The Mexican Crisis and the Maquiladora Boom

A Paradox of Development or the Logic of Neoliberalism?

by
Paul Cooney

Despite all the warning signs, the world of finance was caught off guard by the collapse of the Mexican peso in December 1994. The ensuing devaluation was followed by the largest bailout by the International Monetary Fund (IMF) until then, and by early 1995 Mexico was in its most serious depression since the 1930s (Barkin and Rosen, 1997: 24). Through 1995, Mexico endured significant negative rates of growth and waves of bankruptcies. In addition, the population experienced a decline of real wages, which dropped by 27 percent between 1994 and 1996 (EPI, 1997: 14). This led to a significant increase in poverty: an estimated 75 percent of Mexican families could not afford the basic goods required to raise them above the official poverty line (Barkin and Rosen, 1997: 24). Local manufacturing was also severely affected, as was evidenced by the increase of bankruptcies in the manufacturing sector.

In stark contrast to the –6.2 percent growth rate for the overall Mexican economy, the maquiladora industry[1] expanded by 30 percent in 1995 (IMF, 1998; INEGI, 1997). In fact, the sector grew from 2,200 plants with 550,000 workers at the end of 1994 to over 3,000 plants employing over 800,000 workers in 1996 (INEGI, 1997).[2]

The stakes for Mexico in the success of the maquiladora industry are high, as the foreign exchange generated by the sector has become the largest source of foreign revenues, surpassing oil in 1999. This helps to explain Mexico's

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role in fomenting investment in the industry and the policies that accompany this encouragement, such as the repression of independent union organizing.

As the majority of Mexico's population and firms sustain their worst crisis in the country's modern history, on the one hand, and the maquiladora industry, dominated by transnational corporations grows at unprecedented rates, on the other, several questions regarding Mexico's neoliberal, market-oriented economic policies emerge. Who are the beneficiaries and who are the losers in this lopsided model? What are its economic, historical, and political underpinnings? Regarding the maquiladora strategy in particular, what are its implications for Mexico in terms of a broader concept of economic and social development?

After examining some of the main consequences of the peso crisis and the subsequent depression, this article explores these issues by analyzing some of the factors that enabled the maquiladora industry to flourish while much of the domestic economy in Mexico was in crisis. The discussion then turns to an evaluation of the impact of maquiladora development on key social sectors and actors: the Mexican government, the transnational corporations, labor, workers' communities and the environment, and other Mexican manufacturers. This is then followed by a broader discussion of maquiladoras and development and whether their overall impact is positive for Mexico. Finally, a new area of research—the analysis of transfers of values between Mexico and the United States generated by the maquiladora industry—is suggested as a possible way of assessing the net gains in terms of development for Mexico.

THE PESO CRISIS OF 1994 AND THE DEPRESSION OF 1995

The peso crisis had various causes, but in general it was the result of an extended period of overspeculation by both domestic and foreign investors. There was a significant surge in the demand for assets without a concomitant increase in their supply. This increase of funds led to both higher Mexican prices and an overvalued peso. Through 1994, there were several indicators suggesting that a peso crash was imminent. Most significant was the decline of foreign exchange reserves, which dropped from US$26 billion early in 1994 to a dangerously low US$2 billion just before the U.S. bailout. Second, almost 80 percent of the US $85 billion invested in Mexico between 1991 and mid-1994 was in the form of portfolio rather than direct investment. Third, there was a very clear shift away from the government bonds denominated in pesos (*cetes*) to those denominated in dollars (*tesobonos*) over many months (see Figure 1) (IMF, 1994-1999; INEGI, 1998, www.inegi.gob.mx).

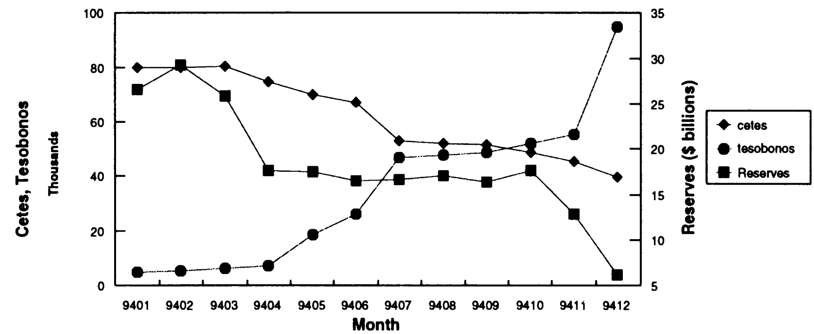

Figure 1: Reserves, Cetes, and Tesobonos in 1994 (IMF, 1996)

In order to safeguard foreign investment in Mexico—and probably to salvage Mexico's reputation as a showcase for neoliberal policies—an unprecedented US$50 billion bailout package was put together by the United States and the IMF to confront the peso crisis and prevent the economy from going into free fall. Most notable about the package were the IMF's loan of US$17.8 billion (more than twice the total it lent to *all* countries in 1994) and U.S. President Bill Clinton's use of an obscure Treasury entity called the Exchange Stabilization Fund to obtain funds that did not require the approval of Congress (Henwood, 1995: 3). The bailout, however, came with the usual strings of structural adjustment attached: deeper government cutbacks in spending, increased taxes, and further reductions in workers' wages.

Although mainstream economists are reluctant to use the concept, what Mexico was clearly experiencing in 1995 was a depression, as evidenced by the decline of the gross domestic product (GDP) of 6.2 percent. This decline is even more pronounced for GDP per capita, which fell by 8.6 percent (see Figure 2). From the outbreak of the peso crisis in early December 1994 until February 1995, the value of the Mexican currency had decreased by more than 50 percent, and inflation had increased from 7 percent in 1994 to 52 percent in 1995 (Barkin and Rosen, 1997: 24). All this brought on the collapse of Mexico's internal market, forcing consumption to drop substantially, from US$4 billion to US$3.2 billion. There was also a severe lack of credit as domestic banks struggled with nonperforming loans and the need to build up reserves after their near exhaustion in 1994. This implied a virtual disappearance of credit for small and medium-sized businesses and farms. Many in this sector—already weakened by competition with foreign imports that began pouring in after the North American Free Trade Agreement (NAFTA) came

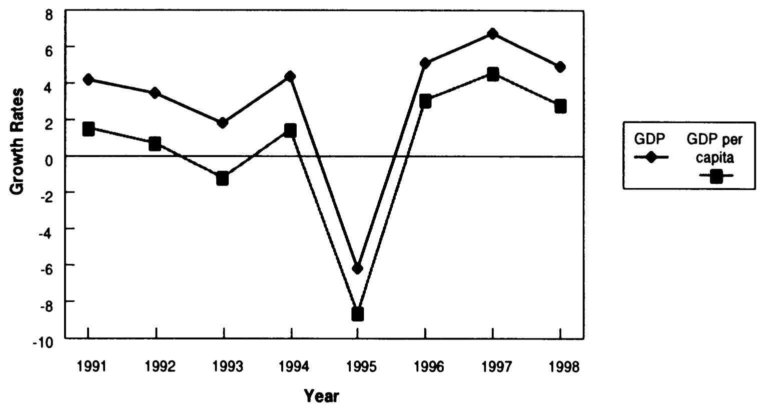

Figure 2: GDP and GDP Per Capita (INEGI, www.inegi.gob.mx)

into effect in 1994—were pushed to the brink of bankruptcy. Pedro Salcedo, president of the National Association of Transformation Industries, which represents medium-sized and small manufacturers, stated toward the end of 1996 that between 300,000 and 400,000 such manufacturers could collapse in the short run (EPI, 1997). As of mid-1997, actual bankruptcies recorded since the signing of NAFTA were estimated at 28,000 (EPI, 1997: iii). The current number is most likely higher, though probably not reaching the worst-case scenario Salcedo presented. Although there had been signs of social unrest in this sector since 1993, movements such as Barzón, an alliance of debtors (many of them farmers), gained force and demanded the renegotiation of their debts (Senzek, 1997).

The official unemployment rate peaked at 7.6 percent in August 1995 after reaching 3.2 percent in December 1994 and hovered around 6 percent through much of the depression. The official rate more than doubled in just the first six months of 1995.[3] However, the official rate does not reflect the extent of underemployment and significantly underestimates the number of people looking for work. In fact, it is estimated that in 1995 up to two-thirds of Mexicans were either underemployed or unemployed (La Botz, 1997: 31); of the 36 million people in the economically active population, only 9.37 million had permanent, full-time jobs. Furthermore, the significant contraction of formal employment through 1995 led to a growth of informal-sector employment (EPI, 1997: 13) and the consequent loss of health benefits, pensions, a minimum wage, and other worker protections.

As Mexican workers either lose their jobs or are forced to take lower-paying jobs or pay cuts, poverty indicators increase. The estimates of the proportion

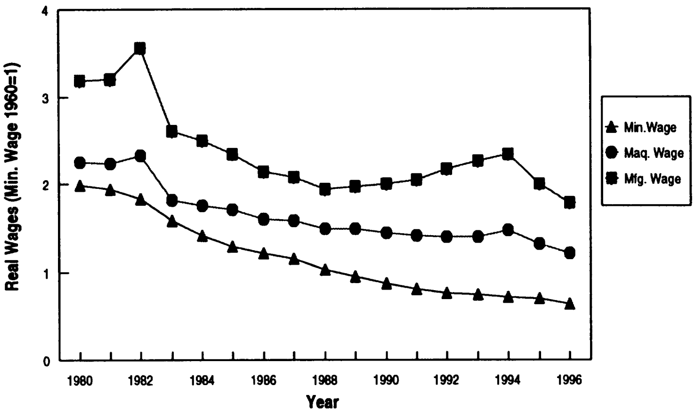

Figure 3: Real Wages: Minimum, Average Manufacturing, and Maquiladoras
Note: Maquiladora wages estimated from data in INEGI (1997) combined with a normalization derived from Valle Baeza and Martínez González (1996).

of Mexicans living in poverty range from 50 (EPI, 1997: 14) to 75 percent (Barkin, 1997: 24) for 1995. A 1996 report by the United Nations Development Program claimed that "out of Mexico's 91 million inhabitants, 37.2 million (40.8 percent) were living in extreme poverty or indigence" (UNDP, 1996).

Manufacturing, maquiladora, and minimum real wages for the years 1980-1996 (see Figure 3) provide evidence of the decline of real wages by ~50 percent through the 1980s, the result of austerity measures mandated by monetarist policies. The late 1980s and early 1990s witnessed a brief respite for real wages in manufacturing and a one-year increase in 1994 for maquiladora wages but no increase in the minimum real wage. During the depression of 1995, Mexico lost a total of 1.85 million jobs and real wages declined by over 40 percent as a result of the peso devaluation (McGinn, 1997: 31-33). Even as "recovery" was being heralded by President Ernesto Zedillo and Economics Minister Guillermo Ortiz, real hourly wages in 1996 were still 27 percent lower than in 1994 and 37 percent below 1980 levels (EPI, 1997: 14).

The movement of real wages has very different meanings for Mexican workers and the transnational corporations operating maquiladora plants. The latter clearly benefited from the devaluation's impact on real wages in Mexico. For example, in the fall of 1996, while the minimum wage in the United States was $4.75, the minimum wage in Mexico was 41 cents an hour—approximately a ratio of 12 between the two countries (Heredia, 1996: 37). This translated into lower costs for most multinational firms operating in

Mexico, which have become more competitive since the peso crisis. It is precisely this wage differential between Mexico and the United States that has given multinational firms an increased incentive to accelerate their investment in Mexico, thus fueling the expansion of the maquiladora industry.

THE RECENT MAQUILADORA BOOM

Although the maquiladora industry has been steadily growing since its inception in 1965, the past decade has seen unprecedented increases in the rates of growth. This accelerated growth is, in part, due to a significant change in the rules for foreign investment since the 1970s. In May 1989, there were major modifications concerning foreign investment, eliminating many of the regulations that had been in place since 1973 (EIU, 1996). These norms were predominantly related to ownership and restrictions on the repatriation of profits and royalties. With the implementation of NAFTA and the drive to eliminate most trade and tariff restrictions, the "special" status of maquiladoras was expected to be less relevant. However, the suspension of duties on imports destined for the maquiladoras remained a relevant difference, since Mexican firms still had to pay the minimum 10 percent tariff on imports in general. In the not so distant future, the extent to which maquiladoras end up selling in the Mexican domestic market may come to be a concern again for Mexican manufacturers.

The number of plants in the maquiladora industry (see Figure 4) had a growth spurt in the early 1970s but really took off around 1985. There is another significant increase in both number of plants and employment around 1994 once NAFTA came into force. The increase in employment in the maquiladoras has been such that the percentage of manufacturing that they represent within Mexico grew from 7 percent in 1985 to 27 percent in 1996, and reached 35 percent in 2000 (INEGI, 1997, 2000). This is arguably a result of the impact of the 1995 crisis on many of the domestic manufacturers and not just the growth of the maquiladora industry. The contrast between the rapid growth of the maquiladora industry and the decline experienced by the Mexican economy (see Figure 5), seen against the backdrop of the depression of 1995-1996, is remarkable.

What explains this boom for the maquiladora plants in Mexico while the rest of the Mexican economy was in crisis? To begin to answer this question, we must first evaluate the origins and development of the maquiladora sector. As we examine it in relation to both U.S. and Mexican manufacturing, the basis for its particularly advantageous conditions becomes apparent.

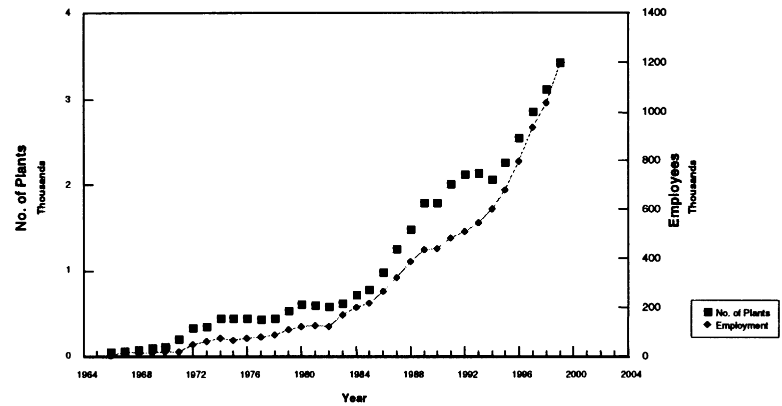

Figure 4: Number of Maquiladoras and Employment (INEGI, www.inegi.gob.mx)

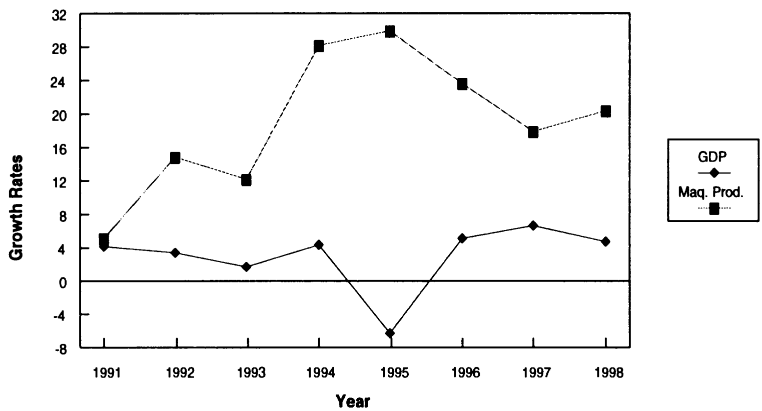

Figure 5: Growth Rates of Mexican GDP versus Maquiladora Production (INEGI, www.inegi.gob.mx)

ASSESSING THE MAQUILADORA INDUSTRY

Though the maquiladora industry in northern Mexico is dominated by transnational corporations, a particular maquiladora may not be entirely owned by one firm. It may be a direct subsidiary, a subcontractor whose supplier and clients are one and the same transnational corporation, or an independent contractor or leaser. This system of different "levels" of ownership is in fact a common practice among transnational corporations, designed to reduce liability in terms of laws, taxes, and regulations. The aspects of the industry to be evaluated here can be divided into four broad groups: (1) the specific historical and legal status of the maquiladora industry, (2) market conditions and the markets served, (3) plant conditions regarding labor, and (4) state-related and institutional factors. We will see that the maquiladoras tend to have competitive advantages in a number of areas and that the role played by the Mexican government is especially critical in this regard.

LEGAL STATUS

After the *bracero* program[4] came to an end in 1964, a new program for supplying cheap Mexican labor to U.S. firms, known as the Border Industrialization Program, began in 1965. Under this program foreign-owned assembly plants known as maquiladoras set up shop in Mexico's border region. They imported parts and semifinished products from the United States and, after assembly, exported the finished goods back to the United States, with import duties being paid only on the value added by the Mexican workers. This was accomplished through the new U.S. tariff items 806.30 and 807.00. The Mexican government waived all duties and restrictions on imports of raw materials and parts from the United States on the condition that the finished goods would be "exported" back to the United States.

At that time, there was legitimate concern on the part of the Mexican government that the products from the maquiladoras would be sold in Mexico rather than exported back to the United States. This would mean less hard currency generated from exports and a potential undermining of Mexican producers. In addition to the tariff exemptions, Mexico allowed 100 percent foreign ownership for U.S. firms, which came to be a major exception to its own 1973 Law to Promote Mexican Investment and Regulate Foreign Investment. This law required all new companies to have at least 51 percent Mexican ownership and called for foreign investors to set up their factories in less industrialized areas where they would not compete with Mexican firms.

MARKET CONDITIONS

The recent growth of the maquiladora industry as the rest of the Mexican economy was in crisis can be significantly explained in terms of the different markets that firms predominantly served. Since Mexico was enduring a depression, the demand for domestic goods had declined substantially. In contrast, since the maquiladoras produce predominantly (roughly 92 percent) for the U.S. market they were minimally impacted by the decline in demand in Mexico (CEPALC, 1996). In fact, the devaluation and crisis resulted in an overall enhancement of Mexico's export position but with varying results for foreign and domestic firms, in accordance with the markets they depended upon.

In addition to maquiladoras, certain Mexican firms were able to increase their exports after the peso crisis. These firms also stood to gain because input costs declined as a result of the devaluation. While some Mexican firms had been exporting prior to the crisis, many more reoriented their sales toward exports as internal consumer demand dropped, but this was not feasible for small and medium-sized firms that relied on the domestic market for sales. To orient production toward exports a firm must be able to compete internationally within its industry. For many Mexican producers the devaluation of the peso led to an increase in costs because they were dependent upon imports as inputs. Even though costs of local inputs and labor were lower, if their technology was not sufficiently productive they often had higher production costs and were therefore less competitive internationally. Moreover, opportunities to upgrade machinery were substantially reduced as credit became less available and more expensive.

The outlook was improved for the transnational corporations investing in Mexico, for whom labor costs in U.S. dollars were suddenly dropping significantly. In fact, the most significant impact of the peso crisis and devaluation for the maquiladora industry was probably the reduction of wage costs. This comes as no surprise to Marxist economists, who are familiar with the historical tendency for capital to drive down wages, thus providing the conditions for accelerated accumulation and growth. Given the extent and level of poverty in Mexico, it can be argued that the *price* of labor-power has been depressed below the *value* of labor-power in general.[5] The already significant difference in wage rates between the United States and Mexico increased. After the devaluation the ratio of Mexican to U.S. wages dropped from 1/7 to 1/11 overall (EPI, 1997: 5) and approximately 1/16 in manufacturing (Public Citizen, 1998, www.citizen.org/pctrade/nafta/reports/5years.htm).

The relative advantage of the maquiladora plants within Mexico is further evident when one considers the wages they pay. Average maquiladora wages have been estimated at roughly one and a half times the minimum wage in Mexico and about half the manufacturing average (EPI, 1997: 14). In Figure 3, the average maquiladora real wage is always above the minimum real wage and below the average manufacturing real wage. The fact that maquiladoras are also manufacturing and often run by transnational corporations but have lower wages can be partially explained by the government's interest in keeping wages down for the maquiladora industry.

PLANT CONDITIONS

The plant conditions for maquiladoras are advantageous with respect to other manufacturing plants in Mexico and notably more so with respect to manufacturing plants in the United States. The incentive of lower wages has already been mentioned; other advantages include a longer work week, underpaid overtime, higher levels of intensity and productivity, and stricter workshop control. A number of studies have focused on differences in levels of productivity and intensity of work. Devon Peña (1997) has conducted a long-term in-depth study of the plant conditions in the maquiladora sector, predominantly electronics assembly in the Ciudad Juárez area. Using an approach that combines methodologies from sociology, economics, ethnography, and history, Peña provides a rich discussion of the management practices employed by maquiladora management to extend the working day, such as frequent demands for unpaid overtime and weekend labor.[6] Peña shows how these demands often result in a work week that is 45 to 50 hours long.[7]

While concerns about lower productivity used to be a disincentive for U.S.-based firms considering relocation to Mexico, both Peña's study and Shaiken's (1990; 1994) discuss new conditions and policies in maquiladoras that allow management to improve productivity and maintain tight control of the workplace. According to Shaiken, several of the maquiladoras producing automobiles or engines have attained levels of productivity comparable to those of U.S. plants producing the same items (see Shaiken, 1994). This is further supported by Peña's finding that several maquiladora managers claim higher levels of productivity than their U.S. counterparts (Peña, 1997: 80). One departmental superintendent told him: "The first reason for being [in Mexico] is low-cost labor. The second reason is productivity—it is much higher here. In the U.S. . . . union negotiations often determine productivity standards. Not here. In Mexico, the firm itself solely determines the standards." Another semiconductor plant manager bragged about how he could get the workers to "double production every six weeks." "The absence of a union," he continued, "means that we have a virtual haven for productivity, free of bargaining fetters. This is so much easier than the U.S."

As is suggested by transnational corporation managers, over the years the northern border region has come to have a more sophisticated labor force than many other less industrialized regions in the world. It can be argued that the skill level of Mexican maquiladora workers has been increasing despite claims to the contrary by management, which tends to treat most of these jobs as "unskilled" because "skilled" labor would command higher wages. Similarly, there is a tendency to designate many of the jobs dominated by female maquiladora workers as "unskilled" despite classifications showing otherwise.[8]

Management control is much greater in Mexican maquiladoras than in U.S. plants, mainly because of the absence of independent unions. The more precarious a workforce and the less workers' rights are enforced, the more management is able to force overtime, increase the length of the working day or work week, increase the intensity of work, dock pay, and hire and fire at will (especially workers who attempt to organize). The speedup that often takes place is a clear example of increases to absolute surplus-value, resulting in a higher intensity of labor than in U.S. plants. Union influence on the shop floor regarding workplace rules can limit the capacity for speedups. The ability to increase the intensity of labor combined with some of the most sophisticated technology in the world, such as the Dynapert robotics system used in electronics assembly (Peña, 1997: 59), allows firms to increase both absolute and relative surplus-value. As a result, they can improve their profitability through the lowering of their unit costs and thus be more competitive on the world market.

There is ample evidence that transnational corporations have been more successful in preventing union influence in maquiladoras in Mexico than in the United States (La Botz, 1992). Several cases currently being considered through the labor side accord of NAFTA involve unionization struggles. Most of these cases have been unsuccessful, but after a protracted struggle the first independent union has been recognized at a maquiladora plant: the Hyundai subsidiary Han Young.

STATE-RELATED AND INSTITUTIONAL ASPECTS

There are numerous ways in which nation-states can have differential impacts on firms, domestic or foreign. In addition to fiscal and monetary policies, the most critical ones are trade and tariffs, investment, exchange rate, labor, and industrial policies. There are also many ways in which nation-states provide infrastructure and support for specific capital, including tax breaks and subsidies. Among nonstate institutional aspects are, for example, policies of the IMF, the World Bank, the World Trade Organization (WTO), and organizations representing banking and industry.

The conditions the Mexican government has placed upon foreign investment, including ownership requirements, regulations regarding repatriation of profits and royalties, and government duties, have almost all improved from the foreign investor's perspective in recent years. This was made clear in the above discussion on the changes brought about by the Law of 1989.

Under NAFTA, U.S. manufacturing imports are not paying more than 10 percent tariffs, and this is scheduled to decline. NAFTA and other neoliberal government policies have also reduced or eliminated subsidies for domestic firms.

A major factor that has contributed to the growth of the maquiladora sector has been the control of labor and the prevention of independent unions.[9] The situation with respect to unions varies from city to city along the border, and in general the unions are considered strongest in the eastern border cities and weaker as one moves west.[10] The particular alignment of state forces and capital depends on historical developments with respect to the political strength of the Partido Revolucionario Institucional (Institutional Revolutionary party—PRI) and the specific constellation of industries in each state and city. The degrees of militancy or corruption will vary locally between the dominant Mexican union federations—the Confederación de Trabajadores Mexicanos (Confederation of Mexican Workers—CTM), the Confederación Revolucionario de Obreros y Campesinos (Revolutionary Confederation of Workers and Peasants—CROC), and the Confederación Regional de Obreros Mexicanos (Regional Confederation of Mexican Workers— CROM).

The state institution that was originally designed to be the arbitrator between capital and labor is the Junta de Conciliación y Arbitración (Board of Conciliation and Arbitration—JCyA), but it is more often the worst obstacle for labor rights.[11] La Botz (1992: 54) quotes Arturo Alcalde Justiniani, an authority on Mexican labor law: "The protection contract is that which is arranged behind the backs of the workers between the union and the employer, and then filed with the Board of Conciliation and Arbitration. By virtue of this filing, any other union organization is impeded from attempting to sign a union contract, given that one is already signed and filed." Unfortunately, the protection contract is very commonly used by employers to protect themselves legally from organizing by a truly representative union.

La Botz gives an overview of the situation in the main border cities, citing the assessments of Carrillo and Lindquist: "In the border area in general, the unions are strongest in the east and grow weaker as one moves west. Matamoros, Reynosa, Nuevo Laredo, and Agua Prieta have strong 'official' union organization: the level of unionization in Matamoros and Nuevo Laredo is 'almost 100 percent,' in contrast to the cities of Ciudad Juarez, Tijuana, Mexicali, and Nogales, which have levels 'from 20 percent to more than 30 percent'" (La Botz, 1992: 168). In 1989, the investigative reporter Diane Lindquist researched the labor union movement along the entire border and found the following levels of organization: Baja California 5 percent, Sonora 15 percent, Chihuahua 20 percent, Coahuila 25 percent, Nuevo León 50 percent, and Tamaulipas 85 percent (La Botz, 1992: 168).

According to Williams and Passé-Smith (1992: 13), "Labor unions flex their muscle in Tamaulipas as they do in no other state in Mexico. . . . Tamaulipas has no industrial elite, as in the state of Nuevo León or Coahuila, and no agroindustrial capitalists, as in Chihuahua, Sonora, and B.C., to challenge the labor caciques. And related as cause and effect, the PRI is relatively weak in the state." This is in part explained by the presence and influence of the opposition party, Partido Auténtico de la Revolución Mexicana (Authentic Party of the Mexican Revolution—PARM), which won the mayoralty of Matamoros in both 1979 and 1990.

Reynosa is less dependent on the maquiladora industry than most border cities. It has a fairly diverse economy to which both export-oriented agriculture and the petroleum industry contribute significantly. Maquiladora employment is approximately 25,000 for a population of 400,000. Reynosa's union movement is splintered. The old-line CTM leader, Rafael Morales, continues to control roughly two-thirds of the approximately 50 plants but suffered a humiliating defeat in the 1989 strike. According to Williams and Passé-Smith, during the early 1990s the union movement was going through a transition period in Reynosa.

Nuevo Laredo is the third major maquiladora center in Tamaulipas, where the assembly industry is 95 percent organized. According to Williams and Passé-Smith, the union movement here occupies a middle ground between those of Matamoros and Reynosa. Pedro Pérez Ibarra, known as "the Professor," heads the maquiladora workers' union in Nuevo Laredo as well as the local CTM federation. Williams and Passé-Smith (1992: 19) point out that his autocratic approach has had mixed results over the years and go on to provide the following summary of the state of unionization in Tamaulipas:

> Although union membership as a percentage of overall workers is decreasing nationwide in the industry, the *sindicatos* are alive and well in Tamaulipas, at least in relative terms. In that bastion of labor power, the unions in several cities vary in strength and coherence. The Matamoros unions are solid by Mexican standards; the Nuevo Laredo organizations are a trifle shaky but they remain unified; the sindical movement in Reynosa is both shaky and divided, but the city continues to be 100 percent organized, at least in the formal sense.

Ciudad Juárez stands in stark contrast to Matamoros. Here the CTM and the CROC are the two main union organizations, but the CROM and the Confederación Revolucionaria de Trabajadores (Revolutionary Workers' Confederation—CRT) are also present. The first two have had their battles over controlling maquiladoras. Nevertheless, the percentage unionized has gone down, and the CTM and the CROC are weaker than before 1976. Carrillo (1994) points out that there have been between three and six times as many individual conflicts in Ciudad Juárez as in Tijuana and that Ciudad Juárez has been experiencing intense maquilization alongside these labor problems for over 20 (if not 30) years. He describes Juárez as "an excellent laboratory for analysis and the most critical situation for determining the limits of labor for the export-led industrialization model. It is to be expected that this city will continue to be the most conflictive zone and, at the same time, the most industrialized" (1994: 146).

With the establishment of the first maquiladoras in Tijuana in 1967, the standard union organizations began to gain a foothold. First the CTM and then the CROC became involved with certain firms, and the CROC soon became the more important. Their involvement was significantly reduced in 1975, when almost 50 percent of the maquiladoras shut down or were converted into cooperatives. Since that time, the CROC has not recuperated, and the CTM also lost influence for similar reasons during this period. The CROM started in construction and then moved into maquiladoras and currently is the union organization with the most weight in Tijuana. In 1981 the overall percentage of workers unionized in Tijuana was 5, and in Mexicali it was 15. The percentage unionized for the state of Baja California reached 28.4 percent by 1988 (Carrillo, 1994). This significant increase in the level of unionization paradoxically coincided with a reduced percentage and presence of unions and a reduced capacity for workers to negotiate over working conditions in the maquiladoras.

The instability of the traditional union membership and the lack of union participation in the industry resulted in collective contracts less favorable to the workers. Under protection contracts, companies allow unions to exist only if they are not relevant to the functioning of the plant. Such contracts serve as a protection against unions that would be more active. In fact, since 1965 not one independent union had been allowed to exist, even when it had won an election, until the recent Han Young victory (CLR, 1997-2000). Although the influence of independent unions in Mexico in general is quite limited, they have played key roles in certain struggles (La Botz, 1992). The problem of corrupt regional arbitration boards mentioned above occurs throughout Mexico, but in the case of the maquiladoras the proactive stance of the government demonstrates a commitment to prevent any "bad examples" that could jeopardize the flow of foreign exchange into Mexico.

In the Han Young case, the metal workers' union, Sindicato de Trabajadores de la Industria Metalica, Acero, Hierro, Conexos y Similares (Union of Workers of the Metal, Steel, Iron and Related Industries—STIMAHCS), which is a member of the independent union federation, Frente Auténtico de Trabajo (Authentic Labor Front—FAT), won elections twice in 1997 despite illegal interference on the part of the government and its corrupt union allies.

In May 1998, "a delegation of Mexican business and governmental heavyweights apparently told Han Young management not to negotiate with the independent union if it wants to remain in operation" (CLR, 1998). This was taken as a test case by several members of the U.S. Congress, and as a result of the National Administrative Office (NAO)[12] report of April 1998 there was a call for ministerial consultations between the respective labor secretaries—Alexis Herman and Javier Bonilla. The significance of this case is supported by the resignation of Bonilla, who was replaced by a more industry-friendly minister of labor in Mexico, José Antonio González Fernández. This case is particularly illustrative of the lengths to which the Mexican government will go to prevent an independent union from being successful in the maquiladora sector, since that would encourage other maquiladora workers to organize. It was only after a long and protracted struggle with international attention that the Han Young workers were finally granted an independent union.

Given this governmental support, the domination of company unions is not surprising. The CTM, the CROM, and the CROC are able to operate with impunity, and they do their best to prevent serious worker representation. Many workers in maquiladoras may have worked for months before they even know that these unions are "representing" them (see Peña, 1997).

The track record of the Mexican government in general reveals its bias toward foreign firms over domestic workers and communities. It can be argued that the Mexican government's main interests with respect to the maquiladora industry are (1) foreign exchange to pay its foreign debt and thus accommodate the IMF and, by association, the U.S. government and banks; (2) government revenue; and (3) a source of Mexican employment or a means to reduce unemployment. Notably, the foreign exchange generated by maquiladoras has been second only to that of oil exports. In fact, the net export contribution of the maquiladora industry has grown from half that of oil in 1991 to surpassing it in 1999 (see Figure 6).[13] Therefore the maquiladora industry represents an increasingly important means of meeting debt obligations to the IMF and foreign banks, especially considering Mexico's US$166 billion foreign debt, the second-largest among Third World countries (EIU, 2000: 5). These very real economic conditions help to explain why the Mexican government grants these transnational corporations privileges and impunity that it usually reserves for certain elite Mexican firms.

MAQUILADORAS: WINNERS AND LOSERS

The above discussion was an attempt to outline some of the factors that explain the apparent paradox of the crisis of the Mexican economy, on the

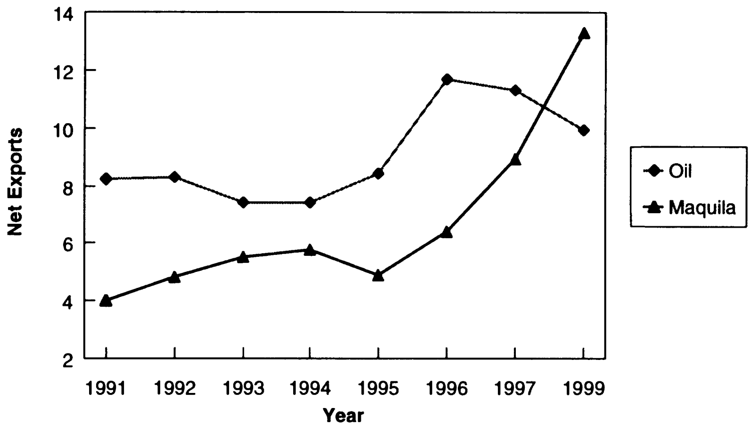

Figure 6: Net Exports ($US billion) (Banco de México, 1998; EIU, 2000).

one hand, and the unprecedented growth of the transnational-dominated maquiladora sector on the other. The issue that emerges from this discussion is whether the maquiladora industry truly results in a net gain for Mexico as is generally assumed. If it turned out that there were no net gain, it would call into question the viability for Mexicans of the development strategy associated with maquiladoras or the more general strategy of export-processing zones. One way of exploring this question is by identifying the beneficiaries of maquiladora development.[14]

The benefits of the maquiladora industry for the Mexican government have been pointed out above. Other social sectors and actors have also been impacted by the development of the maquiladora industry, some to their advantage and others not. These include transnational corporations, labor, workers' communities and the environment, and other Mexican manufacturers.

TRANSNATIONAL CORPORATIONS

From much of the above discussion, a strong case could be made that the transnational corporations operating maquiladora plants or subsidiaries in the northern border region are the greatest beneficiaries. As capitalist firms, their primary goal—accumulation—is achieved through maximizing profitability. A necessary step in this process is maximizing surplus-value (from which all profit derives), and, as outlined by Marx in *Capital*, the primary means of achieving this are (1) lengthening the working day, (2) increasing productivity, and (3) increasing the intensity of work (Marx, 1976: 656). Although increasing productivity often leads to a lowering of the value of labor-power, if firms can pay wages (the price of labor-power) below the value of labor-power they will. All of these aspects constitute arenas of struggle between the firms and workers the outcome of which depends on the extent to which the companies can control the workers or deny them their rights. With respect to the transnational-dominated maquiladora plants in Mexico, the balance is heavily in favor of the transnational corporation over workers' interests.

Here, the context of competition on the world market should be taken into account. From the examination of the conditions at the maquiladoras it is apparent that these are some of the world's most competitive production conditions. In addition to being highly profitable, they further the transnational corporations' agenda in "First World" countries. Within the United States, the threat of relocation forces unions to be more accommodating in the areas of wages, benefits, and work rules or discourages workers from forming a union, especially if their job security is at risk.[15]

LABOR

For workers in the maquiladoras there is a range of basic labor rights, including wages, workshop control, overtime and benefits, protection from physical or sexual abuse, and health and safety concerns. Among instances of excesses by management are sexual harassment, being forced to accommodate incessant speedups, being denied the right to go to the bathroom or to drink water, being forced to work overtime, and so on (Peña, 1997). Even though the labor laws in Mexico are stronger than in the United States in certain respects, the level of enforcement is notably lower.

In fact, since NAFTA has been in effect, the North American Agreement on Labor Cooperation (NAALC)[16] has received 22 submissions regarding labor violations, 12 of which centered on violations in Mexico. Seven of these occurred in maquiladoras operated by transnational corporations, and none of the workers involved in these complaints—more than 200 in total—were reinstated or compensated (EPI, 1997: 18). Furthermore, none of these cases have resulted in fines against the offending country.

Although the percentage has decreased to roughly 60 percent, the majority of maquiladora workers are women, most of whom are in their twenties. Despite variations, the most common type of female maquiladora worker is a single daughter helping to support her family. For example, in the study done by Fernández-Kelly in the late 1970s, 57 percent of the women were single, and 69 percent of this group were daughters living with parents and siblings (1983: 51). A later study by Tiano showed that 61 percent of women were single and 62 percent of single women were daughters living with parents or siblings (1994: 134). An even more recent study by Barajas Escamilla and Sotomayor Yalán had a sample in which 69.1 percent of all women were single and 93.8 percent of single women were daughters of heads of households (1995: 201-202). Although all three of these studies involve fairly small samples, they suggest that the percentages of both single women and daughters of heads of households among single women are tending to increase.

As with other complaints and labor issues, the NAFTA side accord on labor is seen by many as having limited effectiveness with regard to the issue of sex discrimination. It is routine for pregnancy tests to be administered in maquiladoras, and if they are positive women are fired on the spot. Even worse, in certain cases women have been given pills to force a miscarriage and told that it was a vitamin. A common complaint by women is that they are not allowed to go to the bathroom or get a drink of water. Several cases of sexual harassment have also been documented; National O-Ring forced women to participate in a bikini contest, among other violations (Shields, 1995: 21). Although the problem of sexual harassment is much more extensive than the documented cases, none of those presented to the NAO have resulted in compensation. The most positive outcome has been a decline in pregnancy testing as a result of the Human Rights Watch submission to the NAO in 1997.

In contrast to the negative examples on the labor front there are gains for Mexican engineers and managers in terms of job opportunities, salaries, and so on. This is an advance for skilled professionals, especially in the border region. This is not to say that the opportunities are the same as in the United States, but one cannot deny that they are an improvement. Nevertheless, there appear to be limited possibilities for advancement beyond a certain level of management in many maquiladoras, and the possibilities are even fewer for women.

Carrillo has assessed the negative impact of the maquiladoras on the rest of Mexican workers as follows (La Botz, 1992: 182):

> [Carrillo] found that maquiladoras have contributed to a general weakening of the Mexican labor unions, and in a general deterioration in the ability of the workers to organize to improve their lot. He looked particularly at the auto industry and found that while in the 70s the auto industry was practically 100 percent unionized, by the 1980s, the percentage had deteriorated to 60.1 percent for Ford, 79.7 percent for Chrysler, and 47.2 percent for GM. Only Volkswagen remained at 100 percent. Carrillo attributed the deterioration of the

strength of the unions to the growth of the auto parts maquiladoras, what he called the maquilization of the auto industry.

WORKERS' COMMUNITIES AND THE ENVIRONMENT

Many maquiladora workers live in communities neighboring or in the vicinity of the plants. The basic infrastructure of these communities—roads, transportation, sanitation, schools, and so on—is often substandard or inadequate (Krooth, 1995: 261). The tax breaks given to the maquiladoras include broad exemptions that transfer the costs of basic services to the workers. This has become an increasing concern as population growth has exacerbated infrastructure problems. The increase in the population of Mexico's border states from 2,967,543 in 1980 to 6,347,055 in 1996 (Canales, 1999: 4; INEGI, 1999, www.inegi.gob.mx) amounts to more than 113 percent in 16 years, and this does not include the growth of the past few years. The quality of the water and the air is also often compromised when the maquiladoras fail to dispose of toxic effluents properly (Krooth, 1995: 261). The case of Maclovio Rojas is an example of how maquiladora workers joined with other members of the community to demand better infrastructure and, in particular, safer water (Bacon, 1996).

The expansion of the maquiladoras by 30 percent in 1995 and the current total of over 3,300 plants have produced other growing environmental problems. Unfortunately, not only are environmental laws weaker in Mexico than in the United States but enforcement is negligible, especially in the case of transnational corporations. Indeed, the environmental situation has worsened significantly since NAFTA went into effect (EPI, 1997: 21-22). The Mexican government seems to turn a blind eye to these corporations' violation of labor and environmental laws. As environmentalists feared, they have not been held to the same environmental standards as plants of the same type in the United States. This means that they are usually able to get away with not providing basic safety equipment, such as gloves and masks, or installing ventilation systems, thereby jeopardizing workers' health and safety (Support Committee for Maquiladora Workers, 1996-98). Furthermore, they are often lax about installing required air pollution control devices or properly disposing of waste or may simply use lower-cost processes that generate more hazardous waste or pollution. In the majority of cases in which workers raise such issues, they are shown the door or, even worse, blacklisted (Shields, 1995: 23-24). At present the majority of hazardous waste is unaccounted for; for over 3,000 maquiladoras, only 751 compliance manifests on the proper disposal of hazardous waste have been filed since 1991 (Public Citizen, 1999, www.citizen.org/pctrade/nafta/reports/5years.htm). According to Stephen Mumme (1999: 2), "A mere 11 percent of the toxic wastes generated by [the maquiladora] plants is properly treated." Since Mexico has extremely limited capacity for the proper processing of this waste, most of it is illegally dumped. Concern about legal and illegal hazardous waste has increased since the year 2000, because U.S. firms that generate such waste are no longer required to return it to the United States (see Reed, 1997).

Given this growing problem of hazardous waste, there is a need to document and evaluate the processes that are its source. If environmentally sound ways of processing it are not available in northern Mexico, alternative processes need to be considered.[17] An important study by Roberto Sánchez (1989) identified the principal toxic wastes generated by maquiladora industries. Sánchez argued that there are serious problems of environmental contamination from these toxic chemicals and metals and that the major reason contamination occurs is that the government's Ministry of Urban Development and Ecology does not have adequate controls and has not established adequate industrial toxic waste disposal sites. Sánchez indicates that clandestine industrial waste dump sites imputed to the maquiladoras have begun to be found and that there is a lack of strict control and adequate legislation regarding this type of waste in Mexico.

Although there have been improvements in the legal arena in terms of what is allowed, as well as increased measurements, real changes in the direction of resolving environmental problems, protecting communities' health, and making information available to the public have been minimal (see Kourous, 1999). According to Public Citizen (1999, www.citizen.org/pctrade/nafta/reports/5years.htm), "Of the twenty-two cases of alleged nonenforcement of environmental laws that have been submitted to the CEC [Commission for Environmental Cooperation] by citizens, only two have been accepted by the CEC for preparation of a factual record." Unfortunately, a factual record does not obligate firms to do anything, and thus the CEC really has no enforcement power.

OTHER MEXICAN MANUFACTURERS

The most significant impact of the maquiladora industry on the rest of Mexican manufacturing is expected to be competition as a result of NAFTA. The goods produced by the maquiladoras will be competing against the goods produced by Mexican firms in the same industry. It could turn out that a significant number of Mexicans will lose their jobs because the maquiladoras will be able to sell in Mexico, free of tariffs and often with more advantages than domestic firms. In such a case, even the main benefit of the

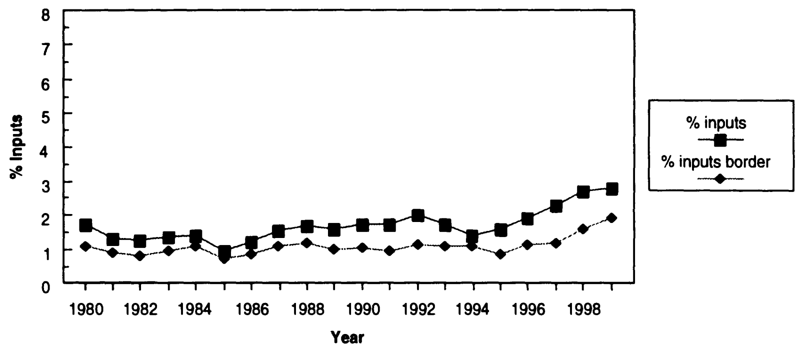

Figure 7: Domestic Inputs to the Maquiladora Industry (percentage) (INEGI, 2000).

maquiladoras for the Mexican people—an increase in jobs—will be reduced or undermined.

Despite many promises regarding the eventual integration of the maquiladoras with the rest of Mexican manufacturing, the level of domestic inputs used has been notably low, around 2 percent. In the case of the northern border states the percentage has been even lower (see Figure 7).

An important point made by Patricia Wilson is that the Third World countries best-known for their success with export-led industrialization are the Asian Tigers and that all of them had backward linkages, as reflected in the percentages of domestic inputs for their assembly industries. According to Wilson (1992: 23), "The proportion of domestic inputs among assembly plants in export-processing zones rose from 13 percent in 1972 to 32 percent in 1977 for South Korea and from 5 percent in 1967 to 27 percent in 1978 for Taiwan. Singapore's proportion of domestic inputs remained rather flat but very high," around 40 percent. These figures clearly contrast with the lack of growth in the case of domestic inputs used by Mexico's maquiladora industry after 30 years.

In summary, the above discussion provides a clearer sense of the winners and losers of the maquiladora strategy. The Mexican government benefits by obtaining revenue in the form of foreign exchange that helps to pay off the foreign debt. The latter in turn is beneficial to the IMF and the international (predominantly U.S.) banks. The transnational corporations clearly benefit in terms of profit and improving their ability to compete internationally. Workers benefit from employment and some improvements in skill levels, but the quality of such employment needs to be improved and many workers' rights, such as the right to independent unions, workers' benefits, health and safety, and so on, have a long way to go. Although it was predicted that the environment in Mexico would benefit from NAFTA, the reality is that the expansion of the maquiladoras has led to a greater degradation of the environment and increasing risks to workers' health and safety. Lastly, despite encouraging claims of increased forward and backward linkages between the maquiladoras and the rest of Mexican manufacturing, there are evidently minimal gains for the latter, and the threat of competition from the maquiladoras means that further decline is to be expected if the current trends continue.

MAQUILADORAS AND DEVELOPMENT: ASSESSMENTS

Supporters of the maquiladora industry argue that transnational corporation expansion is beneficial and will continue to be so, providing more employment for Mexican workers and increasing Mexico's competitiveness in the global economy. However, the fundamental problem is that, despite improvement in its export position, Mexico is not in control of the wealth generated within the country. The question remains, therefore, whether maquiladora development can be counted on to provide growth in the long run. If, for example, maquiladora workers were to demand higher wages (perhaps something closer to a quarter of their U.S. counterparts) or insist that health and safety standards be enforced or request that working overtime be optional, it is probable that the capital accumulated by many of these transnational corporations would continue its circuit elsewhere. In other words, although surplus-value is generated in Mexico, it can relocate at the time of reinvestment if the conditions for capital do not remain sufficiently propitious. This is not mere conjecture about a worst-case scenario; we need only consider what took place when maquiladora workers started to demand higher wages and become more organized in the mid- 1970s: there was a significant cutback of investment by the transnational corporations operating in the northern border region (see Peña, 1997).[18]

Sklair, in his study on the viability of the maquiladoras as part of a development strategy that he calls export-led industrialization fueled by foreign investment and technology, presents a schema for assessment of the strategy (1993: 18-20). He describes six dimensions required for a "reversal of dependency" to occur: (1) linkages, (2) retention of foreign exchange, (3) upgrading of personnel, (4) genuine technology transfer, (5) conditions of labor, and (6) distribution. He goes on to evaluate these criteria in the context of the maquiladora industry and concludes that, despite some improvement in

TABLE 1
Types of International Value Transfers

Type	*Description*
Competition between industries	From less capital-intensive to more capital-intensive industries
Competition within industries	From less efficient to more efficient producers
Repatriation of profits, royalties, and rents	Transnational corporations shifting profits out of the Third World for accumulation
Bank loans and Third World debt	Payments of principal and interest

certain categories, the current constellation of the maquiladora industry is not advancing Mexico's development.

Sklair's and others' assessments of whether the maquiladora industry results in a gain for Mexico as a whole are based largely on qualitative criteria. There is, however, an approach that would allow for a quantitative evaluation of the maquiladora experience for Mexico's economic growth, and that is through using the tools of Marxist value theory. A value-theoretic approach would permit us to estimate or measure in quantitative terms whether there were gains for Mexico as a result of the development of the maquiladora industry and then to determine how these gains were being distributed among different social classes. Such an approach would require the identification of the international transfers of value resulting from the maquiladora industry in Mexico and their analysis through an empirical methodology to measure their specific impacts (see Cooney, 2001).

INTERNATIONAL TRANSFERS OF VALUE

Much of the discussion, particularly in the 1970s, about unequal exchange (see Emmanuel, 1972; Amin, 1974; Mandel, 1975) resulting from trade between the First and Third Worlds involved transfers of value associated with competition either between or within industries.[19] However, in examining a concrete historical example such as the maquiladora industry, one must consider additional types of international value transfers (see Table 1).

The first of these international transfers of value derives from competition between industries. The basic underlying mechanism involves capital flowing from industries with low rates of return into industries with high rates of return in accordance with the tendential equalization of profit rates. The result of this tendency is a transfer of value from less capital-intensive industries to more capital-intensive industries.[20]

In addition to competition between industries, Marx also identified a second moment of competition, namely, within industries. This type of competition results in the formation of social values from a set of individual values. The tendency toward a uniform selling price leads to the transfer of value from the less efficient producers (high individual values) to the more efficient producers (low individual values).

The third and fourth international transfers of value are not linked to trade but rather involve secondary flows—profits, rent, royalties, bank interest—that are associated with investment and accumulation. The third is based upon the repatriation of profits, royalties, and rents and primarily consists of the shifting of profits[21] by transnational corporations from the Third World back to their home countries. These transfers often involve a flow of surplus-value for the purposes of accumulation out of the country in which it was produced. This could be argued to be an even more fundamental type of transfer out of the periphery than unequal exchange, since profits are the basis of accumulation that is required for capitalist growth and development of any sort.

The last type of international value transfer derives from payments of interest and principal on Third World debt. For example, according to the *International Development Bank Annual Report*, between 1974 and 1981 Latin America received a positive net transfer of US$100.7 billion, but between 1982 and 1986 there was a negative net transfer of US$121.1 billion (Roddick, 1988: 14).[22]

In general, the net result of the two types of value transfers due to competition could be either positive or negative. Since the majority of the maquiladoras run by transnational corporations correspond to more efficient and more capital-intensive conditions of production, the net transfer of value will tend to be positive. However, since they are foreign-owned, such positive transfers of value for Mexico will often be transferred out over time via the third type of value transfer, repatriation of profits, royalties, and rent. The net effect for Mexico will be the production of surplus-value locally but not its realization. The impact for developing countries goes beyond the absolute amount of such transfers, since these transfers could be the basis for future local production and employment if they were to be reinvested locally.

A calculation of the international value transfers associated with the maquiladora industry in Mexico would not only provide a fresh perspective from which to evaluate Mexico's current economic development policies but also contribute to a framework for assessing similar models of development based on export-processing zones of other countries.

CONCLUSIONS

As a result of the peso crisis of December 1994 and the subsequent devaluation, Mexico entered its worst depression ever. The impact on workers, farmers, and peasants was the most severe, as real wages plunged again by over 40 percent in just one year and more than 50 percent of the population were living in poverty. And yet in the midst of this crisis, the maquiladora industry was booming, growing by over 30 percent in 1995 alone. Is this merely a paradox of "development," or is it an outcome of the logic of neoliberalism? In order to explain what first appears to be an anomaly, this article has examined four broad aspects of the maquiladora industry both historically and since the peso crisis: its legal status, market conditions, plant conditions, and state-related and institutional aspects.

With regard to markets, the importance of distinguishing Mexican firms that were export-oriented producers from those relying strictly on the domestic market was evident. As for wages, U.S. and other countries' transnational corporations saw a huge reduction in labor costs in terms of dollars. In contrast, for the majority of small and medium-sized producers in Mexico, lower real wages did not compensate for higher foreign input costs, nor did they suddenly allow them to compete globally.

The transnational-dominated maquiladoras had a clear advantage over their U.S. counterparts in terms of such plant conditions as wages, the work week, and even productivity. With respect to both U.S. counterparts and other Mexican producers, perhaps the most significant advantage was the absence of independent unions, leading to greater management control of the workplace and the luxury of not having to recognize workers' full rights. These advantages—in addition to the fact that the maquiladoras located on the Mexican-U.S. border enjoy both significant levels of technological advancement and proximity to the largest consumer market in the world—translate into some of the world's most competitive production conditions.

Most significant of the state-related aspects is the active role of the Mexican government in preventing independent unions from operating in the border region and granting the transnational corporations operating maquiladoras special privileges and impunity regarding their violations of labor and environmental laws. The disproportionate influence of transnational corporations on the Mexican government reflects the importance of foreign exchange revenue, currently needed to pay off its US$166 billion foreign debt, the second largest for a Third World country.

The collusion of these interests of the Mexican government with the transnational corporations' drive to maximize profits has led to the expansion and thriving of the maquiladora sector. Indeed, after examining the different social sectors and actors impacted by the development of the maquiladora industry, these corporations and their allies emerge as clear beneficiaries, while the benefits for the majority of Mexicans appear minimal if not nonexistent.

Given the alarming statistics on economic conditions for the majority of Mexicans—poverty, unemployment, low wages—the neoliberal policies that laid the groundwork for the peso crisis and depression of 1995-1996, exacerbating the degree of inequality and poverty in Mexico, should be called into question. Although here I have concentrated on the maquiladora industry, other aspects of the neoliberal model of development, including the hegemony of "free trade," need to be submitted to a rigorous qualitative and quantitative critique in order to evaluate the consequences for the lives of those excluded from their so-called benefits.

NOTES

1. The term *maquiladora industry* is actually a misnomer, since maquiladoras are present in a range of industries and correspond to a specific set of conditions.

2. The number of maquiladoras has grown to over 3,500 and employment to almost 1.3 million workers (1,294,289) (INEGI, 2000, www.inegi.gob.mx).

3. The official rate is still rather biased and not a very reliable measure (see Valle Baeza and Martínez González, 1996).

4. Under this program, which began during the Second World War because of a labor shortage, the U.S. government contracted Mexican laborers and hired them out to private farmers.

5. The price of labor-power in general corresponds to wages. Briefly, when the price of labor-power is below the value of labor-power, workers' wages no longer correspond to what is required to buy the "normal" basket of consumption goods (see Marx, 1976: 270-275).

6. Peña also presents an insightful look at the response and resistance of maquiladora workers to management's practices.

7. Management abuses often occur in violation of NAFTA's side accord on labor (see below).

8. See Fernández-Kelly's (1983: 84) discussion on the "deskilling" and feminization of the working class.

9. Cravey (1998) has argued that a qualitative change has taken place regarding the relationship between the Mexican government, unions, and labor that is epitomized by maquiladoras. Although I would differ with her assessment of how favorable the earlier period was for labor, her work does identify several key contrasts between the period of import-substitution industrialization and the present period of neoliberalism.

10. This perspective is supported by Carrillo (1994), La Botz (1992), and Williams and Passé-Smith (1992).

11. The Boards of Conciliation and Arbitration were established in accordance with Article 123 of the Constitution in 1917.

12. The National Administrative Office (NAO) is the institution for all three members of NAFTA to hear labor violation complaints.

13. Although the foreign exchange contribution for net exports of the maquiladora industry surpassed that of oil in 1999, oil revenues may rebound, and it is also important to recognize the large import component of consumption in the border region.

14. In the context of development, the maquiladoras should not be evaluated in isolation, since they are just one of the components of a set of neoliberal policies pursued by Mexico since the debt crisis of 1982.

15. In a Public Citizen poll, more than 50 percent of U.S. employers reported intending to use threats of plant relocation to Mexico as a means of reducing wages even when there was no intention to move (Public Citizen, 1999, www.citizen.org/pctrade/nafta/reports/5years.htm).

16. The NAALC is the labor side agreement accompanying NAFTA.

17. On the issue of documenting the use of hazardous materials and the health risks associated with their disposal, see Tiefenbacher (1998).

18. The reduction of investment was in part caused by the recession in the United States.

19. Although the standard term used is "transfer of value," implicitly it refers to the transfer of surplus-value.

20. In *Capital*, Marx refers to "organic composition," whereas the more common term "capital-intensity" is used here.

21. In the context of this type of value transfer, any reference to profits implicitly includes royalties and rents as well.

22. It is supposed that between 1986 and the early 1990s this trend continued to be negative for Latin America as a whole, although since then it has been less clear.

REFERENCES

Amin, Samir
1974 *Accumulation on a World Scale*. New York: Monthly Review Press.

Bacon, David
1996 "Against stiff odds, border barrio fights on." *San Francisco Chronicle*, December 16.

Banco de México
1998 *Mexican Economy*. Mexico City: Dirección General de Investigación Económica del Banco de México.

Barajas Escamilla, Maria del Rosío and Maritza Sotomayor Yalán
1995 "Rotación de personal en la industria maquiladora de Tijuana: mujeres y condiciones de vida," in S. González et al (eds.), *Mujeres, migración y maquila*. Tijuana: El Colegio de la Frontera Norte.

Barkin, David and Fred Rosen
1997 "Why the recovery is not a recovery." *NACLA Report on the Americas* 30 (January/February): 24-25.

Canales, Alejandro
1999 "Industrialization, urbanization, and population growth on the border." *Borderlines* 7 (August): 1-4.

Carrillo, Jorge
1994 *Dos decadas de sindicalismo*. Iztapalapa, México: Casa Abierta al Tiempo Unidad Iztapalapa/Miguel Angel Porrua/Grupo Editorial UAM—Iztapalapa.
CEPALC (Comisión Económica para América Latina y el Caribe)
1996 *Mexico: La industria maquiladora*. Santiago.
CLR (Campaign for Labor Rights)
1997-2000 *Campaign for Labor Rights Labor Alerts*. www.summersault.com/~agj/clr.
Cooney, Paul
2001 "Towards an empirical measurement of international transfers of value." *Eastern Economics Association 1996 Proceedings*. In press.
Cravey, Altha J.
1998 *Women and Work in Mexico's Maquiladoras*. New York: Rowman and Littlefield.
EIU (The Economist Intelligence Unit)
1996 *The Economist Intelligence Unit, Country Report: Mexico, 1996-97*. London.
2000 *The Economist Intelligence Unit, Country Report: Mexico, July 2000*. London.
Emmanuel, Arrighi
1972 *Unequal Exchange*. New York: Monthly Review Press.
EPI (Economic Policy Institute)
1997 *The Failed Experiment: NAFTA at Three Years*. Washington, DC.
Fernández-Kelly, María
1983 *For We Are Sold, I and My People: Women and Industry in Mexico's Frontier*. Albany: State University of New York Press.
Henwood, Doug
1995 "The Contract with Mexico." *Left Business Observer* 68: 1-7.
Heredia, Carlos A.
1996 "Downward mobility: Mexican workers after NAFTA." *NACLA Report on the Americas* 30 (November/December): 34-40.
IMF (International Monetary Fund)
1994-1999 *International Financial Statistics Yearbook*. New York.
INEGI (Instituto Nacional de Estadística, Geografia e Informática)
1997 *Estadísticas económicas: Industria maquiladora de exportación, Feb. 97*. Aguascalientes, México.
Kourous, George
1999 "Availability of information on the border environment: an introductory assessment." *Borderlines* 7 (September): 1-16.
Krooth, R.
1995 *Mexico, NAFTA, and the Hardships of Progress*. Jefferson, NC: McFarland.
La Botz, Dan
1992 *The Mask of Democracy: Labor Suppression in Mexico Today*. Boston: South End Press.
1997 "Mexico at a turning point, part 2: deeper crisis and blocked reforms." *Against the Current* 12 (January/February): 31-35.
Mandel, E.
1975 *Late Capitalism*. London: Verso.
Marx, K.
1976 *Capital*. Vol. 1. New York: Penguin.
McGinn, Chris
1997 "NAFTA numbers: three years of NAFTA facts." *Multinational Monitor*, (January/February): 31-33.

Mumme, Stephen
1999 "Environmental side agreement: almost green?" *Borderlines* 7 (October): 1-4.
Peña, Devon G.
1997 *The Terror of the Machine: Technology, Work, Gender, and Ecology on the U.S.-Mexico Border.* Austin: Center for Mexican-American Studies, University of Texas.
Reed, Cyrus
1997 "Hazardous waste management on the border: problems with practices and oversight continue." *Borderlines* 6 (July): 1-15.
Roddick, J.
1988 *The Dance of the Millions: Latin America and the Debt Crisis.* London: Latin America Bureau.
Sánchez, Roberto
1989 "Contaminación de la industria fronteriza: riesgos para la salud y el medio ambiente," pp. 155-183 in B. González-Aréchiga and R. Barajas Escamilla (eds.), *Las maquiladoras: Ajuste estructural y desarrollo regional.* Tijuana: El Colegio de la Frontera Norte/Fundación Friedrich Ebert.
Senzek, Alva
1997 "The entrepreneurs that became radical." *NACLA Report on the Americas* 30 (January/February): 28-29.
Shaiken, H.
1990 *Mexico in the Global Economy: High Technology and Work Organization in Export Industries.* La Jolla: Center for U.S.-Mexican Studies, University of California, San Diego.
1994 "Advanced manufacturing in Mexico: a new international division of labor?" *Latin American Research Review* 29(2): 39-72.
Shields, Janice
1995 "Social dumping in Mexico under NAFTA." *Multinational Monitor,* April, 20-24.
Sklair, L.
1993 *Assembling for Development: The Maquila Industry in Mexico and the United States.* London: Unwin Hyman.
Support Committee for Maquiladora Workers
1996-98 *Support Committee for Maquiladora Workers Newsletter.* www.pctvi.com/laamn/maquiladora.html.
Tiano, Susan
1994 *Patriarchy on the Line: Labor, Gender, and Ideology in the Mexican Maquila Industry.* Philadelphia: Temple University Press.
Tiefenbacher, John P.
1998 "*La frontera química*: toxic emissions and spills along the U.S.-Mexican border." *Journal of Borderland Studies* 13 (Spring): 57-77.
UNDP
1996 *Human Development Report: Mexico.* New York.
Valle Baeza, A. and G. Martínez González
1996 *Los salarios de la crisis.* Mexico: La Jornada Ediciones.
Williams, Edward J. and John T. Passé-Smith
1992 *The Unionization of the Maquiladora Industry: The Tamaulipas Case in National Context.* San Diego: Institute for Regional Studies of the Californias, San Diego State University.
Wilson, Patricia A.
1992 *Exports and Local Development: Mexico's New Maquiladoras.* Austin: University of Texas.