S. immigration law are not required to keep working in the agricultural sector, and many of those who obtained SAW status actually had little or no previous agricultural employment experience. Among a statewide sample of applicants for SAW visas in California, only 28 percent gave farm work as their pre-migration occupation.⁶⁹ Moreover, only about one-third reported usually working in agriculture during the twelve months preceding the interview, and among those who had been agriculturally employed, 60 percent said that they planned to seek employment outside of agriculture. In this survey, urban-based SAW applicants are overrepresented (indeed, almost 50 percent of the SAW visa holders in this sample were drawn from Los Angeles County). Other surveys of SAW applicants in California have found higher levels of continued commitment to farm work.⁷⁰ Local labor-market conditions appear to have a major impact on rates of exit from agriculture. A 1989 survey conducted in southern California (mainly the Santa Ana area) and the northern California community of Watsonville found that the overwhelming majority of SAW applicants in Watsonville remained employed in agriculture (85 percent), while only

⁶⁸ Zazueta and García y Griego, *Los trabajadores mexicanos en Estados Unidos*.

⁶⁹ Comprehensive Adult Student Assessment System (CASAS), *A Survey of Newly Legalized Persons in California: Prepared for the California Health and Welfare Agency* (San Diego, Calif., 1989).

⁷⁰ *Ibid.*, 5-9.

TABLE 4
Sector of Employment of Migrants to the U.S. from
Three Rural Mexican Communities, Before and During Their
Most Recent Trip to the U.S.

Sector	Sector of employment before most recent migration (N = 631)	Sector of employment during most recent stay in U.S. (N = 891)
Agriculture	75.8%	41.0%
Services	5.4	15.2
Retail commerce ^a	5.9	12.5
Manufacturing	4.0	13.4
Construction	9.0	18.1

SOURCE: Center for U.S.-Mexican Studies survey of three rural communities in Mexico, 1988-89. The sample consists of all members of 586 households in the three research communities who have ever migrated to the United States (N = 1,126). Unemployed, retired, student, and other economically inactive persons are excluded from the tabulations.

^aIncluding restaurants.

one-third of the SAW applicants in southern California still worked in agriculture.⁷¹ Clearly, it is premature to reach any general conclusions about the effect of IRCA's legalization programs on the sectoral distribution of Mexican migrants in the U.S. economy.

The longer-term exodus from agriculture is reflected in the data from our recent field studies on both sides of the border. As shown in Table 4, more than three-quarters of the economically active population in the rural sending communities that we have studied who had U.S. migratory experience were employed primarily in agriculture in their home towns immediately before their most recent trip to the United States.⁷² However, only 41 percent worked in agriculture once they got there during their most recent U.S. sojourn. The proportion of migrants agriculturally employed in the United States varied considerably among the three communities (14.9 percent, 21.3 percent, and 88.6 percent, respectively). Seventy percent of the migrants in the three-community sample who were employed most recently in agricultural jobs in the United States were residents of a community in Michoacán that has long specialized

⁷¹Susan Gabbard and Luin Goldring, "Occupational Mobility of Current and Former Farmworkers: A Comparative Analysis in Two California Labor Markets," unpublished report prepared for the California Employment Development Department, Apr. 1990.

⁷²Among those agriculturally employed in Mexico, 44.1 percent were landless laborers; 25.2 percent were sharecroppers; 21.9 percent were small private landowners or employed on the family's small private landholding; and 8 percent were *ejidatarios* or employed on the family's *ejidal* plot.

TABLE 5
*Sector of Employment of Migrants to the U.S. from
 Three Rural Mexican Communities, During Their Most Recent Trip
 to the U.S., by Immigration Status*

Sector	Legal immigrants (N = 257)	"Rodinos" (N = 157)	Unauthorized migrants (N = 466)
Agriculture	51.8%	66.2%	26.4%
Services	15.2	7.0	17.6
Retail commerce ^a	10.5	9.6	14.6
Manufacturing	12.5	7.0	16.1
Construction	10.1	10.2	25.3

SOURCE: Same as for Table 4.

NOTE: Chi-square = 103.59; significance: $p < .0000$

^aIncluding restaurants.

in exporting labor to the strawberry fields of Watsonville, California. Even among migrants from this community, however, there is attrition out of the U.S. agricultural sector, especially among the youngest, better-educated migrants, who prefer to work in urban services. The data reported in Table 5 show that, contrary to the popular stereotype, unauthorized migrants from our Mexican research communities were much less likely to be agriculturally employed in the United States than legal immigrants and those who were in process of legalizing themselves under the 1986 U.S. immigration law (popularly known as "Rodinos").

The migration profile of Tlacuitapa, Jalisco—a community with about 2,300 inhabitants located in the Los Altos region of Jalisco—is particularly instructive. This community, which I initially studied in 1976 and restudied in 1988–89, sends some migrants to work in the orchards and flower fields of Oregon; but these agriculturally employed migrants are now outnumbered by those who go to Oklahoma City to work in highway and bridge construction, those who go to Las Vegas and Palm Springs to work in the hotel and restaurant industries, and those who migrate to the San Francisco Bay area to work in light industry and services. In 1976, 55.3 percent of Tlacuitapa natives who had migrated to the United States had worked most recently in agriculture; in our 1988–89 survey of the same community, only 21.3 percent were employed in agriculture during their most recent trip to the United States. Between 1976 and 1988–89, the proportion of the community's U.S.-bound migrants employed in service activities more than tripled, and those in retail commerce and manufacturing nearly doubled (see Table 6). Similarly, in a 1982 sample of Guadalajara residents with U.S. migra-

TABLE 6
*Sector of Employment in U.S., Among Migrants from a
 Rural Mexican Sending Community, During Most Recent
 Trip to the United States, 1976 and 1988-89*

Sector	1976 sample (N = 76)	1988-89 sample (N = 300)
Agriculture	55.3%	21.3%
Services	6.6	21.0
Retail commerce ^a	10.5	20.7
Manufacturing	9.2	16.3
Construction	14.5	20.7

SOURCE: Author's sample surveys in the community of Tlacuitapa, Jalisco. Unemployed, retired, student, other economically inactive persons, and missing cases are excluded from the tabulations.

^aIncluding restaurants.

tory experience, 91 percent of those who had last migrated to the United States before 1962 had worked in agriculture, while 48 percent of those who had been in the United States between 1962 and 1972 and only 33 percent of those who had migrated after 1972 were agriculturally employed there.⁷³

Most Mexican migrants to the United States today—both legal and unauthorized—are being absorbed into the urban service, construction, light manufacturing, and retail commerce sectors. In the service sector, Mexicans work primarily as janitors, dishwashers and busboys, gardeners, hotel workers, maintenance and laundry workers in hospitals and convalescent homes, car washers, house cleaners, and child-care providers.⁷⁴ The Mexicans filling these types of jobs are increasingly likely to be persons whose previous work experience, if any, has been limited to nonagricultural employment.⁷⁵ Among our sample of Mexican immigrants employed in southern California nonagricultural firms in 1987-88, only 18.4 percent had been working in agriculture prior to their most recent trip to the United States (excluding those who had been economically inactive before migration). Nearly 14.6 percent had been factory workers in Mexico. Skilled craftsmen, small business owners, restaurant workers, white-collar workers, and other urban service workers were significantly represented. However, agricultural and horticultural enter-

⁷³Escobar-Latapí, González de la Rocha, and Roberts, "Migration, Labor Markets, and the International Economy," 42-64.

⁷⁴Wayne A. Cornelius, "The United States Demand for Mexican Labor," 25-47.

⁷⁵Bilateral Commission on the Future of U.S.-Mexican Relations, *The Challenge of Interdependence: Mexico and the United States* (Lanham, Md., 1988), 91-93.

prises that require only seasonal labor continue to attract mainly migrants with rural, agricultural backgrounds.

Wages and Impacts on U.S. Wage Levels

Recent field studies have found that the majority of both legal and unauthorized Mexican immigrants in California are employed in jobs paying between \$4.25 (the state's legal minimum wage, as of 1 July 1988) and \$6.00 per hour. Among our sample of 146 regularly employed, unauthorized immigrant workers in southern California in 1987-88, most of whom were interviewed when the state's legal minimum wage was \$3.35 per hour, the median hourly wage was \$4.98. Among 154 "illegals" who had applied for amnesty, the median wage being earned was \$5.16.⁷⁶ These wage levels may be upwardly biased because of our sample design, which excluded workers employed in very small, "underground economy" firms that are more likely to pay less than the minimum wage.

Wages in certain subsectors of the U.S. economy may have been depressed by the influx of Mexican labor in recent years. In the case of Los Angeles manufacturing industries, there is persuasive evidence that relative wage declines during the 1970s for low-skill jobs in these industries were related to the presence of large numbers of Mexican and Central American immigrants. In the apparel industry, for example, the wages of production workers grew considerably more slowly in Los Angeles than elsewhere in California between 1969 and 1977.⁷⁷ In southern California, for nonagricultural firms studied by the Center for U.S.-Mexican Studies in 1983-84 and again in 1987-88, the median hourly wage for unauthorized immigrants rose by only 19 cents per hour during the four-year interval between the surveys—a real wage decline, when inflation is factored in (see Table 7). Wages for legal immigrants in the two samples had risen by 85 cents per hour, and those of U.S.-citizen employees by \$1.00 per hour.

Latino immigrant workers, especially unauthorized Mexicans, do tend to earn less than U.S.-born workers employed in similar job categories. But immigration status per se is not the most important determinant of

⁷⁶Personal, in-home interviews conducted by the Center for U.S.-Mexican Studies, University of California, San Diego in San Diego, Los Angeles, and Orange counties in 1987 and 1988. Legal immigrant workers interviewed for the same study (N = 103) were receiving an average of \$6.00 per hour.

⁷⁷Muller and Espenshade, *The Fourth Wave*, 110; Borjas, *Friends or Strangers*; Marta Tienda, "Mexican Immigration: A Sociological Perspective," in *Mexican Migration to the United States*, 109-47.

TABLE 7
Median Hourly Wage Received by Workers in Southern California Non-Agricultural Firms, 1983-1984 and 1987-1988, by Immigration Status

Immigration status	Median wage in		Increase: 1983-84 to 1987-88
	1983-84 sample	1987-88 sample	
Undocumented immigrants "Rodinos" (legalization applicant)	\$4.79 (N = 235)	\$4.98 (N = 144)	\$0.19
Legal immigrants	5.15 (N = 102)	5.16 (N = 154)	—
U.S. citizens	7.00 (N = 110)	6.00 (N = 98)	0.85
		8.00 (N = 93)	1.00

SOURCE: Personal interviews with two different samples of production workers employed in "immigrant-dependent" firms in San Diego, Orange, and Los Angeles counties, conducted by the Center for U.S.-Mexican Studies (1983-84 (N = 447) and 1987-88 (N = 489). Missing cases are excluded.

these wage differentials.⁷⁸ Equally or more powerful predictors are labor union membership, gender, marital status, English language competence, and the particular region and sector of the economy in which the worker is employed. In our sample of immigrants employed in California nonagricultural firms in 1983-84, the wage penalty paid by an undocumented immigrant, purely by virtue of his immigration status, was \$0.60 per hour. Being male added \$0.63 per hour to a worker's wage, *ceteris paribus*, while labor union membership added \$1.80. Workers employed in the San Francisco Bay area and San Diego County earned more than their counterparts in Los Angeles and Orange counties.⁷⁹

Impacts of IRCA

The "employer sanctions" component of the 1986 U.S. immigration law was supposed to exert upward pressure on wage scales in immigrant-dominated industries, by reducing the supply of unauthorized job-seekers and inducing firms to raise wages in order to retain their newly legalized immigrant employees. Thus far, however, there is little evidence of such

⁷⁸ Results of an OLS regression analysis based on 590 observations. The sample includes workers from San Diego, Orange, and Los Angeles counties and the San Francisco Bay area. All results cited are statistically significant at the 95 percent level of confidence or higher.

⁷⁹ Among our sample of unauthorized Mexican immigrants employed in southern California nonagricultural firms in 1987-88, 17 percent were union members. This compares with 30 percent among legal immigrants, and 32 percent among U.S.-citizen workers in the same sample. Our 1983-84 study of Mexicans employed in immigrant-dependent firms, which included firms located in northern California where unionization levels traditionally have been much higher than in the south, found much higher proportions of union members, among both unauthorized and legal immigrants. See Wayne A. Cornelius, "The United States Demand for Mexican Labor," 34, 37.

an effect. Very few of the migrants who legalized themselves under IRCA have received pay increases as a result of their new immigration status, and surveys of both agricultural and nonagricultural employers in California show that only a small minority of them have any plans for wage raises, at least in response to any IRCA-related labor market changes.⁸⁰ In part, this is because IRCA thus far has failed to reduce the undocumented immigrant labor supply in most industries that have come to rely on such labor. But econometric studies suggest that even if the labor supply were to be reduced by IRCA, real wage rates in agriculture would not rise significantly because many growers would introduce labor-saving technology or switch to less labor-intensive crops to avoid paying higher wages.⁸¹

There is no evidence that IRCA has reduced the total pool of Mexican migrants employed or seeking work in U.S. labor markets. In fact, the 1986 law seems to have augmented that pool, by drawing into it thousands of first-time migrants who sought to take advantage of the SAW and general amnesty programs.⁸² IRCA has also increased the segmentation of the Mexican immigrant labor force, by opening up interfirm and intersectoral mobility opportunities for the newly legalized segment (in theory, at least), and by adding a new layer of highly vulnerable, economically desperate workers at the bottom of the labor force. This new underclass consists mostly of recently arrived, unauthorized migrants, especially those coming from nontraditional sending areas in Mexico, who are not attached to well-consolidated family support networks in the United States. Even though they are being enforced cautiously and selectively,⁸³ employer sanctions have reduced the range of employment prospects available to these new arrivals, and have lengthened their job-search time. Unauthorized migrants without a pre-arranged job are still getting work in the United States, often using fraudulent or borrowed documents;⁸⁴ but it takes them longer to find steady, full-time employ-

⁸⁰ Wayne A. Cornelius, "The United States Demand for Mexican Labor," 44; Philip L. Martin and J. Edward Taylor, "Immigration Reform and California Agriculture a Year Later," *California Agriculture* vol. 44, no. 1 (Jan.-Feb. 1990), 24-27.

⁸¹ James A. Duffield, "Estimating Farm Labor Elasticities to Analyze the Effects of Immigration Reform," Agriculture and Rural Economy Division, Economic Research Service, U.S. Department of Agriculture, Staff Report No. AGES 9013 (Feb. 1990).

⁸² Cornelius, "Impacts of the 1986 U.S. Immigration Law," 689-705.

⁸³ Michael Fix and Paul T. Hill, "Enforcing Employer Sanctions: Challenges and Strategies," Program for Research on Immigration Policy, The Rand Corporation and The Urban Institute, Report JRI-04, May 1990.

⁸⁴ Cornelius, "Impacts of the 1986 U.S. Immigration Law," 689-705; Robert L. Bach and Howard Brill, "Shifting the Burden: The Impacts of IRCA on U.S. Labor Markets," Interim Report to the Division of Immigration Policy and Research (Washington, Feb. 1990).

ment. Many of them must devote several weeks or even months to poorly paid, highly irregular day-labor before finding steady employment.

One of IRCA's most conspicuous unintended consequences has been the proliferation of street-corner immigrant labor markets in major U.S. cities.⁸⁵ In Los Angeles County, for example, immigrant day-labor markets now operate at an estimated forty sites, and there are dozens of them in Orange and San Diego counties as well. These informal labor markets serve mostly nonagricultural employers—small building contractors, painters, roofers, landscape maintenance businesses, and individual homeowners who need help moving dirt, weeding yards, or moving furniture. The vast majority of workers who congregate in these markets are unauthorized, but some newly legalized workers can also be found there, reflecting a general oversupply of low-skilled immigrant labor in some areas. Four southern California cities, including Los Angeles, have opened their own “hiring halls” to give migrant workers a regulated alternative to the chaotic, often highly exploitative street-corner labor markets—and, not incidentally, to get the migrants off the streets and away from retail businesses.

IRCA has also contributed to the informalization of employment among the Mexican immigrant population by encouraging the growth of sweatshops and other “underground economy” firms, homework (especially linked to garment subcontractors), and self-employment (street-vending, participation in swap meets, and so forth). Such enterprises were by no means absent in the pre-IRCA period,⁸⁶ and it is difficult to estimate how much of their recent expansion is attributable only to IRCA. The proliferation of sweatshops, for example, is also associated with the intensification of competitive pressures within the garment industry resulting from the growth of imports and “offshore” production facilities.⁸⁷ It is clear, however, that such economic activities draw disproportionately on the pool of Mexican workers whose employment prospects have been most adversely affected by IRCA; that is, new “unattached” illegal arrivals and women who did not qualify for amnesty under the 1986 law.

CONCLUSION

Over the last 100 years, Mexican migration to the United States has never been a static phenomenon. The changes or intensifications of pre-

⁸⁵ Bach and Brill, “Shifting the Burden”; Bruce Kelley, “El Mosco,” *Los Angeles Times Magazine* vol. 6, no. 11 (18 Mar. 1990), 11–20, 38, 42–43.

⁸⁶ See, for example, Merle L. Wolin, “Sweatshop: Undercover in the Garment Industry,” *Los Angeles Herald-Examiner* (14 Jan.–1 Feb. 1981 [sixteen-part series]).

⁸⁷ Bonacich, “Asian and Latino Immigrants in the Los Angeles Garment Industry,” 35.

existing trends that occurred during the 1980s, however, are particularly significant. The shift from short-term, shuttle migration to permanent settlement in the United States has accelerated considerably. Mexico's economic crisis has brought into the migration stream many rural communities as well as urban centers that had not been traditional labor-exporters to the United States. The crisis has also discouraged many Mexican migrants already here from returning to their places of origin, as they might otherwise have done.⁸⁸ The 1980s brought major changes in the social composition of the flow: many more women and children, and more whole-family units, are now participating in the migratory process. And the continuing dispersion of Mexican migrants outside of the agricultural sector is one of the most conspicuous features of the current wave of Mexican immigration to the United States.

Some of the patterns described above are not really new when viewed from a broader historical perspective. For example, there are important similarities between the profiles of Mexican migration to the United States in the 1920s and that which occurred in the 1980s. In both decades, points of origin within Mexico were relatively dispersed, and there was considerable employment of Mexican workers in nonagricultural sectors of the U.S. economy.⁸⁹ After the hiatus caused by the Great Depression, the *bracero* program of contract-labor importation greatly increased the proportion of short-stay, agriculturally employed migrants, and altered the migration flow in other enduring ways.⁹⁰ Thus in certain respects, the migratory profile of the 1980s represents a return to patterns established before the deformation of the migratory process caused by *bracerismo*.

In understanding the contemporary Mexican immigration phenomenon, we must also take care to distinguish analytically between absolute and relative changes. For example, while permanent emigrants may have

⁸⁸Roger Rouse, who has studied migration to Redwood City, California, from the town of Aguililla, Michoacán, found that the economic crisis of the 1980s had stimulated inflation in land and livestock prices in the community of origin, thereby preventing migrants returning to Mexico from using their savings to good advantage. See Rouse, "Mexican Migration to the United States," 200-207.

⁸⁹For example, a survey of Los Angeles manufacturing industries in 1928 found that 17 percent of all workers were Mexicans. The single largest concentration of Mexican industrial workers was in textiles, but substantial numbers were also employed in construction and railroad yards. See California Mexican Fact-Finding Committee, cited in Muller and Espenshade, *The Fourth Wave*, 57.

⁹⁰Manuel García y Griego, "The Importation of Mexican Contract Laborers to the United States, 1942-1964: Antecedents, Operation, and Legacy," in Peter G. Brown and Henry Shue, eds., *The Border That Joins: Mexican Migrants and U.S. Responsibility* (Towona, N.J., 1983), 49-98.

grown considerably as a proportion of the total flow of Mexican migrants to the United States in the 1980s, this does not necessarily mean that short-term migration has diminished in absolute terms. The same caveat applies to the decline in the proportion of Mexican migrants who are agriculturally employed in the United States. This does not mean that agriculture has ceased to be an important employer of Mexican migrants; indeed, a 1983 survey of California's farmworker population found that 73 percent were Mexican-born, and 44 percent of these farmworkers admitted that they were unauthorized immigrants.⁹¹ In relative terms, however, Mexican migrants today are finding far more employment opportunities in the nonagricultural sectors of the U.S. economy.

The shift from a Mexican immigrant population dominated by transient, "lone male" agricultural workers to a much more socially heterogeneous, year-round, urban-dwelling immigrant community is unlikely to be reversed, barring an economic calamity in the United States that would severely reduce the demand by nonagricultural sectors for Mexican labor. This change has raised new questions about the social and economic effects of Mexican migration to the United States on both sending and receiving areas. For Mexico, the increase in permanent settlement in the United States and the higher incidence of emigration by better-educated, more occupationally skilled residents of Mexico City and other urban centers will inevitably increase the human resource costs of U.S.-bound emigration. This cost increase may lead Mexico to press the U.S. government for new bilateral accords on migratory labor—possibly including a "guestworker" program for Mexican nationals—aimed at encouraging shuttle migration and discouraging permanent emigration.

On the U.S. side, IRCA's legalization of a large part of the formerly unauthorized Mexican work force, combined with the steadily increasing proportion of women and children in the flow of migrants from Mexico, inevitably will increase the effects of the Mexican immigrant population on housing, schools, and health-care systems in localities that attract large numbers of migrants. In the foreseeable future, Mexican immigrants—both legal and unauthorized migrants—are likely to remain highly concentrated in a few states and localities, with California alone receiving well over half of the total. Transnational migrant networks are now anchored in those places, and the networks will continue to expand.

⁹¹Richard Mines and Philip Martin, *A Profile of California Farmworkers: Results of the UC-EDD Survey of 1983* (Berkeley, Calif., Giannini Foundation Report 86-1, 1986); J. Edward Taylor and Thomas J. Espenshade, "Foreign and Unauthorized Workers in California Agriculture," *Population Research and Policy Review* (forthcoming).

This high degree of spatial concentration will increase the perceived threat posed by Mexicans and other Spanish-speaking immigrants to the non-immigrant population.

It is important to recognize the *cultural* basis of that perceived threat. Polling data and anecdotal evidence show that most non-minority, native-born residents of the United States do not see themselves as being in competition with Mexican immigrants for jobs or social services.⁹² They do see such people, however, as a very real threat to their quality of life. As a Los Angeles city councilman put it, "The immigrants are resented strongly because of their impact on livability."⁹³ They are accused of boosting local crime rates,⁹⁴ harassing school children and other passersby, littering, and creating public health hazards. Local merchants complain that their "regular" customers are being driven away by migrants loitering or seeking work on nearby streets. Owners of new industrial parks claim that the migrants' presence is intimidating to prospective tenants of the parks. For many members of the non-immigrant population, racism and fears of a bilingual society are additional sources of hostility toward Mexican and other Latino immigrants.

The shift to urban employment has greatly increased the day-to-day visibility of Mexican migrant workers, thereby intensifying the objection of the non-immigrant population to their presence. This phenomenon is illustrated by the "North County" area of San Diego County—home to more than 1.5 million largely middle- and upper-income people, the vast majority of whom have migrated from other parts of the United States. For over three years, several of the principal North County cities have been in an almost continuous uproar over the presence of Mexican and Central American day-laborers and the makeshift camps, built of cardboard, used lumber, and plastic sheeting, in which they live. IRCA has put more migrant day-laborers—the new underclass—on the streets of these communities, and high-priced housing developments, shopping centers, and industrial parks have encroached upon the vacant land where migrant farmworkers have traditionally sought shelter. The cultural clash implied by upscale housing developments in immediate prox-

⁹²Wayne A. Cornelius, "America in the Era of Limits: Migrants, Nativists, and the Future of U.S.-Mexican Relations," in Carlos Vázquez and Manuel García y Griego, eds., *Mexican-U.S. Relations: Conflict and Convergence*, Anthology Series, no. 3 (Los Angeles, Calif.: UCLA Chicano Studies Research Center and Latin American Center, 1983), 371-96.

⁹³Quoted in Joel Kotkin, "Fear and Reality in the Los Angeles Melting Pot," *Los Angeles Times Magazine* vol. 5, no. 45 (5 Nov. 1989), 8.

⁹⁴Daniel Wolf, *Unauthorized Aliens and Crime: The Case of San Diego County*, Monograph no. 29 (La Jolla, Calif., 1988).

imity to third world-style squatter settlements could hardly be more dramatic.

On 24 April 1990, the North County community of Encinitas became the first city in California to declare a "state of emergency" because of its failure to resolve its perceived "migrant crisis" through local means. Encinitas, a community of about 55,000 residents, has a "crisis" consisting of an estimated 200 to 800 homeless Mexican and Guatemalan migrants, living and seeking day labor within its city limits. Authorities in Encinitas and other North County communities have spent the last three years raiding and bulldozing migrant encampments, hiring security guards to patrol vacant public land to stop migrants from camping there, passing ordinances to ban curbside hiring, and clamoring for more strenuous efforts by the U.S. Border Patrol and county sheriff's deputies to sweep the streets of migrant day laborers. They have demonstrated only that they can chase migrants from one vacant lot, canyon, or street corner to the next one; the migrants have not been induced to go back where they came from, nor to drop out of the U.S. labor market. Until quite recently, when Encinitas and another North County city reluctantly agreed to study the idea of establishing legal, city-maintained camps for migrant workers, no thought was given by local authorities to solving the fundamental problem afflicting both the migrants and irate non-immigrant homeowners: the almost total lack of low-income housing in their communities.⁹⁵

The experience of San Diego's North County, together with abundant statewide polling data,⁹⁶ suggests that the majority of non-immigrant Californians are far from being prepared to accept the notion of a settled, highly visible Latino immigrant presence in their immediate living and working environments. If the futility of efforts to "stop them at the border" and other law-enforcement approaches comes to be widely recognized, the focus of public debate in California and other parts of the United States will gradually shift to how to deal more effectively with Mexican immigrants as a "settler" population, and to the problems of "assimilating" the second and third generations. Such a shift in the terms of the public debate over immigration occurred during the 1980s in West-

⁹⁵This is clearly a statewide problem. A recent study by the California Coalition for Rural Housing found that no low-cost housing had been built in nearly one-fourth of all California communities during the 1985-1989 period, and most others had fallen far short of actual needs. In San Diego County, for example, only 4,281 low-cost housing units were built from 1985 through 1989, while an estimated 38,648 new low-cost units were needed during this period.

⁹⁶For example, a poll by *The Los Angeles Times* conducted in January 1989 found that 57 percent of the respondents agreed that there are "too many" immigrants in California.

ern Europe, faced with the de facto permanent presence of millions of culturally distinct Algerian, Moroccan, and Turkish immigrants.⁹⁷ And as in Western Europe, the overall level of anti-immigrant hostility is likely to rise, as the majority population confronts this new and unwelcome kind of challenge.

METHODOLOGICAL APPENDIX

This paper makes frequent reference to data gathered through a long-term field study based in the Center for U.S.-Mexican Studies at the University of California, San Diego. The project began as an attempt to gauge the impact within California of a specific government intervention in immigrant-dominated labor markets—namely, “Operation Jobs,” a well-coordinated, highly publicized national sweep by the INS of workplaces during the last week of April and the first week of May 1982. We were interested in how patterns of labor recruitment, hiring practices, and labor-force composition in immigrant-dominated or immigrant-dependent firms might have been altered by this government effort to reduce the utilization of unauthorized immigrant labor and, in the absence of any durable effects, explain the lack of change.

Our interests quickly broadened, however, beyond the realm of government attempts to regulate the use of immigrant labor. It became apparent that such a focus was too narrow; that there were some basic transformations underway in many sectors of the U.S. economy and society that were generating an increased demand for Mexican and other foreign-born labor; and that these processes of change and their consequences for the organization of production, labor/management relations, and the mobility of capital were of far greater significance in understanding the role being played by Mexican labor in the state's economy than anything that federal or state government agencies were doing (or might conceivably do in the future). We therefore began to focus more on the conditions within various industries and in different types of firms within these industries that affected the hiring of Mexican and other foreign-born workers, the terms of their employment, and, more generally, the ways in which labor was being utilized by businesses that heretofore have depended heavily on immigrant workers.

The original universe for the study was defined as all firms in California's three largest metropolitan areas (San Diego, Los Angeles-Orange County, and the San Francisco Bay area) with ten or more employees that make substantial use of Mexican and other foreign-born labor. “Substantial” users were defined as firms where at least 25 percent of the jobs in

⁹⁷Buechler, “A Review,” 283–304; and Zig Layton-Henry, ed., *The Political Rights of Migrant Workers in Europe* (London and Newbury Park, Calif., 1990).

production were filled by Mexicans. The actual average proportion of Mexicans in these jobs among our 177 firms, as revealed by our interviews with workers, was 65 percent as of 1983-84.

In each metropolitan area, we attempted to contact all firms that had been raided by the INS during "Operation Jobs" in 1982. Lists of these firms were compiled both from INS sources and from newspaper reports on "Operation Jobs." We then randomly sampled the more comprehensive lists of firms in each of the three metropolitan areas that the INS had already raided or had enlisted in its "voluntary" job applicant screening program, "Operation Cooperation." Access to these lists was provided by INS officials. About half of the 177 firms in our sample were chosen in this manner.

We wanted to document a wide range of dependence on Mexican labor, particularly unauthorized Mexican labor. Therefore it was important to expand our sample of firms beyond those that could be identified through INS enforcement activities, which were presumably targeted at the most intensive users of illegals. There are several other important biases in INS enforcement practices: concentration on larger, higher-wage, frequently unionized firms; on sites where substantial concentrations of illegals could be found and easily rounded up (factories, for example, rather than numerous office buildings being cleaned by unauthorized workers employed by a particular company); workplaces that could be raided between 9:00 A.M. and 5:00 P.M.; and so forth. In order to gain a more comprehensive view of the role played by Mexican labor in California economy, we took care to include in our sample representatives of certain types of firms that, by their very nature, are not cost-effective targets of the INS, and therefore were not represented well on the lists of firms that have been raided by the INS. Examples would be building maintenance firms, construction firms, and restaurants.

The one-half of our sample firms that had not been targeted by the INS were identified in various ways. During interviews with unionized employers, we asked them to name their principal non-union competitors, who were subsequently interviewed. Other firms were identified in our interviews with labor-union officials in each metropolitan area. Some firms were selected at random from industry and telephone directories. In San Diego, several employers who had been identified in a 1980-81 Center for U.S.-Mexican Studies survey of 2,100 Mexican immigrants in San Diego County were selected for inclusion in our new study. Several of our interviewers who had come originally from Mexico also used their personal contacts to tap into immigrant networks for assistance in identifying firms that might be appropriate for inclusion.

This eclectic set of sampling techniques limits the generalizability of

our results in a strict statistical sense. However, considering the impossibility of sampling the universe of immigrant-dependent firms in California (no such sampling frame exists), and the limitations of a random sampling approach, which relies on populations that may have been significantly biased in various ways (for example, firms that have been raided by the INS, or apprehended illegals who identify their employers on INS forms), we opted for eclecticism. Our goal was to study a cross-section of immigrant-dependent firms that would be as representative as possible of the entire group, excluding only the smallest employers (businesses that were family owned and operated, household employers, and so forth). Agricultural employers were also underrepresented in our sample, because we limited our study to the state's three principal metropolitan areas.

The first stage of the study consisted of detailed interviews with employers and labor-union representatives (if they were present) in each firm. In the second stage, we selected for more intensive study those firms in seven nonagricultural industries that make heavy use of Mexican labor. They include construction (which encompasses roofing and construction-site clean-up), food processing, shoe manufacturing and tanning, high-tech electronics, building and landscape maintenance, hotels, and restaurants. We chose to concentrate on these nonagricultural sectors of the economy, because so much less is known about how they use Mexican labor than about agricultural employers, and because urban employers are considerably more important as sources of jobs for Mexicans and other immigrants in California today than are agricultural firms.

In this second stage of the project, we interviewed 834 workers employed in the 94 firms that fell into our seven "intensive-study" industries. So, for example, we interviewed no workers employed in agriculture, which had been excluded from the second stage of the study. We attempted to interview ten workers in each firm, chosen at random from the workers in all job categories in which Mexicans were employed. If non-Mexican workers (Anglos, Chicanos, Blacks, or Asians) were also found to be employed in those same job categories, we interviewed several of them in each firm as well. Interviewers were instructed to choose a cross-section of production workers in a given firm: some young, some older, some unauthorized immigrants, some legal immigrants, and (if present) some non-Mexican workers. One-fifth of the resulting worker sample consisted of U.S.-born workers, the majority of them second-generation Mexican-Americans (Chicanos). Our interviewers made initial contact with them at the workplace—sometimes inside the plant,

sometimes outside the gates; sometimes with the knowledge of management, sometimes not. But all interviews with workers were conducted in the privacy of their homes, rather than at their workplace. Most of these interviews lasted from 90 to 120 minutes.

In the third stage of the project, from May 1987 to June 1988, we returned to a subsample of the original 177 firms, to conduct new interviews with management and with a new sample of workers employed in each firm. These employer interviews were done in 105 nonagricultural firms located in southern California (San Diego, Orange, and Los Angeles counties), 71 of which were included in the earlier stages of the project. These 71 firms represent all of the original-sample firms that were located in southern California and which were still in business by May 1987. Firms in the San Francisco Bay area could not be included in this last phase of the project, due to financial constraints. Thirty-two firms not represented in earlier stages of the project, but belonging to the same industries we have been studying, were selected for inclusion in the 1987–88 fieldwork. Detailed, in-person interviews were conducted with 105 employers or managers, 500 workers employed in their firms (an average of 5 workers per firm, interviewed, as before, in their homes), and 200 recently arrived unauthorized immigrants—interviewed mostly in street-corner labor markets and public parks—who were still seeking steady employment in southern California. In this phase of the project, particular attention was devoted to the impacts of IRCA on the behavior of U.S. employers and immigrant workers.

In the final stage of the project, 945 sample survey interviews were conducted in three rural communities located in west-central Mexico, a region with a 100-year tradition of sending workers to the United States. A binational field research team assembled by the Center for U.S.-Mexican Studies and several Mexican universities interviewed 586 randomly-selected household heads; 233 recent (after 1 January 1982) migrants to the United States; and 126 prospective first-time migrants—persons aged 14 or older who had no history of work in the United States, and who identified themselves as likely to migrate in the future. Our selection of the nonmigrant household member deemed most likely to migrate to the United States in the near future was based necessarily on the judgment of the interviewer. Nevertheless, the subsequent behavior of these interviewees suggests that we succeeded in tapping a highly migration-prone stratum of the nonmigrant population in these communities. In a follow-up study of residents of one of the three communities who had been interviewed in July or August 1988 as prospective first-time migrants to the United States, we found that about 15 percent had



actually migrated between 1 August and 1 December 1988. This rate of emigration is particularly impressive, since these were first trips, occurring during a season when very few people normally leave for the United States; indeed, migration during the August-December period traditionally flows in the opposite direction.

In each community, a random sample of 200 households was drawn from a sampling frame assembled through a complete household census conducted by our research team. In May 1988, according to our census, the research communities contained 299, 400, and 691 households, respectively. Our interviews with recent migrants to the United States and prospective first-time migrants were done within the same set of households. Thus the number of interviews conducted per household ranged from one to three. Interviews with household heads averaged about two hours in duration; those with recent migrants to the United States averaged 1.5 hours; and interviews with prospective first-time migrants lasted about one hour.

The universe for our study of sending communities was defined as all households maintaining a residence in the three research communities. To be included in the sampling frame, a household need not occupy a dwelling in the community on a year-round basis. Indeed, in all three communities, numerous dwelling units are occupied for only a few weeks each year (usually in December, January, and early February, when migrant families traditionally return from the United States) or are occupied for most of the year by renters or housesitters (14.4 percent of the houses in the three communities, combined). We took several preventative measures to avoid underrepresenting residents who spend most of the year working in the United States. The field interviewing was divided into two principal periods: July-August 1988 and December-January 1988-89. The latter period was timed to coincide with the habitual return of migrants from the United States for the Christmas holidays and annual town fiestas. Some interviewing was also conducted in the interim months, as families returned from the United States. If an entire household was absent both in July-August 1988 and in December-January 1988-89, we substituted it with a household that was also absent in July-August 1988, but had returned to the community by December-January 1988-89. Finally, nine interviews with household heads (1.5 percent of the total) were conducted in various California cities, where they were located in the fall of 1988. The level of cooperation was quite high; the refusal rate among sampled household heads in the three communities ranged from 2.5 to 4.0 percent.

The research communities are located in the states of Jalisco, Michoa-

cán, and Zacatecas. All three are predominantly agricultural (73 percent of the economically active adult males were principally employed in agriculture). U.S.-bound migration from all three communities began in the first decades of this century, was briefly interrupted in the 1930s by the Great Depression, and became a mass movement in the 1940s and 1950s, when many residents participated in the *bracero* program of contract labor importation. In numerous families having homes in these communities, members of three different generations have worked in the United States. All three communities had been studied in depth by members of our research team prior to the enactment of the 1986 U.S. immigration law.⁹⁸ Since these communities were selected purposively, we make no claim that our findings are statistically representative of the entire universe of Mexican communities—now including large cities as well as rural localities—that send migrants to the United States. Our research sites are, however, quite typical of the small rural communities of west-central Mexico that have contributed heavily to the U.S.-bound migratory flow since the 1920s.⁹⁹

⁹⁸The pre-IRCA fieldwork in these three communities has been reported in Gustavo López, *La casa dividida: Un estudio de caso sobre la migración a Estados Unidos en un pueblo Michoacano* (Zamora, Mich., 1986); Mines, *Developing a Community Tradition of Migration*; and Cornelius, "Outmigration from Rural Mexican Communities."

⁹⁹See, for example, Massey, et al., *Return to Aztlán*; Thomas Calvo and Gustavo López, eds., *Movimientos de población en el occidente de México* (Mexico City and Zamora, Mich., 1988); Gustavo López and Sergio Pardo Galván, eds., *Migración en el occidente de México* (Zamora, Mich., 1988); González de la Rocha and Escobar Latapí, "Impact of IRCA on the Migration Patterns of a Community in Los Altos, Jalisco."

The Young Latino Population in an Aging American Society: Policy Issues Evoked by the Emergence of an Age-Race Stratified Society

David E. Hayes-Bautista, Werner O. Schink, and Jorge Chapa

THE AGING OF American society appears to be a well-documented and unavoidable phenomenon.¹ Much debate right now turns on the society-wide policy implications of such an unprecedented growth (perhaps as much as a doubling) of the elderly population in the next thirty to fifty years. Serious policy discussion about the minorities of this society has been set aside during this debate. Because of this lack of discussion, policymakers have not fully recognized that significant changes are occurring in the minority population—changes that pertain directly to the aging of American society.

The basic change is a rapid growth of minority populations, especially the Latino and Asian populations.² Due to the continued immigration and the high fertility rate of young Latinos in particular, some states, such as California, are rapidly acquiring an age-race stratified population, in which the older segment will be composed almost exclusively of whites, while the working-age segment will be increasingly made up of Latinos and other minorities.

¹Dorothy Rice and Jacob Feldman, "Living Longer in the United States: Demographic Changes and Elderly Health Needs," *Health and Society* 61 (Summer 1983), 362-96.

²There is much confusion over the proper terminology to use when referring to the population of Latin American origin (See David E. Hayes, Bautista, "Identifying 'Hispanic' Populations: The Influence of Research Methodology upon Public Policy," *American Journal of Public Health* vol. 70, no. 4 [1980], 353-56.) In the senior author's opinion, the term "Hispanic" is methodologically misleading. Data used in this study come from different sources, which not only use different terms for this ethnic group (for example, Mexican-American, Spanish surname, Chicano, Hispanic, Spanish origin), but to a certain extent different methodologies to determine who is included and excluded from the group in question. We use the term "Latino" to refer to those of Mexican, Central American, South American, and Spanish-speaking Caribbean descent. All data reported will use "Latino," even though the terminology used by the different sources might be different.

The data presented in this study are based on changes in the California population, but they have meaning for the rest of the country, which is experiencing the same age-race stratification at various rates.³ We do not have sufficient data to make nationwide projections, but the findings for California are so compelling we feel it is appropriate to discuss this state and suggest implications for the rest of the country.

In examining California's age structure, it became apparent that segments of the population have different age structures, which change at different rates. The Latino population in particular is much younger than the rest of the population, and its fertility and immigration rates are substantially higher than those of the rest of the population. Immigrants are coming from populations whose age structures are significantly different from the California (and U.S.) age structures.

This trend can be appreciated in Table 1, which compares the ages of the populations of Mexico and California. In this table, it is immediately apparent that, much like the rest of the developed industrial world, California has an age structure that is the product of decreasing fertility rates. Mexico has an age structure typical of less developed countries—that is, high fertility and low life expectancy. The population moves from Mexico to California via immigration. Already an incipient stratification by age and race is being noticed in some segments of society such as the school systems, where the primary grades are increasingly filled with Latino children.

This paper looks inside the age pyramid of California to identify the dynamics that are creating an age-race stratified society. Projections for the state will be presented in some detail—projections that raise a number of policy questions, including support burden, current and future notions of equity, intergenerational income transfer, and interracial income transfer. We present a framework for analyzing future policy issues and choices and offer two possible scenarios to illustrate how different constellations of policy decisions could lead to different societal outcomes. Implications for other states will be mentioned. Our intention throughout is to raise the issue of the emergence of the age-race stratified society, rather than to provide definitive answers to the policy questions such a stratification will generate.

THE AGE SHIFT

By the year 2030, the median age of the U.S. population may easily rise from its current 30.2 years to 43.2 years (see Fig. 1). If one assumes a below-replacement fertility rate, which is the current rate, the number of

³ Center for the Continuing Study of the California Economy, *Projections of Hispanic Population for the United States: 1985-2000* (Palo Alto, Calif., 1982).



TABLE I
 1988 Population Pyramids for Mexico and California
 (In millions of persons)

Ages (in years)	Mexico		California	
	Male	Female	Male	Female
0-5	5.7	5.7	1.0	1.0
6-10	5.2	5.2	0.95	0.95
11-15	4.4	4.4	1.0	1.0
16-20	3.9	3.9	1.3	1.3
21-25	3.1	3.1	1.6	1.6
26-30	2.3	2.3	1.3	1.3
31-35	1.9	1.9	1.1	1.1
36-40	1.7	1.7	0.5	0.5
41-45	1.6	1.6	0.5	0.5
46-50	1.4	1.4	0.4	0.4
51-55	1.0	1.0	0.4	0.4
56-60	0.7	0.7	0.4	0.4
61-65	0.6	0.6	0.3	0.3
66-70	0.5	0.5	0.3	0.3
71-75	0.5	0.5	0.3	0.3
76-80	0.3	0.3	0.2	0.2
81-85	0.1	0.1	0.2	0.2
86-90	0.1	0.1	0.1	0.1
Total population		70		23.7

SOURCES: For Mexico: Consejo Nacional de Población, *México: Estimaciones y Proyecciones de Población, 1950-2000* (Mexico City, 1982), 44. For California: 1980 census data.

elderly as a ratio of the total population may well nearly double from our current 11.2 percent to as many as 22.1 percent by 2030. Our median age projections for California are also given in Figure 1, to compare with those of the United States. The California population will be slightly younger than the general U.S. population, a difference due in part to different methodologies, and in part to the growth of the younger Latino population.

In both the California and U.S. populations, a distortion of the age pyramid has occurred because of the many "baby boom" births between 1945 and 1960, and the sudden drop in births immediately thereafter. It is the aging of this baby boom generation that will increase greatly the numbers of elderly between the years 2010 and 2030.

THE RACE SHIFT

In 1980, minorities constituted 33.4 percent of the state's population, up from 20 percent in 1970 and 15 percent in 1960. Most of this growth has been due to increases in the Latino population, a factor that will

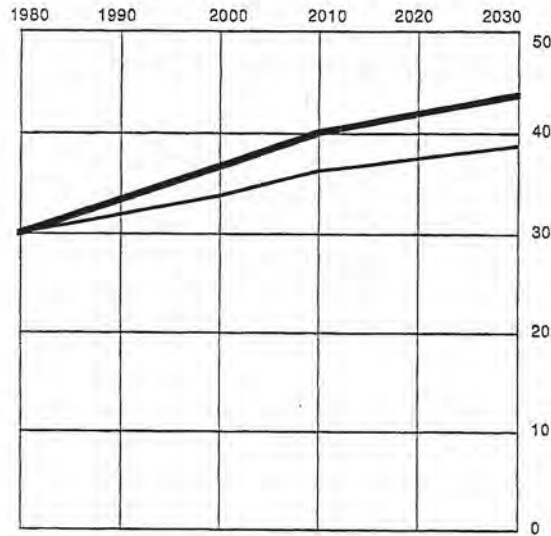


Fig. 1. Median age of the projected population for California (lower line) and the United States (upper line), 1980-2030. SOURCE: Government Printing Office, Current Population Reports, series P-65, no. 704 (Washington, 1980).

likely fuel much of the state's future population growth. The Latino population grows rapidly due to its high fertility and immigration rates.

Given that most of the sending areas, for example Mexico, have significantly younger populations than California and have a different demographic behavior, we wished to see the effects of a continued growth of the Latino and other minority populations on the state's population over the next fifty years. A model was developed that accommodates the problem of currently unknown immigration rates from Mexico and Latin America.

Assumptions in the California Population Projections

The population projections presented here were developed using a standard cohort-component procedure.⁴ The number of people in each age group was projected taking into account the major components of change: fertility, mortality, and migration. The total population was initially divided into four groups: Anglos (that is, White non-Latinos); Blacks; Latinos; and Asians and Others. We will refer to this last group

⁴Henry S. Shryock and Jacob S. Siegel, *The Methods and Materials of Demography* (Washington, 1975).

simply as Asians. For baseline computations, the number in each group was taken from 1980 census data. Because of differential fertility patterns, the Latino population was divided further into native- and foreign-born Latinos.

Fertility rates for the state were calculated for the five major groups (Anglos, U.S.-born Blacks, Latinos, foreign-born Latinos, and Asians) using California Department of Health Services' vital statistics for 1980, and 1980 census data. The Anglo, Black, and Asian fertility rates are 1.31, 1.70, and 1.59, respectively: substantially lower than the 2.1 needed to maintain a stable population size. The native-born Latino fertility rate is significantly higher, at 2.06, and the foreign-born Latino is highest at 3.14 births.

The projections that follow are based on the assumption that the fertility of Anglos, Blacks, and Asians will remain constant until 2030. We also assumed that the fertility rates for the Latino population will drop, so that by 2030 the rate for native-born Latinos will equal that of Blacks in 1980, and the rate for foreign-born Latinos will decrease to the 1980 level for native-born Latinos.⁵

Mortality was assumed to decrease so that the life expectancy at birth would increase by five years for all groups. This decrease in mortality was further assumed to occur uniformly throughout the projection period.

Immigration is the wild card in all projections involving the Latino population.⁶ There is no commonly accepted figure for Latino immigration; the presence of an unknown number of undocumented immigrants complicates any effort to identify such immigrants once they have arrived. The projections for this paper are based on a two-step calculation. The growth rate due to in-migration was determined by comparing 1970 and 1980 census figures for each age and sex cohort. These rates were then applied to an in-migration total of 250,000 per year. This gave us an annual immigration rate of 100,000 foreign-born Latinos.

These are the major assumptions used in calculating the projections. Certainly, any one of them is open to debate, and the collection of assumptions could be subject to even greater criticism. However, as the purpose of this paper is to draw attention to a trend that seems not to have been noticed by most projections of the aging of American society,

⁵The projections offered by Rice and Feldman assume a rise in the overall fertility rate to replacement level. We believe that if the nation's overall fertility were to rise, a corresponding rise (or perhaps more accurately, a slowdown in the decrease) in the Latino fertility rate would occur such that the proportions of each race in the population would remain about the same.

⁶Wayne Cornelius, Leo Chávez, and Jorge Castro, *Mexican Immigrants and Southern California: A Summary of Current Knowledge* (San Diego, 1982).

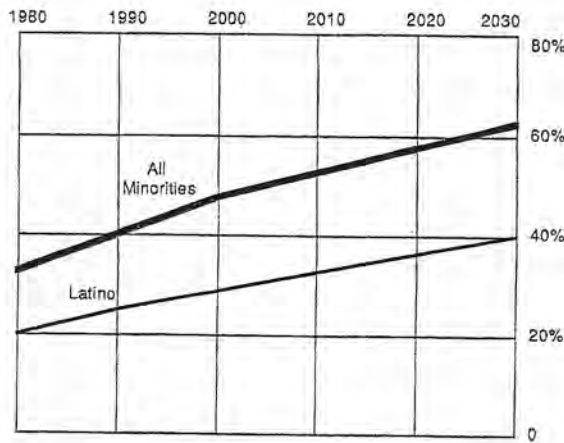


Fig 2. Projected composition of the California population, 1980-2030. SOURCE: Authors' data. For a discussion of these data, see David E. Hayes-Bautista et al., *The Burden of Support* (Stanford, Calif., 1988).

we felt it best to continue with known but debatable assumptions rather than wait for less-debatable assumptions to be developed.

The Growth of Latinos and Minorities

Using the model based on our assumptions, the change in Latino and minority populations may be seen in Figure 2. According to these projections, by the year 2010 about half the state's population will be minority, and almost 30 percent will be Latino. By 2030, more than 55 percent of the state's population will be minority, with slightly over 35 percent Latino. Clearly substantial growth in the minority population will occur over the next fifty years.

THE AGE-RACE STRATIFICATION

The importance to policymakers of this growth in the Latino and minority populations is made clear when one examines the age structure of these populations. Although they will make up an increasingly large percent of the total population, Latinos will not be equally represented in all age categories: rather, they will be overrepresented in the younger, working population and greatly underrepresented in the elderly, retired population. The generational age gap then is thus correlated with race.

Table 2 details the age pyramid of the state for 1980, broken down by Anglos, Blacks, Latinos, and Asians. The bulging baby boom population is noticeable in the 20- to 35-year-old cohorts. Latinos and other

TABLE 2.
California Population
(In millions of persons)

Ages (yrs.)	1980				1990				2000				2010				2020				2030			
	Asian	Black	Latino	White	Asian	Black	Latino	White	Asian	Black	Latino	White	Asian	Black	Latino	White	Asian	Black	Latino	White	Asian	Black	Latino	White
0-10	1.6	1.4	1.4	0.8	2.0	1.6	1.6	0.8	2.2	1.8	1.6	0.8	2.4	2.0	1.8	0.6	2.4	2.0	1.8	0.6	2.4	2.0	1.8	0.6
11-20	2.0	1.6	1.6	1.2	2.0	1.6	1.4	1.0	2.2	1.8	1.8	1.0	2.4	2.0	1.8	1.0	2.4	2.2	2.0	0.8	2.6	2.2	2.0	0.8
21-30	2.4	2.2	2.0	1.4	2.6	2.2	2.0	1.4	2.4	2.0	1.8	1.0	2.8	2.4	2.2	1.2	2.8	2.6	2.4	1.0	3.0	2.6	2.4	1.0
31-40	1.8	1.6	1.4	1.2	2.8	2.2	2.2	1.6	2.8	2.6	2.4	1.4	2.4	2.4	2.2	1.2	3.2	2.8	2.4	1.2	3.2	2.6	2.4	1.0
41-50	1.4	1.4	1.2	0.8	1.6	1.4	1.4	1.0	2.4	2.2	2.0	1.4	2.6	2.4	2.2	1.4	2.4	2.2	2.0	1.4	2.2	2.2	2.4	1.2
51-60	1.4	1.4	1.2	1.0	1.2	1.2	1.0	0.8	1.6	1.4	1.4	1.0	2.2	2.0	1.8	1.2	2.4	2.0	2.0	1.4	2.2	2.0	1.6	1.0
61-70	1.0	1.0	1.0	0.8	1.0	1.0	1.0	0.8	1.0	1.0	0.8	0.6	1.4	1.2	1.2	0.8	2.0	1.8	1.6	0.7	1.4	1.0	1.0	1.2
71-80	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.8	0.8	0.8	0.7	1.4	1.0	1.0	1.2
81-90	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4

SOURCE: Authors' data. For a discussion of these data, see David E. Hayes-Bautista et al., *The Burden of Support* (Stanford, Calif., 1988).

minorities make up nearly half the population in the cohorts aged five and under. As one looks at progressively older groups, fewer Latinos and other minorities and greater Anglo representation is noticeable. Beyond 65 years of age, there are very few minorities at all.

Table 2 also projects the age structure from 1990 to 2030 in ten-year intervals, using our population model. Marked changes by age and race are predicted to occur. The Anglo baby boom does not replace itself; rather, with each succeeding decade the young cohorts are increasingly composed of Latinos and other minorities.

In these projections, the age-race stratification is most pronounced from 2015 to about 2030. During this period, the large baby boom population that has been distorting the age pyramid will enter the retirement years, while Latinos and other minorities will increasingly constitute the younger, working-age population. With a marked increase in longevity (not assumed in our model), the age-race stratification would become even more pronounced.

Figure 3 provides another view of the age-race gap by looking at our projections of median age for the Anglo and Latino groups in the state. Due in large part to the aging baby boom generation, the median age of the Anglo population increases from its current 33 years to a possible

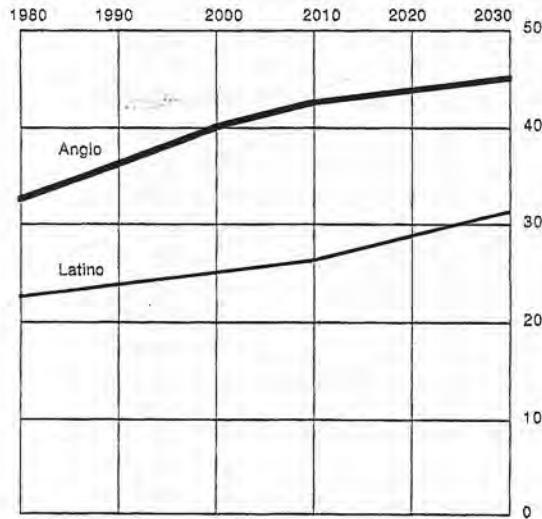


Fig. 3. Projected median age of California Anglos and Latinos, 1980-2030. SOURCE: Authors' data. For a discussion of these data, see David E. Hayes-Bautista et al., *The Burden of Support* (Stanford, Calif., 1988).

high of 45 years by 2030. The median age of the Latino population will be much lower, from its current 22 to only 31.3 years by 2030.

The Continuing Factor: Mexico and Latin America

These projections assume political and economic stability in Mexico and Central America. Currently, prospects are poor for economic and political stability there. Thus, there will likely be a sudden leap in the Latino population sometime in the near future. [Eds. Note: Circumstances in Mexico and Central America have since improved prospects for economic and political stability. However, the inflow of Latinos during the 1980s appears to have been considerably greater than the authors' projections.] In large part, therefore, the growth of the Latino population in California is linked to the growth and welfare of the populations of Mexico and Latin America. The median age in Mexico is 16.2 years, nearly half the median age of 33 of Anglo California.⁷ As recently as 1960, the vast majority of California's Latinos came from Mexico. Gradually, the Latino population is beginning to include significant numbers of immigrants from other Latin American countries. Currently, about 80 percent of the Latino population is of Mexican origin.

The Support Burden and the Young Latino Population

As a number of authors have pointed out, some long-range projections concerning the financial future of elderly support programs depend on a certain number of retirees in relation to the number of workers.⁸ We would like to add that in addition to absolute numbers of workers, one must also look at the ethnic composition of the work force, its present and future preparation, the distribution of incomes in the work force, and the ability of this work force to be taxed heavily to support the elderly.

Certainly an increase in the number of older persons will mean a larger need for support from the working-age population.⁹ If there are proportionately fewer working-age people, they will have to carry a heavier burden than is currently the case with more workers per retiree.¹⁰

Currently, the Latino population in California is less educated than the overall population, as is shown in Table 3. Nearly 57 percent of all Latino adults have less than a high school education, while only 22 percent of

⁷ Consejo Nacional de Población, *Mexico Demografico: Breviario*, 1978 (Mexico City, 1978).

⁸ Peter Peterson, "No More Free Lunch for the Middle Class," *New York Times Magazine* (17 Jan. 1982); Peter Peterson, "The Coming Crash of Social Security," *New York Review of Books* vol. 29, no. 19 (1982), 34-38; Rice and Feldman, "Living Longer in the United States."

⁹ Eric Kingson and Richard Scheffler, "Aging: Issues and Economic Trends for the 1980s," *Inquiry* 18 (1981), 197-213.

¹⁰ Peterson, "The Coming Crash."

TABLE 3
*Years of School Completed by Persons 25 Years Old
 or Older, California, 1980*
 (Percent of Latino and non-Latino population)

	Latino	Non-Latino
Elementary	40.4%	9.8%
High School (1-3)	16.1	11.7
High School (4)	23.6	32.7
College (1-3)	13.5	24.0
College (4+)	6.4	21.8

SOURCE: 1980 U.S. Census data.

TABLE 4
Median Family Income, California, 1979

	Black	Latino	Anglo	Asian and other	Total
U.S. Dollars	\$15,410	\$16,140	\$22,689	\$22,721	\$21,479

SOURCE: 1980 U.S. Census data.

non-Latinos have such a low educational attainment. At the upper end, nearly 22 percent of the non-Latino population has graduated from college, while only 6 percent of the Latino population has been able to do so. Moreover, educational attainment is directly related to earning power. In 1980, the median income for Latinos was \$16,140, while for Anglos it was \$22,689 (see Table 4).

Unless a major change is enacted in educational and job policies, the working-age population of the future, increasingly composed of Latinos and other minorities, will have a lower total wage base upon which to financially support the elderly. One analyst believes as well that maintaining current benefit levels would cause such high tax burdens that the Anglo work force, with greater education and income, might feel resentful—a resentment that could be much greater if the tax rate had to be further increased to offset the much lower earning capabilities of a largely Latino work force.

Clearly, a society under such pressures could become subject to serious strains and fractures. Policies for supporting and caring for the aged must be developed in conjunction with policies for preparing the Latino and minority work force to provide such care.

THE POLICY AREAS

The double division of age and race will be a fact of social life in the future. Can such a society, with great potential chasms separating one

group from another, become single and unified? Will difficult policy decisions regarding the care of the elderly and the participation of the younger working-age population be made without having the reactions of one group tear society apart?

At least three policy areas need attention in order to achieve a smoothly functioning society, and within each policy area, different policy choices may be made. The constellation of decisions in all three of the policy areas will greatly determine the type of society that will emerge from the age-race shift.

Human Resources Investment

This paradigm conceptualizes the population of the state as a natural resource that has to be invested in and developed thoughtfully so as to create a maximized, sustained yield.¹¹ The yield can be defined as labor-force participation and productivity. As with any resource, short-range policies designed to extract maximum yield for the present may deplete the resource, making future yields much smaller. The growing minority population, which will make up the bulk of the labor force thirty to fifty years from now, may be seen as a human resource that will require some investment now for greater societal benefits tomorrow.

Education. This is a critical area, particularly as the California economy moves away from manufacturing and into the service industries. Brainpower, not manufactured products, may become the principal American export.¹² The population's level of education will be one of the principal determinants of success or failure in this movement from manufacturing to services. The educational level of different ethnic groups in California is given in Table 3. One might easily surmise that if current policies are followed, the general educational level in the work force will decline by 2030 as the proportion of Latinos increases; the baby boom generation, however, will continue to benefit from its very high level of educational achievement.

Health. A work force in poor health is less productive than one with good health. Although few reliable health statistics exist for Latino populations, the Hispanic Health and Nutrition Evaluation Survey does provide a nationwide database of the health status of Chicanos, Puerto Ricans, and Cubans. This information indicates that the Latino population

¹¹Theodore Schultz, *Investing in People: The Economics of Population Equality* (Berkeley, Calif., 1981).

¹²Eugene Kelley, "Americas Economic Future: The Key Is Brains and Services," paper presented to the Commonwealth Club, San Francisco, 1982.

suffers from infectious diseases more than the general population. Such diseases are the ones most affected by public health programs, which are currently being cut back.

Social Cohesion

Social cohesion is the product of members of a society feeling that they have a stake in the outcome of events, and subsequently have some desire, urge, or obligation to participate in these events. When many members of society feel little or no desire to participate in society, low social cohesion results, and a possibility for social breakdown emerges. With high social cohesion, difficult policy choices may be made without certain groups feeling left out, even though the changes might entail decreasing the social benefits these groups might otherwise feel are theirs. Social cohesion can be measured and achieved in several dimensions. Three are mentioned here.

Economic participation. This is possibly the most important way to effect social cohesion. Social cohesion is maximized when the degree of economic participation is the same for all groups. If a large and growing part of the population maintains current low levels of economic participation, then we expect social cohesion to decrease. Full economic participation would occur in those situations where Latino and other minorities are fully integrated into all segments of the economy: research and development, administration, policy, and marketing; in the service industry; and in manufacturing and extraction. Low economic participation occurs when Latino and other minorities are confined to the assembly lines in manufacturing and the harvesting and processing lines in agriculture.

Political participation. In the public sector, political participation conditions the presence or absence of social cohesion. Currently, Latino and other minorities do not participate fully in the political process and often feel that decisions are being made at their expense. With full political participation, these feelings could be diminished because the decisions would belong to everyone, not just to a perceived few.

Immigration. Although in the federal province, immigration may affect statewide social cohesion. Certain immigration policy proposals would put at risk nearly all Latinos and Asians, who are racially distinct from the mainstream population, by forcing employers to require proof of citizenship before hiring. Rather than go through the trouble of verifying such status, employers might find it easier simply not to hire from those two groups. The need to carry identification, and the burden of being asked for it when others are not, could well create a feeling of separateness that could lead to low social cohesion.

Cultural Pluralism

Cultural pluralism is a situation in which various cultures are given equal importance and the contribution of each to the societal whole is acknowledged. Cultural pluralism recognizes the different histories, languages, and experiences that make up the cultural mosaic of the California and U.S. populations. Within state borders, a policy that emphasizes cultural pluralism will most likely help every group feel that it can retain its uniqueness and participate fully in economic and political life. All groups might then feel more attached to society and more willing to participate in some difficult decisions ahead.

Some cultural pluralistic considerations go beyond the borders of this country, however. In particular, the California economy stands poised at the brink of the larger Pacific Rim economy consisting of Mexico, Central and South America, the South Pacific, and Asia. In order to compete successfully, California legislators will have to understand and work with these other economies and cultures. Given that minorities descended from these areas will constitute most of the labor force, nurturing cultural pluralism could make working with other Pacific Rim economies easier.

In order for pluralism to occur, a policy of cultural homogenization must be reversed. Otherwise the advantage of having so many Latinos and other minorities in the work force will be lost: a totally assimilated minority would be as inept in the Pacific Rim markets as a culturally unaware non-minority.

The trick is to conceive of achieving social cohesion *through* cultural pluralism.

THE POTENTIAL COLLISION

The ingredients for projecting into the future are now in hand. The shift of age and race may be answered with different policies for human resources investment, social cohesion, and cultural pluralism. It is quite possible, however, that the shift will be responded to in a manner such that the policy needs of the largely Anglo elderly population and the largely Latino and minority working-age population will collide in the years 2010-2030.

Policy Area Responses Conducive to a Collision

The three policy areas mentioned above may be responded to in such a way as to yield an age-race collision. One projection, based on many current policy decisions, suggests the following scenarios for each category.

Human resources investment. The growing minority population is seen as a threat or drain rather than a resource, and policy decisions might be made so as not to invest in developing this resource. Because of the declining numbers of Anglo children in schools, education is given fewer resources: higher education in particular becomes more costly as fees are raised, and bilingual education is phased out as an extravagance. Health programs are cut back, and access to care is made quite difficult for the poor and working poor. The work force of 2030, in addition to being largely Latino and minority, has low educational achievement and is in poor health.

Social cohesion. Latinos and other minorities are relegated to the labor level in manufacturing and agriculture, rarely being able to pierce the important areas of research, administration, and policy. Professional positions in the high-technology and service industries are closed to them. Likewise, political participation can be quite low, so that government is seen as an intrusive agent that operates without the consent of the governed. The better jobs in industry, and the governmental decision-making process, are considered provinces of elderly whites.

Because of draconian measures adopted to try to stem immigration—especially from Mexico, Central America, and Asia—many people feel excluded physically and psychologically from the economic mainstream. In this situation, social cohesion will be quite low. Many in the population will feel that they have no stake in the outcome of social activities, and may increasingly refuse to participate in them.

Cultural pluralism. Cultural differentness is perceived as a threat to standard culture and values. Xenophobic measures limit the teaching of other languages, histories, and customs: cultural assimilation is society's goal.

A Collision Scenario

With such decisions in the policy areas mentioned above, it would be quite easy for California society to be set on a collision course at the age-race juncture between 2010 and 2030. While many scenarios are possible, we now offer a worst-case scenario for consideration.

The baby boom generation grows old and begins to enter retirement by 2010. The younger work force is largely Latino and minority. Possessing low educational levels, they occupy the lower end of the job market.¹³ By virtue of having lower wages, the burden for sup-

¹³Richard Carlson, "Threats to the State's High-Technology Leadership," paper presented to the Commonwealth Club, San Francisco, 1982.

porting the elderly begins to fall disproportionately on this younger work force. Rather than paying a 45 percent Social Security payroll tax, the working-age population finds itself paying significantly more, perhaps 50 to 55 percent.¹⁴

The elderly are very active politically and sensitive to the inability of Social Security and other benefits to support them adequately. Thus, they use their disproportionate numbers and voting participation to vote themselves modest increases in benefits.¹⁵ The burden of paying for these increases falls again on the lowered earnings of Latinos and other minorities.

Fearful of the large numbers of minorities, the elderly whites increasingly seclude themselves in security-patrolled retirement villages and physically separate themselves from the younger, darker population to which they can no longer relate on a cultural, linguistic, or historic basis.

Resentful for having to pay such high support burdens, shut out physically from the richer areas of the state, and frustrated at being relegated to the left-over menial tasks, the young Latino and other minority taxpayers become resentful. These taxpayers see much of their earnings being transferred to the elderly, leaving them with very little to spend on housing, education, and consumer goods. The decline in purchasing power may depress many markets, which causes companies to relocate to areas with greater purchasing power.

Capital investment has nearly ceased, with money that formerly had been used to construct and maintain streets, bridges, sewers, parks, schools, and other parts of the physical infrastructure transferred to the elderly. The physical plant falls into disrepair, further interrupting and decreasing economic activity in the state.

Social cohesion becomes threatened: the younger Latino and minority population begins to question its sacrifice to the elderly. After all, the elderly baby boom generation had free education, good health services, good roads and physical infrastructure, and job mobility, which are all denied the younger population.

A backlash develops among the younger Latino and minority taxpayers (and quite possibly among overburdened young Anglo taxpayers as well). The boundaries are sharply drawn: the Anglo elderly on one side, and the younger Latino and other minority generation on the other. Each group sees the other as a threat and a parasite. The scenario for social collapse is set.

¹⁴Peterson, "The Coming Crash."

¹⁵Robert Studer, "Charge of the Seniors Against the Power of PACs: Potential Army of Three Million Voters," *California Journal* vol. 13, no. 12 (1982), 457-58.

THE POTENTIAL OPPORTUNITY

Policy Responses to Develop Potential Opportunities

The same policy areas that can yield a collision between the generations and races could be handled so as to yield cooperation and greater growth, creating an entirely different scenario for each policy area.

Human resources investment. The educational levels of all minorities are brought up to norm. Latino and minority faculty teach in universities and research laboratories. Education continues to be subsidized, and language background is seen as an asset, not a liability. Health programs are continued, and health promotion efforts are expanded so that the threat of infectious diseases being imported from other areas of the world is lowered. The work force is basically healthy and fully educated.¹⁶

Social cohesion. Latinos and other minorities are employed at all levels in all sectors of the California economy: research and development, corporation boards, and administration; in high technology and service industries; and in advanced manufacturing, agriculture, and extractive industries. Latinos and minorities are fully represented at all levels of government, so that the difficult policy choices about elderly care are made without any group feeling left out.

Cultural pluralism. Throughout the educational years, and pervasive in everyday mass-media communications, the cultural diversity of the different ethnic groups is maintained. Building on this diverse base, the California economy serves as a place to translate and export goods, services, and knowledge to the various Pacific Rim markets. Feeling proud and secure in their respective ethnic identities, the different groups also feel part of a whole, made up *e pluribus unum*.

The Opportunity Scenario

Recognizing the growth in the Latino and other minority population, resources have been invested in education so that the average educational level is almost college graduation. This level is accomplished despite the constant immigration of people with lower educational achievement.

Links with cultures in Latin America and Asia are built into the economic life of the state, so that Latinos working at the research and decision levels in various industries can communicate and cooperate with their counterparts in Latin America. The Asian markets are handled by descendants of Asian immigrants, with international organizations spanning the gulfs that used to separate the American economic culture from

¹⁶ Schultz, *Investing in People*.

those of other regions. The educated Black population, though small, begins to form links with rising African economies.

U.S. investment in Mexico, Latin America, and Asia grows, but policy decisions are made in cooperation with the governing structures rather than in spite of them. With economic growth, the economies of Mexico and Latin America begin to stabilize, as do their governments.

The overall growth in economic activity, and the close social cohesion that is a by-product of an active maintenance of cultural pluralism, make the policy decisions regarding support of the elderly much easier. The burden is not as onerous on this growing economic base as it would be on a shrinking economic base. The "we-they" feeling is limited, as all members of society recognize that they must look out for the welfare of all their members, not just a select few.

The cultural values from northern European countries, which formed the basis for California society in the nineteenth and early twentieth centuries, are expanded to include the values of Latin America and Asia.

CONCLUSIONS

These scenarios have been offered to draw attention to a demographic phenomenon that has not been yet fully investigated. They attempt to project a worst and best possible case. Neither situation is inevitable, nor are these the only two possibilities; many other scenarios can be inferred from the demographic data. It is our intention only to place the problem in the public arena for consideration, research, and discussion. Certainly, at least for California, the age-race stratification has the potential for great societal effect. Whether the effect will be positive or negative depends on policy decisions made today.

Implications Beyond California

Although our defined policy areas and scenarios have been developed for California's population, the Latino population is growing across the country, albeit at different rates.¹⁷ It is our feeling, without having done a close analysis, that the Southwest will experience similar age-race stratification at about the same time that California does. Other parts of the country will undergo somewhat similar stratification at slightly later dates. The influx of immigrants to the Eastern seaboard, especially New York, New Jersey, and Florida, will likely be composed of fewer Mexican Latinos, and more Latinos from other areas in Latin America. Again, a major collapse of an economy or government could speed this process.

¹⁷Center for the Continuing Study of the California Economy, *Projections of Hispanic Population*.

It is also quite likely that the small but important Asian population in California will not likely be replicated in many other areas; hence its effect will most likely be less outside the state, with the possible exception of New York. Again, these implications are very rough and need more careful analysis.

Tandem Policy Discussions

As policymakers have become aware of the aging of American society, they have begun to discuss the care and support of the elderly. Social Security, Medicare, pension plans, income maintenance, and other issues are in vogue, with an eye not only to the immediate future, but to the mid- and long-range effects as well. Yet it should be apparent from our projections that the policy future of the aging American society is intertwined with the policy future of Latinos and other minorities, for they are the ones, demographically speaking, who will be asked to shoulder the burden of the aged baby boom generation.

It will behoove American society to view its Latino and other minority populations as a resource to be thoughtfully developed not because it would be morally right or just. Rather, for the future of our aging society, we should view the Latino and other minorities as holding the key to the older population's ability to live their final years in some semblance of support and social tranquillity.

Our future societal cohesion could easily depend on choices made today, during the relatively short-lived "policy window" from the present to about 2000. It will be too late if we wait until the baby boom begins to retire in 2010 to become concerned about the education and earning capacity of the younger Latino and other minority populations. Certain negative social dynamics will have already been set in motion, the productive capacity of the work force will have already been lowered, and the age-race stratification will have solidified into a barrier against social cohesion.

Our projections are intended to bring attention to this area during the current concern about the plight of the elderly. Much more work needs to be done to understand the links between the policy areas of the elderly and those of minorities, but we hope that at least the need to engage in further work will now be appreciated.

The Effect of Mexico's Postwar Industrialization on the U.S.-Mexico Price and Wage Comparison

Jeffrey Bortz

ONE OF THE FUNCTIONS of labor markets, like other markets, is to assign scarce resources optimally through relative prices. In labor markets, relative prices are relative wages.

Minor regional differences characterize most national markets. Most products differ little from the national average. Important exceptions occur, however, when specific goods and services, such as land and labor, are not easily transportable.

Although constrained nationwide, the flow of factors of production—goods, capital, and labor—is restricted further by legal and other restraints in international markets. In the late twentieth century, none of these factors has been subject to more restrictions than labor. Throughout most of the world, workers can change their homes and jobs with relative ease within their own country, but with extreme difficulty between countries.

This general rule tends to hold even between neighboring countries. Mexico and the United States share more than a common border of 2,000 miles; both are sovereign nation-states with market economies characterized by relatively free movement of production factors within their borders. Additionally, both economies have a vigorous external sector in which the exchange of goods and services plays an important role. As sovereign states, both countries restrict severely the entrance of alien workers, so that strong legal barriers to the international exchange of labor exist.

On the other hand, Mexico is an underdeveloped yet industrialized country, which means that its national labor market is characterized by

a relative labor surplus. The United States is an advanced industrial country that occasionally has high unemployment, but nonetheless has relatively and absolutely more jobs, more skilled positions, and higher wages than its underdeveloped neighbor to the south. As a result, significant labor flows occur from the low-wage to the high-wage economy.

Both societies are urban and industrial. By the 1980s, the United States was 74 percent urban and 32 percent industrial. Mexico in the same decade was 69 percent urban and 40 percent industrial.¹ However, U.S. per capita gross national product (GNP) was 15,390 dollars in 1984, 7.5 times the Mexican per capita GNP of 2,040.² Given the great disparity of wealth and accumulation between the two countries, it is not surprising to find that wage rates in Mexico are significantly lower than wage rates in the United States. While not the only causal factor, the wage difference has helped stimulate the legal and illegal migration of Mexican workers to the United States.

In the last fifty years, both countries have undergone deep structural transformations, although throughout that period the United States has been significantly wealthier than its neighbor. From 1932 to 1982, Mexican economic growth averaged almost 6 percent a year, which was higher than U.S. growth rates. In 1930, Mexico was primarily rural and agricultural. Today, urban industry produces steel, automobiles, tires, pharmaceuticals, electrical appliances, and other modern consumer durables and nondurables. Similarly, in the last fifty years the leading industries of the United States have shifted from automobiles and steel, to nuclear power and aerospace in the postwar period, to the current movement toward advanced electronics and information-related industries. As in Mexico, economic change has not always been painless. Since 1970, U.S. growth rates have slowed, recessions have become more frequent and more severe, unemployment has increased, and real wage rates have begun to decline. Mexico since 1970 has experienced slower growth rates, declining rates of productivity increases, a dramatic explosion of the external debt, severe devaluations of the peso, near hyperinflation, increasing pressures on the labor market, and severely contracting wages.

The U.S. and Mexican economies are linked through many markets, not the least of which is the labor market. In this sphere, however, the linkages take place under complex conditions. While differential wage rates, as well as industry-specific employment patterns, serve to assign

¹World Bank, *World Development Report 1986* (New York, 1986), 185 and 241. *Urbanization* is defined as the percentage of urban population in the total population, and industry as percentage of GDP.

²*Ibid.*, 181.

workers to jobs, they do so under regional, national, and international constraints that the literature is only beginning to analyze.

I will look at only one element that plays a crucial role in the U.S.-Mexico labor market relationship: wage rates. Although throughout the economic changes in both countries since World War II the United States has had higher wage rates than Mexico, these changes have affected the wage-rate ratio between the two. I will therefore examine price evolution in both countries from 1939 to 1985, and its effect on real wages in both countries as well as on the peso-dollar exchange rate. After I explore the relationship between the long-run wage cycle in Mexico and United States, a brief glance at the U.S.-Mexican border will highlight the wage relationship. Finally, I will demonstrate that deepening industrialization in Mexico may have played a positive role for skilled workers in that country, but it did not raise Mexican wages in relation to U.S. wages. The kind of post-war industrialization that Mexico developed after World War II could not end the push effect on migration from Mexico to the United States.

PRICES IN MEXICO FROM 1939 TO 1985

Price movement in Mexico since 1939 has not been uniform. A period of high inflation was succeeded by one of low inflation, which was subsequently followed by a period of inflation even higher than that in the first period. From 1939 to 1955, average annual price increases were high, often in double figures. From 1956 to 1972, the country enjoyed moderate, single-digit inflation. The period from 1973 to date has seen a return to high inflation, with two phases. From 1973 to 1981, Mexico suffered from high inflation. From 1982 to date the economy has bordered on hyperinflation, with average annual price increases twice those of the 1973 to 1981 period. Table 1 traces the Mexico City consumer price index from 1939 to 1985.

From 1939 to 1955, the compound rate of growth of the price index was 13.3 percent. From 1955 to 1972, average inflation dropped dramatically to only 3.7 percent. From 1972 to 1981, annual growth of the consumer price index averaged 20.2 percent, a sharp return to double-digit inflation. Since 1982 the rise in the consumer price index has been quite sharp: 57.6 percent in 1982, 97.8 percent in 1983, 62.7 percent in 1984, and 57.4 percent in 1985. Current estimates of 1986 determine it to be close to 100 percent.

PRICES IN THE UNITED STATES FROM 1939 TO 1985

Table 2 contains the U.S. consumer price index from 1939 to 1985. The data indicate four phases of inflation. From 1939 to 1948, the com-

TABLE I
 Mexico City Consumer Price Index, 1939-1985
 (1978 = 100)

Year	Index	Annual variation	Year	Index	Annual variation
1939	2.67	—	1963	26.87	0.22
1940	2.95	10.50	1964	27.99	4.15
1941	3.21	8.66	1965	28.55	1.98
1942	3.98	24.15	1966	29.54	3.48
1943	5.06	27.12	1967	28.93	-2.05
1944	7.03	38.98	1968	30.20	4.37
1945	8.10	15.10	1969	31.30	3.64
1946	10.30	27.23	1970	33.00	5.43
1947	11.13	8.05	1971	34.90	5.76
1948	11.15	0.21	1972	36.60	4.87
1949	11.83	6.05	1973	40.80	11.48
1950	12.28	3.85	1974	49.90	22.30
1951	14.57	18.63	1975	58.30	16.83
1952	16.21	11.25	1976	67.70	16.12
1953	15.82	-2.44	1977	85.50	26.29
1954	18.01	13.83	1978	100.00	16.96
1955	19.64	9.09	1979	117.80	17.80
1956	20.62	4.99	1980	149.00	26.49
1957	21.61	4.77	1981	191.90	28.79
1958	23.23	7.54	1982	302.40	57.58
1959	24.59	5.82	1983	598.00	97.75
1960	25.71	4.58	1984	972.70	62.66
1961	25.96	0.98	1985	1530.50	57.35
1962	26.82	3.28			

SOURCES: From 1939 to 1968, Jeffrey Bortz, *Industrial Wages in Mexico City* (Garland Publishing, New York, 1987); from 1968 to 1985, Banco de Mexico, *Indicadores Economicos*, various issues.

pound annual growth rate of the price index is 6.3 percent. This drops 75 percent during the next phase, 1948-1967, to only 1.7 percent. From 1967 to 1982, the United States returned to high rates of inflation that averaged 7.3 percent. Finally, from 1982 to date inflation has moderated considerably, averaging only 3.7 percent.

It is interesting that periods of high and low inflation in Mexico and the United States coincide roughly. The early postwar period was inflationary for each country. From the mid-1950s to mid-1960s, the two countries enjoyed price-stable economies. In the late 1960s and early 1970s, both began to suffer from higher average price increases, which reached double-digit levels in the 1970s. Clearly the shared patterns of inflation are not accidental. Mexico imports most of its capital goods from the United States, so that U.S. price levels have an important effect on Mexican prices. In addition, some common factors—expanding

TABLE 2
United States Consumer Price Index, 1939-1985
 (1967 = 100)

Year	Index	Annual variation	Year	Index	Annual variation
1939	41.6	-1.42	1963	91.7	1.21
1940	42.0	0.96	1964	92.9	1.31
1941	44.1	5.00	1965	94.5	1.72
1942	48.8	10.66	1966	97.2	2.86
1943	51.8	6.15	1967	100.0	2.88
1944	52.7	1.74	1968	104.2	4.20
1945	53.9	2.28	1969	109.8	5.37
1946	58.5	8.53	1970	116.3	5.92
1947	66.9	14.36	1971	121.3	4.30
1948	72.1	7.77	1972	125.3	3.30
1949	71.4	-0.97	1973	133.1	6.23
1950	72.1	0.98	1974	147.7	10.97
1951	77.8	7.91	1975	161.2	9.14
1952	79.5	2.19	1976	170.5	5.77
1953	80.1	0.75	1977	181.5	6.45
1954	80.5	0.50	1978	195.4	7.66
1955	80.2	-0.37	1979	217.4	11.26
1956	81.4	1.55	1980	246.8	13.52
1957	84.3	3.51	1981	272.4	10.37
1958	86.6	2.73	1982	289.1	6.13
1959	87.3	0.81	1983	298.4	3.22
1960	88.7	1.60	1984	311.1	4.26
1961	89.6	1.01	1985	322.2	3.57
1962	90.6	1.12			

SOURCES: *California Statistical Abstract 1970*; *Statistical Abstract of the United States 1986*; *Monthly Labor Review*, September 1986.

world trade, the postwar boom, the health of U.S. multinationals, developing technology—affected these two countries as well as others. Most important, however, is the international structure of the world economy, which tends to share expansive and recessive periods with the various national participants (most strongly with those participants that have market economies). In the United States and Mexico, the early postwar period drove inflation up and wages down, helping to finance the productivity surge of the following period, which in turn drove price increases to moderate levels. As productivity began to lag in the later postwar period in both countries, low inflation gave rise to high inflation.

Despite some shared patterns, Mexico and the United States have different levels of inflation. Average price increases in Mexico are almost always significantly higher than in the United States. In addition, shifts

to new inflation patterns occur in different years for each country. Finally, while average price increases seem to be moderating considerably in the United States in the 1980s, Mexico has hovered dangerously near hyperinflation in the same period.

The differences in inflation patterns are caused by differences in economic structure. While the United States was prospering as the world's leading economy after World War II, Mexico was trying to industrialize through import substitution. U.S. dollars, exports, and imports played a key role in international trade through the postwar period. Mexico continued to be vitally dependent on international trade to obtain capital goods and new technologies, but its own effect on the global market was relatively small. Today the United States still imports and exports a wide variety of goods and services. Mexico basically continues to import capital goods and export primary goods.

In other words, the United States is an industrialized, developed country, while Mexico is an industrialized, underdeveloped country. A basic difference between the two is overall productivity. Higher productivity levels in the advanced countries permit a greater range of industrial exports, whereas the underdeveloped countries are limited by lower productivity to geographically determined exports, or low-wage exports. Depending on social structure, this difference in productivity can generate an important employment problem in underdeveloped countries, although the employment problem can look like a land or a low-wage problem. If social pressures are strong, government will react by expanding employment beyond the level of productivity increases. Combined with the monopolistic structure of industry in countries like Mexico, this reaction generates strong inflationary pressures. During periods of rapidly increasing productivity, inflation may moderate, as it did in Mexico after 1956.

Nonetheless, as productivity growth slows, inflation easily escapes control. Industrializing, underdeveloped countries like Mexico tend to have permanently higher inflation than industrialized, developed countries like the United States. As a result, although the two countries sometimes coincide in low-inflation and high-inflation periods, in the long run, Mexico's currency has been consistently devalued with respect to the dollar, as shown in Table 3.

Since 1939 the Mexican peso has enjoyed two periods of stability with respect to the U.S. dollar. From 1949 to 1953 the ratio stayed constant at 8.65 pesos to the dollar, and from 1954 to 1976 the exchange rate did not move from 12.50 pesos to the dollar. From 1949 to 1953, however,

TABLE 3
U.S. Dollar–Mexican Peso Exchange Rate, 1948–1985

Year	Pesos per dollar	Year	Pesos per dollar	Year	Pesos per dollar
1948	4.855	1961	12.500	1974	12.500
1949	8.650	1962	12.500	1975	12.500
1950	8.650	1963	12.500	1976	15.426
1951	8.650	1964	12.500	1977	22.573
1952	8.650	1965	12.500	1978	22.767
1953	8.650	1966	12.500	1979	22.805
1954	12.500	1967	12.500	1980	22.951
1955	12.500	1968	12.500	1981	24.515
1956	12.500	1969	12.500	1982	56.402
1957	12.500	1970	12.500	1983	120.094
1958	12.500	1971	12.500	1984	167.828
1959	12.500	1972	12.500	1985	256.872
1960	12.500	1973	12.500		

SOURCES: 1950–1985, International Monetary Fund, *International Financial Statistics*; 1948–1950, Adam Perkal and James Wilkie, *Statistical Abstract of Latin America*.

the Mexican price index rose 34 percent, while the U.S. price index rose only 12 percent—a disparity that led to the 50 percent devaluation of Mexico's currency in 1954. The new rate then lasted twenty-two years, mostly because of Mexico's low inflation after 1956, but partly because of the policy of slowly allowing the currency to become overvalued.

From 1956 to 1970, the U.S. price index rose 43 percent, while the Mexico price index increased 60 percent. The disparity would pressure the peso, though not enough to force the devaluation that would have increased the peso price of Mexico's capital-goods imports. This devaluation would have had a negative effect on Mexican consumers and could have squeezed Mexico's industrial profits.

In the ensuing six years, inflation accelerated in both countries. From 1970 to 1976 the U.S. price index grew 47 percent while the Mexico price index more than doubled (105 percent). Despite rising U.S. inflation, ever-increasing levels of Mexican inflation finally forced the almost 100 percent peso devaluation of 1976. Table 3 shows only the average daily exchange rate throughout the year rather than the daily rates. In the latter part of 1976, however, the peso fell from 12.5 to the dollar to more than 22 to the dollar.

Noncompetitive industrial economies necessarily overvalue their currency. Generally industry sells at home rather than abroad because of lower productivity. Since industry sells to the domestic market yet must buy capital goods from foreign markets, an overvalued currency tends

to buy more while keeping inflation low. Although this situation negatively affects industrial exports, in practice only labor-intensive products are at stake. Most industrial products cannot compete in foreign markets, and even need to be protected at home. These developing countries mainly export primary commodities. The prices of these commodities are strongly influenced by rents, so overvalued currencies generally do not affect them.

In such a case, the profits from commodity exports subsidize the currency rather than finance the industrialization of the export sector—that is, export-led development. This scenario was, in effect, the Mexican dilemma of the postwar period. Even though such policies eventually gave rise to a serious financial crisis in 1976, the Mexican government continued to overvalue the peso. From 1977 to 1981, the value of Mexico's money fell only slightly with respect to the dollar, despite the vast disparity between Mexican inflation (125 percent) and U.S. inflation (50 percent). Just as agricultural exports had in an earlier period, oil exports in the late 1970s subsidized the peso. In both periods, of course, external debt financing was also used to support the currency. In 1982 falling oil prices and rising interest rates ended the subsidies, and the peso began its current collapse. From 24.5 pesos to the dollar in 1981, average value reached 256.87 in 1985. The peso fell close to 1000 to the dollar at the beginning of 1987.

These elements—high inflation and devaluating currency—would affect wages in Mexico. As might be expected, periods of high inflation and strong devaluations would be accompanied by falling real wages and later wage rates that declined in relation to U.S. wages.

WAGES IN MEXICO FROM 1939 TO 1985

Table 4 contains an index of real industrial wages in Mexico City from 1939 to 1985. It shows the average weekly wage of blue-collar workers, without fringe benefits.

Since 1939 Mexico has undergone three real-wage phases. From 1939 to 1952 wages declined; the index fell from 100.0 to 54.0. From 1952 to 1976 real wages increased; the index jumped from 54.0 to 144.8. Finally, from 1976 to date real wages have fallen again. By 1985 the real-wage index stood at 86.6.

Movement is not continuous, however, throughout any given phase. During the 1940s' decline, the most negative period occurs prior to 1946. Over seven years, real wages dropped by half. During the current decline, wages have fallen only slightly in most years. The two exceptions are

TABLE 4
Index of Real Mean Industrial Wage, 1939-1985
 (1939 = 100)

Year	Index	Year	Index	Year	Index
1939	100.0	1955	62.1	1971	100.4
1940	90.5	1956	65.4	1972	108.5
1941	86.0	1957	65.1	1973	117.7
1942	71.3	1958	69.0	1974	126.9
1943	72.6	1959	69.7	1975	118.7
1944	57.6	1960	70.3	1976	144.8
1945	54.6	1961	72.1	1977	126.8
1946	49.8	1962	77.1	1978	124.8
1947	50.5	1963	82.3	1979	123.9
1948	57.0	1964	80.7	1980	117.9
1949	56.7	1965	86.9	1981	120.9
1950	60.1	1966	91.9	1982	125.9
1951	55.3	1967	98.6	1983	99.4
1952	54.0	1968	99.3	1984	92.5
1953	58.0	1969	102.9	1985	86.6
1954	62.0	1970	97.8		

SOURCES: 1939-1968, Jeffrey Bortz, *Industrial Wages in Mexico City* (Garland Publishing, New York, 1987); 1969-1983, Secretaria de Programacion y Presupuesto, *Trabajo y Salarios Industriales*, various years; 1984-1985, estimated using Comision Nacional de los Salarios Minimos, *Salarios Minimos*, 1984, 1985; Banco de Mexico, *Indicadores Economicos*, various years.

1983 (-21 percent) and 1977 (-12 percent). Significantly, the two severe wage declines followed the two severe devaluations of the peso, after which stringent austerity programs held nominal wage increases to levels far below inflation. Overall real wages drop 40.2 percent between 1976 and 1985, somewhat less than the 1939-1946 fall.

While the real-wage index does not, and cannot, take into account structural changes in consumption patterns caused by qualitative shifts in the supply of goods and services, and does not measure transfer incomes, fringe benefits, or employment shifts, it can still indicate relative incomes to labor as well as changes in the living standards of Mexico's industrial workers. Each real-wage phase has been important for understanding recent Mexican economic history. The 1939 to 1952 decline helped finance the country's postwar industrialization. Falling wages increased industrial profits in a period in which labor productivity and gross domestic product (GDP) were increasing rapidly. The 1952 to 1976 increase helped distribute the fruits of the industrial boom to industrial workers, though not necessarily to agricultural workers. This distribution certainly played a role in cementing the state-labor alliance, which has been so crucial in maintaining political stability. In fact throughout the entire

period, employment growth permitted increased social mobility and further cemented the social pact established after the revolution.

The current economic crisis has driven real wages to 1960s' levels, which in turn were below those of the late Cardenista period. While fringe benefits and transfer incomes have increased enormously since the 1930s, partially offsetting the wage decline, employment has not been growing since 1982, nor has GDP. One million Mexicans enter the labor market each year, so that frozen employment opportunities and falling incomes will no doubt strain a social pact that was based on increasing social mobility for Mexico's urban groups.

WAGES IN THE UNITED STATES FROM 1939 TO 1985

Table 5 shows the nominal and real minimum wage rates for the United States and for the state of California from 1939 to 1985. Two clearly marked phases can be observed. The real federal hourly minimum wage rose 125 percent between 1946 and 1968. It then fell 32 percent from 1968 to 1985. The California minimum wage generally parallels the federal rate to 1978; after 1978, state law tied the local figure to the federal one.³

Real-wage rates in Mexico and the United States have shown a remarkable tendency to move in similar directions in recent times. During World War II, wages fell rapidly in both countries, though this movement was more marked for the nation than for California. During the postwar boom, real wages increased sharply in both countries. The Mexican wage rate began to move upward later than its U.S. counterpart, and maintained that momentum after the U.S. wage began to decline. The last ten years in Mexico and the last twenty years in the United States have been marked by declining real wages, although the Mexican decrease has been greater.

In the United States, median family incomes continued to increase after 1968 despite falling wage rates because of increased family employment; women in particular were becoming more a part of the labor force. From the late 1970s, however, the employment effect has diminished, and now even median family incomes are declining in the United States. Similarly, at the beginning of the Mexican wage decline in the 1970s, the Lopez Portillo government argued that growing employment more than offset

³The legal minimum wage is not necessarily representative of actual wage rates in industry. The long-run movement of the minimum wage, however, is similar to the overall movement of private-sector, blue-collar wages in the United States. It is also true that a large number of workers from Mexico in the United States earn wages at or near the minimum.

TABLE 5
United States and California: The Hourly Minimum Wage Rate

Year	U.S. nominal	U.S. real	Calif. nominal	Calif. real
1939	0.30	0.72	0.33	0.79
1940	0.30	0.71	0.33	0.79
1941	0.30	0.68	0.33	0.75
1942	0.30	0.61	0.50	1.02
1943	0.30	0.57	0.50	0.97
1944	0.30	0.56	0.50	0.95
1945	0.40	0.74	0.50	0.93
1946	0.40	0.68	0.50	0.85
1947	0.40	0.59	0.65	0.97
1948	0.40	0.55	0.65	0.90
1949	0.40	0.56	0.65	0.91
1950	0.75	1.04	0.65	0.90
1951	0.75	0.96	0.65	0.84
1952	0.75	0.94	0.75	0.94
1953	0.75	0.93	0.75	0.94
1954	0.75	0.93	0.75	0.93
1955	0.75	0.93	0.75	0.94
1956	1.00	1.22	0.75	0.92
1957	1.00	1.18	1.00	1.19
1958	1.00	1.15	1.00	1.15
1959	1.00	1.14	1.00	1.15
1960	1.00	1.12	1.00	1.13
1961	1.15	1.28	1.00	1.12
1962	1.15	1.26	1.00	1.10
1963	1.25	1.36	1.25	1.36
1964	1.25	1.34	1.30	1.40
1965	1.25	1.32	1.30	1.38
1966	1.25	1.28	1.30	1.34
1967	1.40	1.40	1.30	1.30
1968	1.60	1.53	1.65	1.58
1969	1.60	1.45	1.65	1.50
1970	1.60	1.37	1.65	1.42
1971	1.60	1.31	1.65	1.36
1972	1.60	1.27	1.65	1.32
1973	1.60	1.20	1.65	1.24
1974	2.00	1.35	2.00	1.35
1975	2.10	1.30	2.00	1.24
1976	2.30	1.34	2.50	1.47
1977	2.30	1.26	2.50	1.38
1978	2.65	1.35	2.65	1.36
1979	2.90	1.33	2.90	1.33
1980	3.10	1.25	3.10	1.26
1981	3.35	1.23	3.35	1.23
1982	3.35	1.16	3.35	1.16
1983	3.35	1.13	3.35	1.13
1984	3.35	1.08	3.35	
1985	3.35	1.04	3.35	

SOURCES: State of California, Department of Industrial Relations; *Monthly Labor Review*, December 1986. The National CPI has been used to deflate both series.

the moderate wage declines. After 1982 that argument collapsed. There can be little doubt that both Mexican and U.S. workers confront steadily eroding income in the 1990s.

SOME ASPECTS OF PRICE AND WAGE CHANGE AT THE U.S.-
MEXICAN BORDER: TIJUANA/MEXICALI-SAN DIEGO

While regional price and wage trends within countries tend to be less important than those between countries, the U.S.-Mexico borderland represents a relatively unique area. After World War II, Mexico's northern border and the U.S. Southwest underwent more demographic and economic growth than did their respective national counterparts.⁴ Though the proximity of the two countries has stimulated economic activity in the United States as well, Mexico's borderland developed during the late nineteenth century as a response to U.S. economic initiative. Since then, northern Mexico has been strongly oriented to its northern neighbor.

Existing studies, though not complete, indicate that northern Mexico may have higher wage levels than the central part of the country, whereas certain parts of the U.S. Southwest may have lower wage rates than other areas of the country.⁵ These studies are far from complete, and deserve more attention. Nonetheless, in this section I will compare long-run price and wage trends on the border with long-run national price and wage trends.

Table 6 compares the consumer price index (CPI) of Mexico City with that of Mexicali, the capital of Baja California, a populous northern border state. From 1968 to 1982, the two cities move within 1 percent of each other. In the long run, regional prices within a given national market must move together if there is a relative free flow of the factors of production. In the short run, however, local differences can be quite significant. During periods of sharp devaluations of the peso, prices on the Mexican side of the border would be expected to surge since many consumer goods are purchased in the United States. The overvaluation of the peso would be expected to have the opposite effect. Table 6 shows that Mexicali prices increase most with respect to Mexico City prices following devaluations. In 1977, after the 1976 devaluation, the Mexicali CPI jumped 37.4 percent as opposed to 26.3 percent for Mexico City. With the 1982 devaluation, the CPI in Mexicali rose 76.3 percent in 1982 and

⁴Niles Hansen, *The Border Economy* (Austin, Tex., 1981), chap. 8.

⁵*Ibid.*, chap. 4. Also, Secretaria de Programación y Presupuesto, *Sistema de Cuentas Nacionales de Mexico, Producto Interno Bruto por Entidad Federativa* (Mexico City, 1982).

TABLE 6
Mexicali, B.C. and Mexico, D.F., Consumer Price Index, 1968-1985
 (1978 = 100)

Year	Mexicali	Percent change	Mexico City	Percent change
1968	30.2	-	30.2	-
1969	31.0	2.6%	31.3	3.6%
1970	32.2	3.9%	33.0	5.4%
1971	33.9	5.3%	34.9	5.8%
1972	35.9	5.9%	36.6	4.9%
1973	39.3	9.5%	40.8	11.5%
1974	47.9	21.9%	49.9	22.3%
1975	53.8	12.3%	58.3	16.8%
1976	62.1	15.4%	67.7	16.1%
1977	85.3	37.4%	85.5	26.3%
1978	100.0	17.2%	100.0	17.0%
1979	114.7	14.7%	117.8	17.8%
1980	140.0	22.1%	149.0	26.5%
1981	172.7	23.4%	191.9	28.8%
1982	304.4	76.3%	302.4	57.6%
1983	665.0	118.5%	598.0	97.8%
1984	1076.2	61.8%	972.7	62.7%
1985	1693.4	57.3%	1530.5	57.3%

SOURCE: Banco de Mexico, *Indicadores Economicos*, Secretaria de Programacion y Presupuesto, *Boletín Mensual de Información Económica*.

118.5 percent in 1983, while the CPI in Mexico City rose 57.6 and 97.8 percent in 1982 and 1983, respectively. Conversely, during the long periods of peso overvaluation, the Mexico City price index often increased more than its border counterpart.

Table 7 contains the real minimum wage in two Mexican municipios, Naucalpan and Tijuana. Naucalpan is a central Mexican municipio in the state of Mexico that borders on Mexico City. It became one of the country's most industrialized zones during the long postwar boom. Industrialization and urbanization essentially merged it with Mexico City, and it now forms part of the greater metropolitan area. Tijuana is the populous municipio that borders San Diego, California. Like Naucalpan, it was quite small prior to World War II. After the war both cities mushroomed, and today Tijuana is the largest city on the U.S.-Mexican border. Unlike Naucalpan, however, the Tijuana economy is less industrial and more service and commercial oriented.

Real daily minimum wages in both municipios parallel the Mexico City industrial wage trend for the same period. From 1946 to 1974 real wages increased. From 1974 to 1985 they decreased. In Naucalpan, the

TABLE 7
Naucalpan and Tijuana Real Legal Minimum Wage, 1946-1985
 (1978 pesos)

Year	Naucalpan wage	Tijuana wage	Year	Naucalpan wage	Tijuana wage
1946	27.92	60.50	1966	81.15	115.89
1947	25.64	56.00	1967	82.85	118.32
1948	25.79	85.97	1968	89.70	127.01
1949	24.32	81.07	1969	91.25	129.03
1950	29.27	78.06	1970	96.96	142.86
1951	24.67	65.80	1971	91.69	135.69
1952	28.80	88.72	1972	103.82	150.00
1953	29.52	90.94	1973	93.13	137.02
1954	27.96	91.87	1974	127.05	175.37
1955	25.63	84.22	1975	108.74	156.13
1956	37.20	93.00	1976	116.10	160.71
1957	35.50	88.76	1977	124.44	156.98
1958	41.27	94.92	1978	120.00	147.00
1959	39.00	89.70	1979	117.14	141.24
1960	48.48	93.23	1980	109.40	128.57
1961	48.01	92.33	1981	109.43	125.42
1962	60.79	103.70	1982	106.48	108.22
1963	60.66	103.48	1983	81.77	74.05
1964	73.66	109.63	1984	76.90	69.50
1965	72.22	107.50	1985	75.47	68.21

SOURCES: Comisión Nacional de los Salarios Mínimos, for wage data; Bortz, 1987, and Banco de México, for price data. Mexico City price index used for Naucalpan, and a composite Mexico City/Mexicali/Tijuana (1968/1980/1985) price index used for Tijuana.

real legal minimum wage (in 1978 pesos) climbed from 27.92 per day in 1946 to 127.05 per day in 1974, an increase of 355 percent. In Tijuana, wages rose from 60.50 pesos per day in 1946 to 175.37 pesos per day in 1974, an increase of 190 percent. From 1974 to 1985, wage levels dropped 40.6 percent to 75.47 pesos in Naucalpan, and 61.1 percent to 68.21 pesos in Tijuana. By 1985, wages in Naucalpan had declined to their 1965-66 levels, and in Tijuana, to their 1951-52 levels.

In both municipios, real wages rose after 1946 and declined after 1974. While these changes mirror national trends, the Naucalpan wage increase is greater than that of Tijuana, and its later decline is less. From 1946 to 1985 real wages in Tijuana increased 12.5 percent, whereas in Naucalpan they jumped 170.3 percent. This occurred because Naucalpan was shifted into a legal minimum-wage zone—the Federal District—with higher wages, whereas Tijuana had always been a high-wage zone. Nonetheless, this legal change represents a real change.

After World War II, Naucalpan became one of the country's leading industrial zones. Multinational and local firms built many factories, which produced consumer goods for Mexico's growing urban market. While this type of dependent industrialization has often been criticized, in Naucalpan it generated employment, urbanization, and eventually better wages. Tijuana, on the other hand, has been consistently a commercial and service economy. It was placed in a higher minimum-wage zone because of its proximity to the United States. Urbanization there, however, was not accompanied by the industrialization that would provide skilled jobs with high wages for new workers.

For the United States, differences in price and wage movement at the California border seem less important than similar regional differences in Mexico. One similarity between the two countries, however, is the increasing homogenization of legal minimum-wage rates. Mexico has gradually reduced the number of minimum-wage zones that have their own rates, and Tijuana now has the same rate as the Federal District. Similarly, the California legal minimum wage has merged with the federal rate after long being higher. Actual wage rates in both countries, however, vary not only from the legal minimum, but greatly from region to region.

In two respects, however, the legal minimum wage is quite important in the border region. In Mexico, the minimum wage tends to be the unskilled rate in the *maquiladora* industry. In the United States, the minimum wage is similar to the unskilled rate paid to illegal migrants in rural and urban jobs.

MEXICO'S INDUSTRIALIZATION AND THE U.S. WAGE COMPARISON

Mexico's postwar industrialization radically transformed the country. Fifty years ago Mexico was primarily rural and agricultural. Two-thirds of the population lived in the countryside, only one-third in the cities. Agricultural value-added was almost as great as industrial value-added, including mining. Three and a half million people labored in the fields, while only three quarters of a million worked in industry. Today the country is primarily urban and industrial. Two-thirds of the population lives in the cities, only one-third in the countryside. Industrial GDP represents close to 40 percent of the country's total, while agriculture is less than 10 percent.

The changes brought about by postwar industrialization urbanized the country. The industrialization process itself provided stable, skilled employment to millions of workers. It also generated, for thousands of na-

tional and multinational enterprises, enormous opportunities for growth and profit. Despite these gains, however, Mexico could not achieve two important goals. It did not attain a competitive industrial structure, nor solve the age-old employment problem. In other words, postwar industrialization modernized the country without lifting it from underdevelopment.

Starting in the 1930s, and at a faster pace after World War II, national and foreign investors created new industries in Mexico, including pharmaceuticals, automobiles, tires, electrical appliances, and synthetic fibers. Some of the new industries produced consumer nondurables. Others developed consumer durables that had not been manufactured in Mexico during the Porfirian industrial boom. Most of these new industries shared the following characteristics: they were protected by tariffs and regulations; they primarily sold to the domestic market; and they imported most of their capital goods and technological base.

Although many of these branches of production were new to Mexico, with significantly higher growth rates than the country's older industries (such as processed foods, tobacco, and textiles) they were not the newest, most advanced, or most competitive industries on a world scale. After World War II, the advanced industrial countries were developing nuclear and aerospace industries, computers, and other advanced branches of production. Mexico was developing industries that had been created in the more industrialized countries decades before.

Mexico, however, had often lagged behind other nations in industrial development. Railroads, for example, led Mexico's development after 1880; their great boom in the United States and Great Britain, however, occurred primarily before 1850. Significantly, the 1890s railroad expansion in Mexico consisted mostly of extending tracks. The United States and Great Britain not only laid track, but also produced railroad equipment itself, something Mexico continued to import into the post-World War II period. The U.S. automobile boom occurred before and after World War I, while Mexico's came after World War II. Although the United States developed the machine-tool industry that supplied capital-goods inputs to auto producers, Mexico's boom was mostly in assembly plants that imported parts from the United States. In other words, Mexico's advanced branches of production were often advanced industrial countries' older industries, while the latter's advanced branches of production were simply not to be found in Mexico or other underdeveloped nations. Additionally, Mexico's industrialization typically lacked the backward linkages that characterized industrialization in the more advanced countries.



Within Mexico, newer as well as older industries generally had to compete with processes that were technologically advanced and capital intensive for Mexico, but technologically backward and not the most capital intensive for the rest of the world. This disparity occurred because Mexican industrialists had to purchase capital goods abroad. They bought capital-intensive processes that were designed for labor markets in Europe and the United States, not necessarily for the low-wage Mexican labor market. On the other hand, because the industrialists lacked vertical integration in the industrial plant, they rarely had access to cutting-edge industrial processes, thus Mexico's industries never developed the same productivity levels as industries in more advanced countries. In turn, Mexico's underdevelopment limited industrial exports. A unique exception, of course, was labor-intensive industries.

Mexico developed an industrial base that had to import technology and capital goods but could not export enough to pay for those imports; therefore traditional mining and backward agriculture had to finance the industrial imports. The oldest sectors of the economy had to subsidize the foreign exchange demands of the newest. With industrial growth generally limited to the consumer-goods industry, which produced for an expanding but still restricted domestic market, the supply of new industrial jobs could not keep pace with the employment needs of Mexico's expanding population, in particular those needs of rural migrants to Mexican cities. As a result, millions of Mexicans continued to labor in the countryside in low-productivity activities, occupy marginal urban jobs, or even migrate to the United States. In 1900 little more than 30 percent of the total population was economically active; in 1987 the percentage remained about the same. Formal, permanent, skilled occupations never increased in proportion to the need for them. Worse, any attempt now to solve the employment problem through industrial expansion would lead to a foreign-exchange crisis.

The limits on industrial expansion created a permanently large labor surplus that in turn represented a serious downward pressure on wages. Rapidly expanding postwar industry needed a trained and docile labor force, however, and was willing to negotiate with unions that had already allied themselves with the postrevolutionary state. In addition, while there was always a surplus of unskilled labor, periodically shortages of skilled labor would occur because most Mexicans continued to labor at unskilled occupations. Both of these elements pushed wages upward.

This combination of factors eventually gave rise to the real-wage cycle that we have observed in Mexico. Wages declined from the 1930s to the early 1950s as millions of *campesinos* poured into the cities. Low wages and the expanding markets of World War II and the Korean War com-

bined to finance the country's industrial boom. From 1952 to 1976, industry flourished and real wages surged. From 1976 to 1985, Mexico reeled from successive "financial" crises, and real wages embarked upon another decline. More importantly, however, real wages never increased in proportion to productivity growth. From 1940 to 1970 labor productivity in industry exploded 200 percent, whereas industrial real wages increased only 8 percent.

In dollars not adjusted for inflation, Mexican minimum-wage rates increased in the postwar period. Nonetheless, their growth was limited by the above-mentioned factors, so that dollar wage rates in Mexico always remained significantly below U.S. wage rates. Table 8 shows that in 1948 the daily minimum wage in Nacualpan was only 61 cents. The devaluation dropped that wage to 34 cents the following year. The dollar rate then rose steadily to 5.07 in 1975. The steepest increase occurred from 1970 to 1975, when the dollar-equivalent real wage doubled.

From 1970 to 1975, however, the Mexican economy had reached the limits of noncompetitive industrialization. In order to grow, the industrial sector had to import more capital goods. Since the export sectors were not expanding in the same proportion, Mexico made increasing use of the foreign debt to pay for the imports. From 1970 to 1975, Mexico's external public-sector debt jumped from 3.245 billion to 11.540 billion dollars.⁶

A more fundamental problem, however, was the declining rate of productivity growth, which would eventually make increased real-wage rates unsustainable. The compound annual growth rate of productivity in Mexico declined to 1.26 percent from 1970 to 1979, and from 5.23 percent from 1960 to 1970.⁷ Dollar-equivalent wage rates could not continue to rise if the economy continued to lose productivity growth while facing decreasing export earnings relative to the labor market's demands on industry.

The 1976 devaluation and subsequent wage-austerity program began to lower dollar wage rates, though not enough to restore balance to the Mexican economy. Future wage growth would have to be held to a level below that of the modest productivity increases. Sustaining this level would eventually allow labor-intensive manufactured goods to compete in the world market because of the low wages. The cost, of course, would be a decline in employment because declining demand would initially have a negative effect on domestic industry.

Under Lopez Portillo, the country was unwilling to face the social con-

⁶Committee on Latin American Studies, University of California at Los Angeles, *Statistical Abstract of Latin America* vol. 23 (Los Angeles, 1985).

⁷Nacional Financiera, *La economía mexicana en cifras* (Mexico City, 1981).

TABLE 8
*Naucalpan and Tijuana Daily Minimum Wage Rates
 in Pesos and Dollars, 1948-1985*

Year	Naucalpan pesos	Naucalpan dollars	Tijuana pesos	Tijuana dollars
1948	3.00	0.61	10.00	2.05
1949	3.00	0.34	10.00	1.15
1950	3.75	0.43	10.00	1.15
1951	3.75	0.43	10.00	1.15
1952	4.87	0.56	15.00	1.73
1953	4.87	0.56	15.00	1.73
1954	5.25	0.42	17.25	1.38
1955	5.25	0.42	17.25	1.38
1956	8.00	0.64	20.00	1.60
1957	8.00	0.64	20.00	1.60
1958	10.00	0.80	23.00	1.84
1959	10.00	0.80	23.00	1.84
1960	13.00	1.04	25.00	2.00
1961	13.00	1.04	25.00	2.00
1962	17.00	1.36	29.00	2.32
1963	17.00	1.36	29.00	2.32
1964	21.50	1.72	32.00	2.56
1965	21.50	1.72	32.00	2.56
1966	25.00	2.00	35.70	2.85
1967	25.00	2.00	35.70	2.85
1968	28.25	2.26	40.00	3.20
1969	28.25	2.26	40.00	3.20
1970	32.00	2.56	46.00	3.68
1971	32.00	2.56	46.00	3.68
1972	38.00	3.04	53.85	4.30
1973	38.00	3.04	53.85	4.30
1974	63.40	5.07	84.00	6.72
1975	63.40	5.07	84.00	6.72
1976	78.60	3.93	99.80	5.00
1977	106.40	4.67	133.90	5.88
1978	120.00	5.27	147.00	6.46
1979	138.00	6.05	162.00	7.10
1980	163.00	7.01	180.00	7.74
1981	210.00	8.00	210.00	8.00
1982	322.00	2.16	322.00	2.16
1983	489.00	3.03	489.00	3.03
1984	748.00	4.46	748.00	4.46
1985	1155.00	4.50	1155.00	4.50

SOURCES: Tables 3 and 7.

sequences of an austerity program that combined falling wages, increasing unemployment, and negative industrial growth. As a result, oil and debt were used in their traditional fashion—that is, to subsidize internally-oriented industrial growth. Dollar wage rates began to creep upward after the 1976 devaluation, reaching eight dollars a day in 1981.

TABLE 9
*Ratio of U.S. Daily Minimum Wage to Tijuana
 Daily Minimum Wage*
 (In dollars)

Year	Ratio	Year	Ratio
1948	1.55	1967	3.92
1949	2.76	1968	4.00
1950	5.19	1969	4.00
1951	5.19	1970	3.47
1952	3.46	1971	3.47
1953	3.46	1972	2.97
1954	4.34	1973	2.97
1955	4.34	1974	2.38
1956	5.00	1975	2.50
1957	5.00	1976	3.87
1958	4.34	1977	3.12
1959	4.34	1978	3.27
1960	4.00	1979	3.26
1961	4.60	1980	3.80
1962	3.96	1981	3.34
1963	4.31	1982	12.36
1964	3.90	1983	8.84
1965	3.90	1984	6.01
1966	3.50	1985	5.96

SOURCES: Tables 5 and 8.

In 1982 rising interest rates and falling oil prices squeezed the Mexican treasury. When the government ran out of dollars to subsidize industrial growth and industrial employment, it could no longer continue to overvalue the peso; and without support, Mexico's currency virtually collapsed. A true austerity program was implemented. GDP growth halted, and neither industry nor employment continued to receive the subsidies that had nurtured them in the postwar boom. The minimum wage fell from eight dollars a day in 1981 to 2.16 in 1982, and was still only 4.50 in 1985, as shown in Table 8.

Since the late 1960s, U.S. wage rates have not been increasing. Through the entire postwar period, urbanization, modernization, and industrialization have been the most salient characteristics of Mexican society. Yet Mexican wage rates have not increased in relation to U.S. wage rates precisely because Mexico's postwar industrialization lifted GDP without developing a competitive industrial base. As a result, Mexican wage rates have not increased relative to U.S. wage rates even though the latter have been stagnant.

Table 9 compares the U.S. and Tijuana daily minimum wage rates from

1948 to 1985. In 1948 the U.S. minimum was only 1.55 times the Tijuana minimum. The wage differential increased until 1957, reaching 5:1. From 1957 to 1981, a slow and irregular process of decreasing wage differentials occurred between the two countries. By 1974 it was 2.38:1. Even in 1981 the U.S.-Mexico ratio was only 3.34:1. The 1982 devaluation dramatically reversed the narrowing trend, sending the wage ratio to 12.36:1. Subsequently, wage differentials have decreased somewhat. Nonetheless, by 1985 they stood at 5.96:1, about the same as 1950-51 differences.

CONCLUSIONS

Mexico and the United States are linked by many factors, not the least of which is the northward flow of labor across the Mexico-U.S. border. National sovereignty impedes creation of a single labor market engulfing both countries: free labor flows are simply not permitted. On the other hand, proximity, historical migration patterns, and wage differentials tie together intimately the two national labor markets.

Both symmetry and asymmetry characterize price and wage relationships across the border. Mexico and the United States exhibit remarkable parallels in price and wage movement. With respect to prices, each country experienced a period of high inflation during World War II, followed by a period of low inflation in the 1950s and 1960s, and later succeeded by high inflation in the 1970s. With respect to wages, each country experienced a postwar cycle of declining wages during the war, rising wages in the 1950s and 1960s, and falling wages thereafter.

Asymmetry has also been important. Inflation has almost always been higher in Mexico than in the United States, while wages have always been lower. Specific points of inflection for the price and wage curves have varied considerably.

Postwar industrialization in Mexico, however, created more symmetry. Prior to World War II, Mexico was rural and agrarian while the United States was urban and industrial. After World War II, both countries were urban and industrial.

Postwar industrialization nonetheless left intact the most important asymmetrical relationship: a developed, high-productivity economy versus an underdeveloped, low-productivity economy. As a result, Mexican wage rates have not improved in comparison to wage rates in the United States. While that fundamental imbalance remains uncorrected, labor flows across the border will continue.