

DEVELOPMENT PROBLEMS AND OPPORTUNITIES IN THE U.S.-MEXICO BORDER AREA (Fellows Address, April 2, 1993)

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I. THE MEXICO-UNITED STATES BORDER AREA

The Mexico-United States border area is unusual because it is a region where one of the world's richest nations comes into direct contact with a newly developing country. The international boundary is a barrier in many respects, but it is also permeable to many social, cultural, and economic influences that flow in both directions. Despite the numerous political and economic asymmetries that exist between the United States and Mexico, many people in both countries have gained some advantage by moving freely to the border area that extends for 2,000 miles from the Pacific Ocean to the Gulf of Mexico—an area that was scarcely inhabited at the beginning of this century. In part, this has resulted from the fact that the two sides of the boundary are not always typical of their respective countries. Mexico's northern border cities are poor by U.S. standards, but they are relatively prosperous by Mexican standards; in some cases, the per capita income is 50 percent above the Mexican national average (Peach 1984). On the U.S. side, the San Diego and Tucson metropolitan areas have per capita income levels that do not differ greatly from the U.S. average. Yet most U.S. border cities and towns are among the poorest in the nation, especially in the largely Hispanic Texas borderlands.

Rapid urbanization on Mexico's northern border has been strongly conditioned by the proximity of the United States, and it has been both a cause and an effect of migration from the interior. For many decades, border cities have been staging grounds for persons who have sought relatively well-paid employment in the United States, either legally or on an undocumented basis.

During the 1960s, the forced return of Mexican contract laborers (*braceros*) from the United States, continuing migration from the interior, and the arrival to prime working age of the population cohort born during the demographic explosion of the 1940s combined to create severe labor market problems. In response, the Mexican government created the *maquiladora* (assembly plant) program.

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The *maquiladora* industry has taken advantage of U.S. tariff code provisions allowing foreign-based subsidiaries of U.S. firms to assemble products whose components were originally produced in the United States and to then export the products to the United States, with duties being imposed only on the value added outside the United States. It also has taken advantage of the Mexican government's inducements to create jobs and attract foreign investment: duty-free entry of machinery and materials, tax-free export of finished products, and exemption from once-rigid prohibitions against foreign ownership of Mexican firms.

The advantages of the *maquiladora* program for U.S. firms have been the low cost of Mexican labor, the fact that import duties applied by the United States concern only inexpensive labor inputs, and the proximity of Mexican border cities in relation to other world sources of inexpensive labor. In addition, *maquiladora* workers spend a substantial portion of their income on the U.S. side of the border. The advantages Mexico has expected to gain have been greater employment, more foreign exchange, and an expanded industrial base for border cities—although *maquiladoras* have now been allowed throughout the country. In early 1992, there were 2,117 *maquiladora* plants employing 472,000 workers. The largest concentration of employment was in Ciudad Juárez, with 135,000 workers, followed by Tijuana, with 70,000 employees (*Mexico Business Monthly* 1991, 10). An econometric analysis by Gruben (1990) suggests that *maquiladora* growth is about as sensitive to differentials between Mexican wages and those in the newly industrializing countries of the Pacific Rim as it is to differentials between Mexican and U.S. wages. In other words, Mexican workers compete as much with Asian workers as they do with those in the United States; and while *maquiladoras* no doubt take U.S. jobs, many of these jobs would probably have gone to Asian or other newly developing countries if the *maquiladoras* did not exist.

Although the *maquiladora* industry has largely produced outputs at the tail end of the product cycle—with all that this implies for wages and the quality of labor inputs—it can be argued that development must start somehow, and that the experiences of South Korea, Taiwan, Singapore, and Hong Kong clearly demonstrate that it is possible to begin at the low end of the product cycle and then move up to more sophisticated activities and better-paying employment opportunities. In fact, many *maquiladora* plants have been moving up the technology ladder, especially in such sectors as electronics, transportation equipment, pharmaceuticals, and plastics (Shaiken 1990). Nevertheless, even technologically advanced *maquiladoras* have very few backward linkages with Mexican suppliers, and they continue to rely upon labor-intensive processes.

In 1989, the Mexican government announced new regulations that extended many of the benefits enjoyed by the *maquiladoras* to other Mexican industries and liberalized the conditions under which *maquiladora* outputs could be sold within Mexico. The continuing opening of Mexico to foreign investment will no doubt further blur distinctions between various kinds of export-oriented industries. Nevertheless, proximity to U.S. markets and to U.S. sources of inputs will still make the northern border area relatively attractive for the location of many manufacturing activities.

II. ENVIRONMENTAL ISSUES

The rapid growth of the *maquiladoras* and the increasing sophistication of the goods they produce have generated a huge array of chemical wastes such as acids, thinners, alcohols, oils, degreasers, and toxic metals and solvents. Of the hundreds of thousands of tons of chemical wastes that *maquiladoras* produce annually, only a small fraction is returned to parent companies in the United States, as required by Mexican law (Tomaso and Alm 1990). Because the enforcement of Mexico's environmental laws has been lax and the cost of disposing of waste in the United States has been high—from \$200 to \$2,000 per barrel—the incentive to dump the waste in Mexico has been great. In many instances, *maquiladoras* stockpile wastes at plant sites, sell them to questionable Mexican "recyclers," flush them down sewers, or dump them in the desert.

The dumping of industrial wastes into municipal collection systems and the failure of Mexican sewage systems frequently result in highly toxic sewage washing across the border. Sewage treatment plants on the Mexican side of the border are rare. Ciudad Juárez does not have any, and Tijuana built its first one only recently. More than 12 million gallons of untreated sewage and chemicals still run into the Tijuana River each day, with much of it ending up on Imperial Beach on the California coast, which has been closed for 10 years. The San Pedro River, which runs northward from Sonora into Arizona, is frequently contaminated by the large copper works at Cananea, Sonora. Arizona farmers have long been concerned about damage to their land and crops, and residents are disturbed about the potential health hazards. The New River, which rises south of Mexicali and flows northward to the Salton Sea in California, is perhaps the most polluted stream in the United States. The stretch of the Rio Grande River at Laredo, Texas, is one of the most polluted along the river's entire 1,800 mile course because, on an average day, adjacent Nuevo Laredo, Tamaulipas, pours 24 million gallons of untreated wastewater into the stream (Alm and Tomaso 1990).

In the Lower Rio Grande Valley of Texas, farming and cattle-raising practices have resulted in considerable silting of the river, which also receives large quantities of fertilizer, herbicides, and pesticides through drainage. Industrial toxins and heavy metals are dumped into the stream from both sides of the border. Poor squatter settlements (*colonias*) take their water from the same contaminated river and wells into which their untreated sewage is dumped. It is thus no wonder that the number of babies born with severe brain damage in the Texas portion of the valley is three times the U.S. average.

Population growth, industrial development, and agricultural activities have all contributed to air quality problems along the border. Although the U.S. side has many more motor vehicles, the average age of Mexican vehicles is much greater, and they frequently are not equipped with pollution control devices. Carbon monoxide, hydrocarbons, and nitrogen oxide emissions pose particular problems in the densely populated international urban areas. Although the U.S. side of the border generates more solid waste matter, most of the 9,700 tons of refuse that are produced daily in 10 major Mexican border cities is not treated or stored in municipal garbage dumps; exposed to the open air, it becomes a source of air and water pollution and contributes to a great deal of gastrointestinal illness.

Pollution control efforts are particularly difficult to implement in border areas when the respective countries concerned have markedly different levels of development as well as different attitudes and values with respect to environmental issues. For example, the adoption of common air quality standards would imply that the relatively poor country would have to devote a higher proportion of its resources to pollution reduction than would the relatively rich country. Apart from abstract questions of justice, this circumstance would not lend itself to agreement between the two countries.

On paper, Mexico has impressive legal regimes for environmental protection, but as in many developing countries the government in fact accepts high levels of pollution as part of the price that must be paid for economic development. The situation on the U.S. side of the border is more heterogeneous, but here, too, conflicts between development and environmental objectives are apparent. Most indicators of economic welfare decrease from west to east along the U.S. borderlands. For example, per capita income in the San Diego metropolitan area is above the national average, whereas the three poorest metropolitan areas in the United States—Brownsville, McAllen, and Laredo—are located on the Texas-Mexico border. In keeping with this pattern, the constituency on behalf of environmental causes has been relatively strong in San Diego, while in the Texas borderlands, environmental pollution "as a problem ranks far behind others such as unemployment, health care, industrialization, lack of development, and a host of others" (Bath 1978, 183).

III. TRANSBOUNDARY COOPERATION

Although industrial development and environmental issues have received particular attention in recent years, numerous transborder interactions also take place in the U.S.-Mexico border area with respect to health, education, cultural events, fire protection, law enforcement, tourism, transportation and communications, and commercial relations. Given the history of U.S.-Mexican political relations, as well as the economic disparities that exist between the two countries, it is commonly argued that asymmetric interdependence has placed Mexico in an unfavorable state of dependency. Be that as it may, at the national level, the eminent Mexican scholar Victor Urquidí (1979, 27) argued that "the only area where there is perhaps a balanced mutual dependence is along the 2,000 miles of the fairly open U.S.-Mexico border. A way of life has developed there that benefits inhabitants and businesses on both sides of the border." Thus, over the years, border residents have evolved a wide variety of informal arrangements to deal with transborder facets of their daily lives. Examples of informal, but regular, "microdiplomacy" include the cooperation of fire departments, health authorities, and police to handle emergencies without federal government intervention on the part of either side (Ganster and Sweedler 1990).

Proponents of even closer cooperation across the border have stressed the mutual benefits to be gained, but they have also pointed out that cooperative efforts have frequently been hindered by policies in the respective distant national capitals, where the nature and significance of actual and potential transborder symbiotic relations are not understood. Indeed, it has been argued that the U.S. and Mexican national governments have in fact created many of the problems that exist in the borderlands (Hansen 1986a, 1986b; Stoddard 1984).

IV. THE NORTH AMERICAN FREE TRADE AGREEMENT

From the Mexican perspective, NAFTA will bring about expanded employment and exports, which in turn will enable Mexico to import the capital goods and technologies required to make the economy increasingly productive and competitive in the long run. Export-led expansion along lines that dramatically transformed the economies of South Korea, Taiwan, Hong Kong, and Singapore would also serve to reinforce free-market reforms, strengthen the basis for democratization, and curb the environmental degradation that has characterized much of Mexico's rapid industrialization.

The benefits that NAFTA proponents envisage for the United States include greater certainty and predictability for U.S. investors in the Mexican economy;

development of relatively poor U.S. regions on the border with Mexico; enhancement of U.S. competitive advantage in a world of emerging trading blocs; greater access to the large and growing Mexican market accompanied by increased employment in U.S. industry and agriculture; lower prices for U.S. consumers of Mexican products; and a lessening of illegal immigration from Mexico as employment opportunities increase in that country.

While it is often assumed that increasing trade flows across the border will benefit the border economy, for example, by increasing employment in activities related to the processing and financing of trade, it can be anticipated that there will be some adverse consequences for the U.S. border area. It is widely agreed that, among U.S. states, Texas will be the major beneficiary of NAFTA. Already Texas accounts for one-third of U.S. exports to Mexico and almost half pass through the state (Stolp 1991). The state comptroller's office estimates that in 1989 there were 377,000 Texas jobs directly or indirectly related to exports to Mexico (Texas Consortium on Free Trade 1991). The same agency also found that those sectors that would benefit most from NAFTA in Texas would be the sectors that also would benefit most nationally, including electronics, industrial machinery, computers, transportation equipment, and business services. Sectors that would experience adverse employment consequences would include fruit and vegetable farming, food processing, textiles and apparel, steel, and leather. Although border development is often mentioned as a likely positive result of NAFTA, these findings suggest that such cities as Dallas, Houston, and Austin, which provide high-technology products and skilled services to Mexico, would do well under a trade agreement, whereas the border area, which has relatively high concentrations of employment in threatened sectors, would lose jobs in these sectors.

Employment in retail trade is also likely to decline in numerous smaller U.S. cities on the Mexican border as a result of NAFTA. Once Mexican retailers can freely import tax-free merchandise, Mexicans who now shop on the U.S. side of the border can make their retail purchases at home. Moreover, major U.S. retail stores that currently cater to Mexican shoppers from U.S. sites adjacent to the border may well move to the Mexican side. On the other hand, to the extent that NAFTA increases Mexican incomes, there will be increased sales of higher-priced items in such larger cities as Houston, San Antonio, Tucson, and San Diego, because of the high income elasticity of demand for such items on the part of wealthier Mexicans.

In agriculture, the U.S. grain belt would be likely to expand exports and related employment under NAFTA, but producers of fresh fruits and vegetables would face stiff competition from lower cost Mexican producers. Florida growers, who produce over half of the nation's supply of winter produce, have been par-

ticularly hostile to a free trade agreement. While producers in California, Arizona, and the lower Rio Grande Valley in Texas would be hard hit, many would compensate by expanding into Mexico rather than by diversifying their U.S. operations. In fact, for some years now producers in California and Texas have been initiating contract arrangements or joint production ventures with Mexican growers. However, even if many U.S. producers can readily adapt to the new international environment, the fact remains that poor, unskilled farm laborers are likely to bear the brunt of the geographic reorganization of production; and these disadvantaged persons and their families are particularly concentrated in agriculturally oriented border areas of Texas and, to a lesser extent, California.

It is widely believed that manufacturing expansion in Mexico leads to the creation of complementary manufacturing activities across the border in the United States. This has been especially the case with respect to the rapid expansion of *maquiladoras* along the Mexican side of the border. But the fact of the matter is that major "twin plants" have not appeared to any significant extent on the Texas side of the border; inputs to Mexican assembly plants have typically come from areas far beyond the border (Molina and Cobb 1989). Although a substantial number of *maquiladoras* would like to have local Texas suppliers, border area manufacturing firms in Texas have not been capable of handling large volume contracts with tight tolerance and delivery time requirements. To overcome their handicaps, Texas border firms will need to deal not only with shortages of skilled production workers, but also with deficiencies in such areas as cost analysis, financial analysis, procurement, and marketing (Patrick 1989).

V. HUMAN RESOURCES

If human resource development is a major issue on the Mexican side of the border, it is also of fundamental importance on the U.S. side, especially where the population is heavily Mexican American in ethnic composition. In a recent study of inter-generational education attainment among Mexican Americans, Bean and Chapa found that the third generation, or the grandchildren of immigrants, have been attending college in lower proportions than the second generation and have a much higher proportion of high school dropouts (Neff 1991). The typical non-Hispanic white male aged 30 to 34 attended college, while his second-generation Mexican American counterpart graduated from high school, and his third generation Mexican American counterpart failed to obtain a high school diploma.

Bean and Chapa point out that while the lower college attendance level of the younger Mexican Americans may reflect decreased opportunities and incentives for college attendance, such factors do not explain the differences between the

second and third generations. They suggest that second generation parents may have become disappointed with their own economic progress and therefore have not encouraged their own children to have the same achievement aspirations as they once held. They further suggest that massive immigration from Mexico since 1970 may have resulted in an increase of discrimination against Mexican Americans. In any event, their findings raise serious concern about the prospects for the socioeconomic advancement of Mexican Americans.

It has long been recognized that education not only directly benefits the people being educated, but also involves substantial external benefits for the socioeconomic system as a whole. This is why childless adults are compelled to contribute financially to public education. Twenty years ago, a high school diploma was a key to economic advancement for minorities, but now such progress increasingly requires college education. Yet the typical third generation Mexican American fails to complete high school. There clearly needs to be an educational policy that provides greater incentives for Mexican Americans to increase their educational attainment. Moreover, there also needs to be more vigorous public policy against discrimination. The experience of the 1960s demonstrates that such efforts can be effective in promoting the economic advancement of minorities. Finally, it may be necessary to reconsider the nature and significance of U.S. immigration policy. In particular, if new immigrants are less skilled than those in former times, this raises serious questions about possibilities for successfully incorporating new immigrants into the economy and society of the United States.

VI. CONCLUSIONS

In North America, Europe, and elsewhere, border regions were often economically disadvantaged because of their peripheral location within national economies and a reluctance to invest in areas that seemed to be particularly vulnerable in the event of international military conflict. Today the increasing internationalization of economic activity is reducing the significance of borders and creating new opportunities for border regions despite the frequent persistence of inherited problems.

Even if liberalized international trade benefits national economies as a whole, national sectors that do not have a competitive advantage in the international marketplace will be adversely affected. If border areas have large concentrations of such sectors, the overall local gains in employment, including those related to the processing and financing of increased trade, may be more than offset by employment declines in the threatened sectors.

Border areas with relatively low wages may seek to attract manufacturing plants from neighboring countries or from other countries that want to penetrate the markets of neighboring countries from low-wage sites. But, as the experience of northern Mexico indicates, even if such efforts are successful in generating employment growth, they do not induce genuine regional development because the dominant foreign-controlled branch plants are not integrated into the local economy, e.g., virtually all non-labor inputs to the *maquiladoras* come from the United States. If border areas are to realize genuine development as a result of increasing international economic integration, they need to improve their social and economic infrastructures. In particular, they need to improve transportation, communications, and trade processing facilities; to enhance the quality of the education and skills of the labor force; to promote rich information networks; and to develop endogenous producer services and small- and medium-sized enterprises and networks of such enterprises with flexible production systems and numerous local economic linkages.

It is clear that neighboring border regions at different stages of development are likely to attach different priorities to the objectives of economic development and environmental protection. Since these objectives compete for scarce resources, poor regions are likely to give greater priority to development and to view environmental concerns as a luxury. In any event, pollution originating on one side will often adversely affect the other side, which suggests a need for comprehensive international management of environmental resources. The issue of how much each side should pay for the abatement of pollution that affects both sides is especially difficult to deal with when the two sides have different levels of development and different standards, but a case can be made for the richer side to absorb some of the abatement costs of the poorer side. The U.S.-Mexico case also suggests that one condition for freer trade that benefits the poorer side would be stricter enforcement of environmental protection laws on the poorer side.

Finally, national governments often do not understand the nature and significance of transborder problems and may even create or aggravate them. U.S.-Mexico experience indicates that transborder cooperation between local public authorities, as well as private groups, can mutually benefit both sides without being a threat to national sovereignty. If transborder cooperation at the local level were encouraged rather than hindered by national governments, local authorities would be even more willing to cooperate to the benefit of all concerned. Such cooperation is often easier when common ethnic groups exist on both sides of the border, but it is stimulated even more by the presence of opportunities for transborder economic development.

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