

Globalization in Tijuana maquiladoras: using historical antecedents and migration to test globalization models*

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Abstract

This paper looks at the historical background of export led development on the Baja California peninsula to find that the transregional economy which has emerged there via maquiladora industrialization has discernible historical antecedents, and also characteristics unique to the current era. This latest form of export led development has been responsible for greater economic growth than ever before, and required the building of a labor force via migration. The migrants employed in this area's maquiladoras are more numerous, come greater distances than those in other maquiladora centers, and have caused very rapid growth in Tijuana. They also tend to absorb the social costs of industrial expansion in this area, in terms of lack of housing, environmental protection, and health care, making it difficult for them to invest in their own human capital to make this area more competitive on a world scale. Globalization here supports the transformational model better than the hyperglobalist or skeptical models.

Resumen

La globalización y las maquiladoras en Tijuana: antecedentes históricos y migración en la verificación de modelos de globalización

En este trabajo se analizan las bases históricas del modelo de exportación de la Península de Baja California, con el objetivo de mostrar que la economía transregional surgida por la industria maquiladora tiene antecedentes históricos muy evidentes. El modelo de exportación ha sido el responsable de la construcción de una fuerza laboral por medio de la migración. Los trabajadores migrantes de la localidad representan un alto porcentaje de la mano de obra de esta industria en comparación con otros espacios maquiladores. La llegada de estos trabajadores también ha contribuido al crecimiento acelerado de Tijuana. Son ellos quienes han absorbido los costos sociales de la expansión industrial del área, observables en la escasez de vivienda, la ausencia de protección del ambiente y de cuidados de la salud. Esta situación ha impedido la inversión en su propio capital humano para hacer más competitiva esta área a nivel mundial. La globalización, en este artículo, apoya un modelo *transformacional* en lugar de modelo *hiperglobalista* o *escéptico*.

Mexico's economy is undergoing a stunning transformation. Five years after the launch of the North American Free Trade Agreement (NAFTA), it is fast becoming an industrial power. Free trade with the U.S. and Canada is turning the country from a mere assembler of cheap, low-quality goods into a reliable exporter of sophisticated products ... "This is a completely different economy than Mexico had a decade ago" says sociologist Federico Reyes Heróles.

... NAFTA "has given Mexicans a new vision of the world" says Clemente Ruiz Duran. Smith and Malkin, *Business Week* (1998: 50)

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The "policy of isolation," ... which ceased when the Congress passed the Colonization law of 1883, was the most dangerous policy to Mexico. To exclude immigration or tolerate it only under intolerable conditions, forced foreigners to cast covetous eyes on the Mexican domain. It alone gave rise to constant schemes of annexation and revolutionary separation.

To forbid or make difficult and insecure the entry of capital and labor from without, necessarily united capital, labor, and enterprise in hostility to Mexico, and led to schemes against the integrity of her territory. To welcome capital and labor and make both secure makes these her friends and allies, and unites them in a common interest with her.

Nordhoff, *Peninsular California* (1888: 99)

Introduction

Mexican maquiladora industrialization, which began along the northern border in the sixties and grew quickly in the interior in the nineties, is often thought to be part of globalization. The latter is understood as the transregional connection of social, political, and economic activities, making decisions taken in one place relevant for people elsewhere. Several theoretical ideas recently put forward by hyperglobalists, transformationalists, and skeptics about global flows and their limits are used in this paper to assess the extent to which maquiladora industrialization in Tijuana can be considered globalization, the kind of globalization it might represent, and/or to what extent it may be part of a more regionally based economic form (Held *et al.*, 1999: 3-27).

Hyperglobalists conceive of globalization as a totally new and primarily economic reorganization of human action, driven by technology and comparative advantage. Transformationalists understand globalization trends as an historically unprecedented reordering of interregional relations, and see them as caused not only by technology, but also by conjunctural and political factors which make it difficult to predict their final character. On the other hand, the skeptical school of thought tends to view the turn of the twentieth century as the period of greatest world economic integration and current globalization as highly exaggerated. To the degree that skeptics acknowledge contemporary forces of globalization, they tend to see them as a distinct phase of a recurring phenomenon.

Hyperglobalists believe that globalization, which they view as progressive, will lead to a denationalization and homogeneity of world cultures. Similarly,

they think that governments will be forced to curtail state spending in order to be competitive, and that this will lead to the demise of redistributive measures characteristic of the welfare state. Transformationalists disagree and point to examples of cultural hybridization, and show that in some cases, national governments which are open to globalization can mediate its negative impacts on their populations, depending on the strategies they adopt and their relative power in the world. Sceptics, on the other hand, are convinced that social movements which oppose globalization can be effective in limiting its scope, and argue that globalization can be successfully contested.

The two quotations above, published a hundred and ten years apart, reflect different positions on when one of the world's most successful export processing regimes actually began. The first one, heard most often today, indicates that maquiladora industrialization is a totally new economic phenomenon for Mexico. The second is an echo from the past which indicates that at least at the western tip of the border between Mexico and the United States, this process has deeper historical roots.

This paper investigates the extent to which maquiladora industrialization at the head of the Baja California peninsula is a totally new phenomenon in the context of the three schools of thought regarding globalization put forward above. It is often thought that Baja California has little history of its own because of its adjacency to the very populous region of southern California, the fifth largest market in the world in the US state of California. This paper investigates the background of current globalization trends.

Previous research has focused on the flow of goods such as supplies and finished products as indicators of the extent to which maquiladora industries are a form of globalization (Kopinak, 1998: 2003). Using the spatio-temporal dimensions of globalization—extensity (stretching), intensity, velocity and impact—put forward by Held *et al.* (1999: 16), it concluded that the kinescope corridor located right at the border from Tijuana, Baja California to San Luis R.C., Sonora represented thick globalization because it was high on all of the spatio-temporal dimensions. However, the rest of the Baja California peninsula was more representative of thin globalization, since much of the rapid and intense exchange of goods between Mexico and the United States and many Asian countries is limited to the area right at the border near the ocean. Finally, there is strong support for the idea that much trade activity associated with maquiladoras is not global at all, but tightly linked to southern California, especially San Diego.

In contrast to the focus on the flow of goods across distances, there has been little attention by researchers to how maquilization is related to the transregional flow of people, even though, as Held *et al.* (1999: 283) indicate, human migration is the form of globalization that is more ubiquitous than any other. Mexican maquiladora industries have required more employees here than pre-existing labor markets could supply because they represent the largest economy ever to rise up in this territory. In the second half of the paper, the extent to which migration has been responsible for filling these jobs is examined, as well as the implications this has for consolidation of the new economy based on production for export. We use the same spatio temporal dimensions as previously applied to analyze the flow of goods—extensity, intensity, velocity, and impact.

The focus of the paper is on the Baja California peninsula because it is one of the areas on the border that was transformed earliest and to the greatest extent by production for export. Tijuana has more maquiladoras than any other city in Mexico, and is second only to Ciudad Juárez in numbers of people employed by them.¹ It became Mexico's fifth largest city in the mid-nineties, and is home to two thirds of the state's maquiladora industries. Outside of Tijuana, there are two agro-industrial corridors—one between the cities of Ensenada and San Quintín, and the other in the Valley of Mexicali. (Figure 1) These agro-industrial corridors produce tomatoes and other vegetables and fruit for export to the United States with labor forces made up of migrants from southern Mexican states such as Oaxaca.

Historical Roots of Export Processing in Baja California

Capitalist expansion in this part of the world began in the late nineteenth century, but the obscuring of borders that is so characteristic of current globalization trends began in this part of the world long before that. We will show in this section that the current Mexican promotion of export led development via maquiladoras is sometimes undertaken in a nationalist spirit of rebalancing the effects of previous territorial losses. This is not a pre-Columbian kind of Montezuma's revenge, which might be predicted as the orientation of Mixteco families compelled by economic and political forces to migrate from Oaxaca

¹ INEGI reported that in March, 2003, Baja California had 1 057 maquiladoras out of a total of 3 251 in all of Mexico. In March, 2003, Baja California had 218 882 people employed in maquiladoras out of a total of 1 090 547 in the country (Industria maquiladora de exportación, mayo.)

milpas to toil over exported designer fruits and vegetables in San Quintín. Instead, it is a self-confident “*Sí, se puede*” orientation held by *norteños*, who trace their ancestry to European roots, after long years of coexistence with *gringos* at the border.

FIGURE 1

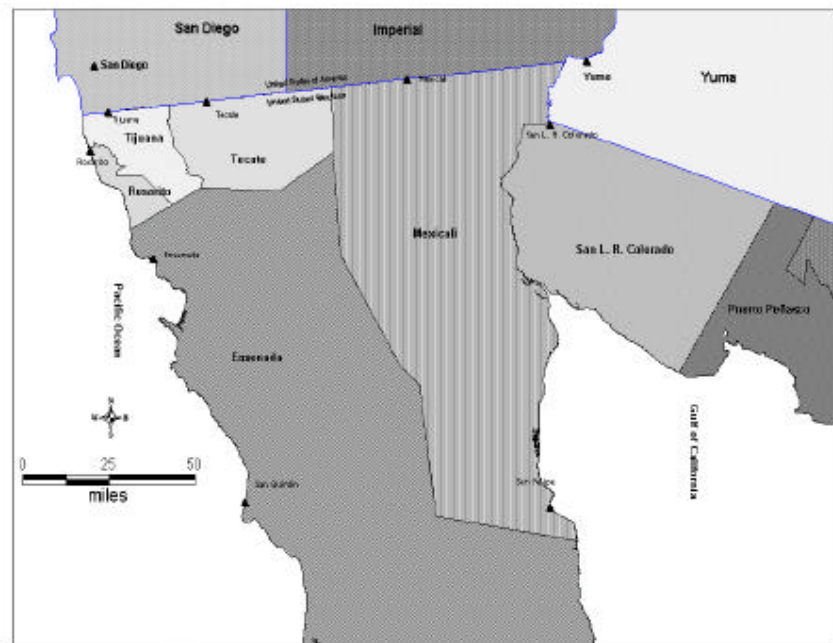


Figure 1. Cities and municipios at the head of the Baja California peninsula.

Baja Californians cannot easily forget that the U.S. state of California was lost to them in the Treaty of Guadalupe Hidalgo ending the Mexican American War in 1848, since it meant that their peninsula was cut off from the Mexican mainland and they would have to be documented to travel to other parts of their country overland through the United States. After the war, the only train connecting Baja California to other parts of Mexico went through the United States. This war was provoked by some U.S. nationals wanting to take all of

Mexico after the conflict ended, as implied in the phrases “constant schemes of annexation” and “schemes against the integrity of her territory” in the Nordoff quotation at the beginning of the paper. The U.S. state of California used to be the Mexican state of Alta California, which was divided from Baja California a little to the south of the current municipio of Rosarito (See Figure 1). The Baja Peninsula was occupied by Americans during the Mexican American War, and many Mexicans who favored annexation returned to the United States with its troops, or left for the California gold rush soon after.

Like other northern areas of Mexico, Baja California was sparsely inhabited after the Mexican American war. In order to settle it, the federal government passed the Colonization Law in 1883 which allowed foreigners and non-native Mexicans to own, develop and settle Mexican land. Passed originally under President Gonzalez, it was subsequently promoted by President Porfirio Diaz, who integrated it into his broader opening of Mexico to foreign capital. Aguilar (2001) argues that under Diaz’s policies to attract US capital, Tijuana was transformed from a ranch to an urban settlement due to the economic boom in southern California at the end of the nineteenth century. Colonists were granted many privileges, including exemption from military service, all taxes, import and domestic duties on provisions, tools, equipment, etc., and from duties on exportation of fruit for a decade. One U.S. based railroad company had special ownership and administrative status on the land from San Quintín northward to the U.S. border, which did not preclude ownership by individual colonists. (Nordhoff, 1888).

However, development did not really take off in the northwest under these policies. By the time the Mexican Revolution began in 1911, Tijuana, Tecate, Mexicali, and Ensenada together were inhabited by less than 2 000 people, most of whom lived in the then capital of Ensenada, and relied on San Diego for their provisioning (Melo De Remes, 1964). After the revolution, Tijuana grew as a tourist centre with the attractions being casinos, bars and race tracks, whose owners and patrons were all U.S. nationals. The clientele was motivated by U.S. laws prohibiting the sale of alcohol, and transformed Tijuana into a “gilded gambling spa for the Los Angeles movie colony”, according to Davis (2000: 26). The social distance between those patronizing tourist attractions and the local Mexican population was immense, and the economy which arose around tourism was an economic enclave, just as modern maquiladoras have been so categorized because they include few local inputs.

Excluded from most jobs, Mexicans were employed only as construction workers, waiters, and street sweepers. When the race track outgrew its original quarters and expanded to a bigger facility, the unionized Mexican workers employed in its construction, revolutionary veterans in many cases, invaded the old stables and renovated them for family housing, since there was no infrastructure for the local population (Bustamente, 1990). In the Valley of Mexicali, the Colorado River Land Company, owned by U.S. nationals, controlled agriculture. It hired only Chinese, Japanese, and East Indian workers (Valenzuela, 1991: 63).

Between 1935-1937, President Cárdenas closed the casinos and outlawed gambling, nationalizing some foreign and Mexican owned land for the unemployed, as part of his *conversión* of the export led development strategies of the *Porfiriato* to import substitution. He also declared this area a free trade zone to re-stimulate the economy. In Baja California, this meant getting the same kinds of revolutionary veterans who had invaded the stables for housing, now mobilized by the ruling party's unions, to use their constitution to reclaim national territory previously dominated by foreigners. The 1980s reversal of Mexican government policies from import substitution back to export led development by making maquiladoras one of the main cornerstones of the Mexican economy was called *reconversión*.

Sklair (1989: 2000) has shown how a transnationalist capitalist class throughout the border has been an important causal factor promoting globalization. We add here that there is also a group of intellectuals in Baja California attempting to assist the link of maquila industries' growth to external markets. Alegría *et al.* (1997: 197-199), for example, have suggested that the contemporary maquiladora boom is not without local roots, arguing that local entrepreneurs in Mexico's northern border cities who had imported commercial products from the United States since the 1930s contributed to maquiladora growth by negotiating border development policy, and transferring surpluses from one sector to another in their own investment portfolios.

An illustrative example we suggest in this paper is Conrado Acevedo Cárdenas, a well known Baja California businessman and cultural promoter, responsible for building a Historical and Cultural Centre in Calafia, south of Rosarito, and also Nueva Tijuana-Ciudad Industrial, the first large, modern industrial park in Tijuana, providing about 10 000 jobs, and building housing nearby for 125 000 employees (Arce, 1999). The historical centre in Calafia is a profitable hotel built on the supposed site of the boundary line between Alta

and Baja California drawn in Mexico in 1773, with a museum of ersatz artefacts harkening back to Baja California's colonization by missionaries. The industrial park and its housing for employees integrates Tijuana into the global economy since it houses some of the largest maquiladora factories in Tijuana.

Acevedo Cárdenas' stated goal at Calafia is the creation of a cultural space on the Mexican side of the border in which both native Baja Californians and migrants from the interior can strengthen their sense of belonging to the nation.² He is representative of those who insist that promoting globalization does not have to mean the loss of sovereignty or the adoption of a homogeneous global culture, as the hyperglobalists would suggest. Castillo-Curry (1998: 2001) argues that the recreation of sites lacking historical integrity is a way of preserving a collective memory of identity in the face of rapid industrialization and social change.

In this paper, we interpret the products this developer has created as a form of cultural hybridization, as predicted by the transformationalists (Held *et al.*, 1999: 374). It is not an oppositional recovery of local knowledge, such as the cosmopolitan localism of the Zapatistas in Chiapas which the sceptics might predict (McMichael, 2000: 271). Instead, the ersatz artefacts at the Calafia hotel are a passive display of museum culture reinforcing national myths. They represent a recreation of local culture that gives evidence of an earlier history than the popular and globally homogeneous mass culture produced by a maquiladora located only a few kilometres up the coast, *Estudios de la Playa*, owned by 20th Century Fox in Beverly Hills, southern California. The studio was built in 1996 to shoot the wetter parts of the Titanic, and later used for Pearl Harbour and other seascape films. It also has a museum displaying props and techniques used in making the films (Ellingwood, 2001). The Calafia hotel and 20th Century Fox's maquila are neighbouring businesses which display local and global culture side by side, offering them both up for mass consumption.

Contreras, Alonso-Estrada and Kenney (1997) have documented the new decision making roles played by Mexican engineers and administrators in the maquiladora industry, part of the process they call *endogeneización*. They found some Tijuana maquiladoras managed by young Mexican northerners educated in local post secondary institutions. They argue that by the nineties, these technocratic personnel were acting as social agents, mediating multinational corporate policy and its local requirements. Their professional development as a group has contributed a local dimension to industrial expansion which enhances the attractiveness of the northwest corner of Mexico to foreign

investment. They have risen professionally in the larger companies that not only assemble but also manufacture, and in a few cases do some design. The electronic maquiladora cluster, particularly the Asian owned subsector which gives this area its global links, is unprecedented in providing highly skilled jobs for *sometijuanenses*.

This is in contrast to 20th Century Fox's maquiladora which employed only 50 Mexicans in 1998 and imported the rest of its personnel from Los Angeles, a short three hour drive away. Aspiring Mexican actors complained that they got the smallest parts as extras in the filming of the Titanic, such as jumping into the cold ocean at night, because they did not look sufficiently European to fit the script. This maquila was apparently not set up to access cheap Mexican labor, since Fox persuades its Los Angeles mechanics to relocate to Rosarito for the temporary period it takes to shoot a film by paying them substantially extra for working "off shore". Fox may have relocated not only for the seascape on the Baja California coast but also to reduce its environmental costs. Local fishermen in the nearby village of Popotla have accused the studio of endangering their livelihoods by polluting local waters. In some ways, the Fox maquila harkens back to the tourist economy of twenties and thirties in its enclave character and strong connection with the entertainment industry. Although "big gamblers and their Hollywood friends" moved to Las Vegas, Nevada after Tijuana's casinos were closed (Davis, 2000: 26), there is a tendency to recreate the link because of geographic proximity.

This section suggests that while the growth of internationally connected maquiladora industries has been precipitated by the technological advances (e.g. microelectronics) and comparative advantage (e.g. low wages) emphasized by the hyperglobalist model, it has roots that go back before even the beginning of the twentieth century, which is the important turning point which the sceptics identify. What is novel about current industrial growth is its rapid boom since the eighties and the weight of non-North American capital, which has consolidated here mainly due to conjunctural and political factors emphasized by the transformationalists and sceptics, such as trade agreements, and connections to large U.S. markets. Asian firms have to transfer more than simple assembly to North America, and make highly skilled jobs available to technically trained

² Acevedo Cardenas is not only a successful businessman, but has worked as a public administrator and published several books about the area. One example is *El Rancho Tijuana, consideraciones en torno a una calumnia*. (Tijuana, Baja California [Tipografia Mercantil]: 1963), which defends Tijuana's reputation against the stereotype that it is only a center of vice and crime.

Mexicans, who have the resources to organize, protect, and perhaps even expand their class interests. The addition to the stratification system of what Max Weber would call a non-manual middle class which maintains its cultural traditions is not dissimilar to the growth in the state middle class and managerial classes in French Canada earlier in the twentieth century, when English speaking multinational capital penetrated the northeastern part of the continent (Millner, 1978). The longevity of the *endogeneización* of international capital in this part of Mexico depends not only on the talents of new occupational groups such as Mexican engineers and managers, but also on the future course of globalization, since the Canadian example indicates that such classes can be quickly “hollowed out,” even after several decades of prominence (Arthurs, 2000).

Maquiladora industrialization has undoubtedly contributed to the unprecedented rise of Tijuana and San Diego to a position of greater prominence in the hierarchy of cities in this region and in the larger continent. This can be explained via the application of the newest model articulating the relationship between time and space known as spatial-temporal simultaneity. This model highlights the fact that technological innovation has permitted interconnected phenomena to occur on different parts of the earth’s surface at the same time (Hiernaux, 1999: 15). Thus, different parts of shared production, carried out by maquiladora industries and the companies from which they subcontract, are occurring in more than one place at the same time. For example, an order placed for a computer in the United States can stimulate the simultaneous production of computer parts in several locations of the continent, and the finished product can be assembled and delivered to the customer in a week or so.

We would argue, however, that this is not a totally new phenomenon, but very similar to earlier attempts to develop the area’s economy via colonization in the nineteenth century and tourism in the 1920s and 1930s. Different articulations of space with time can coexist, and a recognition of the historical roots of the current export led maquiladora economy illuminates the existence of the circular model of the relationship between time and space which is characterized by repetition and reconstruction. This model has a certain permanence in that spaces remain, although not always in the same form. Time may be measured in a particular space by the layers of different reconstructions, as with the pre-hispanic pyramids of meso-America, which archeologists have found to have been reconstructed on top of each other on the same site by different generations whose conception of the divine varied (Hiernaux, 1999: 18).

Distributional Impacts: Migrant workers absorb the social costs of maquilization

La americanización del lado mexicano es, en primer lugar, en términos económicos, la hispanización, mejor dicho, mexicanización de las ciudades estadounidenses es demográfica.

Aguilar (2001)

The incredibly rapid growth of Tijuana's population is part of the northward movement of Mexicans in search of work within Mexico and the United States. Tijuana first became an important destination for internal migrants when the Bracero Program began in 1942 to allow Mexican male agricultural workers to work for part of each year in US agriculture. This program was initiated because US farm labour was engaged in the war effort, and in southern California it was especially employed in the establishment of San Diego as the main port for naval operations. Braceros' families sometimes accompanied them as far as the border and set up households in Tijuana to wait for their return. Aguilar (2001) says that in the post-war era, the attraction of migrants to this part of the border continued to grow until Tijuana was incapable of providing enough jobs, leading to the formation of an enormous sector of the population which was poor, living marginally in irregular settlements.

When the Bracero Program was unilaterally cancelled in 1965 by the United States, the Mexican government took advantage of US tax laws to set up export processing operations in the form of maquiladoras. Mexicans continued to migrate to Tijuana to take these new jobs, but often considered their work as transitional, while they waited to cross the border or found a better job in Mexico. Historically, Tijuana has been one of the main crossing points for undocumented migration to the United States. The boom in maquiladora employment beginning in the eighties supplied more jobs, which were very badly needed by Mexicans who had lived in the interior and been displaced by the economic opening of Mexico. In 1980, Tijuana³ had a population of 461 257, growing by 62 per cent to reach a population of 747 381 in 1990 (Mendoza 2002). By 2000, it had grown by 70.5 per cent to reach a total of 1 274 240 people.

These statistics and other findings reflective of the spatio-temporal dimensions of globalization suggest that migration to this area is reflective of thick

³ The municipio of Rosarito is included for statistical purposes.

globalization. Firstly, this is a very intense and rapid flow of people. It also has high extensity, since the Tijuana area is known to attract migrants from farther away than other maquiladora cities with migrant labour forces such as Nogales, Sonora, which tend to recruit workers from within their own regions (Kopinak, 1996: 105; Cruz, 1992). Or, in some cases, the presence of migrants from very far away attracted maquiladoras. This was the case with the first maquiladoras in the clothing sector which set up shop in Ensenada, which came to hire the female relatives of male Mixteco agricultural workers who have a reputation for excellent sewing. In Tijuana, Mixteco women may be most visible as street vendors, but Lestage (1988) reported that they also often work in maquiladora factories temporarily or permanently to supplement or double their husband's income, when a family needs to build a house, or pay unusual expenses.

Although this migration is transregional, most of it occurs within the Mexican nation state. There are no data on the numbers of international migrants coming to Mexico to work in maquiladoras, but they can all be considered elites, working in managerial positions. Mexican migrants are much more numerous and make up all of the labor.⁴ This phenomenon is reflected in the quotation at the beginning of this section by Aguilar, which notes that the Americanization of the Mexican side of the border is mainly economic, whereas the Hispanicization of US cities is demographic. This differs from the early colonization period, when foreign labor was an important part of the attempted settlement, as the quotation from Nordoff at the beginning of the article indicates. It is part of the greater mobility of capital in the modern period, in comparison to the mobility of labor. In the past, industries imported labor if their was not sufficient available locally, whereas now they are more likely to move to the location where that labor is available.

Although there has not been much research on the relationship between maquiladora employment and migration, there is no doubt about the newness of much of the population which has come to take up maquiladora jobs. The findings of studies using varying sampling techniques at different points in time show that a high proportion of Tijuana maquiladora workers were born outside of the state of Baja California. Carrillo and Santibáñez (1993) found that 75 per cent were born out of state, Quintero (1997) found that 83 per cent were, Contreras (2000) found from 60 to 64 per cent and Coubès' (2000) results were

⁴ There are no data on the numbers of Mexicans who have migrated internationally by moving up the corporate chain, leaving maquiladora employment for better jobs in the multinational in another location, although this is known to have occurred.

72 per cent. The situation at the eastern end of Mexico's border with the United States is quite different in terms of migration, with Matamoros having only 24 per cent of its maquiladora workers born outside the state in 1990 (Quintero, 1977).

Approximately 80 per cent of those employed in maquiladoras are direct workers and 20 per cent indirect. Only about 1 per cent of the labor force is made up of managers. Since Tijuana does not have a history of industrial entrepreneurialism, there have been shortages of both direct and indirect personnel, and migrants who work in maquiladoras can be considered to represent both elite and mass migration. Carrillo, Mortimer and Alonso (1999) show that in the north of Mexico, in the TV and autoparts sectors of maquiladora industries, Asiatic companies would especially prefer to have local suppliers in order to take advantage of economies of scale. Their main recommendation is that apprenticeship be internalized, with Mexicans with proven entrepreneurial ability in other parts of the country moved to the northern regions without entrepreneurial cultural traditions. The alternative, foreign managers, are also migrants since they usually do not live in Tijuana. Most maquiladora companies prefer to have non-Mexican managers living on the US side of the border for security reasons, and most managers themselves prefer to locate their families there as well. Maquiladora managers who commute each day from their U.S. homes to work in Mexican plants have become a newest component of the borderlander population, which is the name Martínez (1988; 1994) has given to people living in the immediate region of the international line.

Although Held *et al.* (1999: 313) note that it is difficult to assess the economic impact of migration on the labour market and wage rates, there are very specific examples of migration being used by maquiladora employers in Tijuana to prevent independent unionization and keep down wages. In the famous case of the maquiladora Han Young, a subcontractor for Hyundai, new workers were brought all the way from Veracruz in 1998 to replace workers fired for supporting an independent union which had been legally recognized (Bandy, forthcoming). Simonelli (2002: 164) found that between 1990 and 2002, Veracruz had displaced Jalisco as the second most frequent place or origin of migrants to Tijuana, but the workers brought from Veracruz to Tijuana by Han Young had signed very specific contracts agreeing to have travel and other expenses deducted from their pay. Many of the workers supporting the independent union were long time residents of Tijuana who live in a *colonia* that is well known for its high level of community organization. Some years before

the unionization drive, they had defended their neighborhood's land rights against government efforts to assist Hyundai's expansion. The *veracruzanos* supported the CROC, a union subordinated to a large union central which, unlike the independent union, was not interested in bargaining with the company for safer working conditions and higher pay. The company's efforts to defeat the independent union failed and the maquiladora closed.

The remainder of this section of the paper suggests that one of the most important distributional impacts of maquiladora industrialization in Tijuana has been to pass many of the costs associated with constructing a competitive labor force on to workers and their communities, especially migrant workers and their families. Their absorption of these social costs has impeded their settlement in maquiladora cities where they work and compromised their upward mobility. This often leaves them socially excluded and marginalized in Mexican border cities where they make up the majority of the population, and likely to try to take advantage of better employment opportunities within Mexico or north of the border if they are available.

As Hualde (forthcoming) has indicated

although maquiladoras have created jobs that require various skills in some professional and technical sectors, an important segment of direct workers continues to be devoted to simple routine tasks ... Professionals and technicians are a very minor part of a labor market characterized by low educational levels with stagnated wages and skills throughout the nineties. Data also indicate that the labor market is increasingly polarized. Highly educated people and professionals improved their incomes in the nineties in contrast to the less educated.

The poor quality of the average maquiladora job is quite clear to the popular classes who comprise the vast majority of its maquiladora labor market, since they avoid maquiladora jobs if they can find other types of employment. In a study of the labor trajectories of low skilled, low paid workers in the services, and maquiladora sectors of the economy, as well as the self employed, Coubès, (2001: 215) found two distinguishable groups of people following different paths within the Tijuana labor market, migrants from rural locations with low education, who worked exclusively in maquiladoras, and the better educated natives who were able to avoid work in maquiladoras and had taken only service jobs. The latter were more likely to have an urban social background and able to use their familial networks to get jobs in the service sector, whereas migrants were more likely to have found their maquila jobs themselves, by answering a

newspaper ad, or responding to a 'help wanted' sign outside a factory. Coubès (2001: 215) characterizes the differences between these two groups, both of which are low wage workers, by saying that maquiladoras play the role of a "*verdadero refugio*" for migrants arriving in Tijuana, while the native born more easily avoid working in maquiladoras altogether.

For those maquiladora workers who stay in maquiladora centers such as Tijuana rather than returning home or migrating to the United States, the quality of life is often marginal at best. Ward (1999) dedicated his book on self constructed housing with the following words: "for *colonia* residents in Texas and Mexico, who with or without public-sector support have had to bear the brunt of the social costs of housing themselves." This is a powerful way of recognizing that when there are insufficient or non-existent public funds for essential services such as housing, and little support from the private sector or unions, social costs are often absorbed by individuals and families. While recognizing the resilience of those who construct their own housing, and arguing that Texas has a lot to learn on this issue from the Mexican side of the border, Ward (1999: 129) is critical of the self-help house building process because it is a manifestation of the "high rates of poverty and lack of development resources." In a study of self-constructed housing in Tijuana, Hiernaux (1986: 132) is more specific about the role of the maquiladora industry in displacing poorer residents. His research demonstrated that even the probability that U.S. companies would locate maquiladoras in the city moved speculators to buy up the best land, causing prices to rise to levels which average *tijuaneses* could not afford.

Not only do low wages make it difficult to afford adequate housing, but the insufficient stock of housing means that even those with higher wages may not meet their needs for shelter. Sánchez (1999: 59), citing a study by Browning and Zeteneno, argues that "few maquiladora workers with less than three years of residence in Tijuana have access to adequate housing or basic public services. While access increases with their term of residency in the city, the proportion of maquiladora workers with such access remains below the comparable figures for workers in non-maquiladora sectors." Sánchez notes that while maquiladora industries are not legally responsible for providing housing, government suggestions that new taxes be levied to help provide housing have been resisted by industry organizations.

There are many dangers associated with the precarious, often self-built housing, in which maquiladora workers often invest a great deal of their time and resources in order to supply themselves with shelter. Land invasions, or squatting on unclaimed land, is a common way of getting access to property on

which migrant workers build their own dwellings. The Regional Workbench Consortium, which includes university personnel, government agencies and private businesses in the San Diego-Tijuana region has a project to bring public and private resources together in a community based planning program to provide basic services such as lighting to one such area in Tijuana, the *Colonia 10 de mayo* (See www.regionalworkbench.org). This neighbourhood is located a little to the east of the industrial park *Ciudad Industrial*, which was built by Acevedo Cárdenas as noted above, and many of its households are headed by single women who work in maquiladoras. Innovative attempts to improve the quality of life, such as those of the Regional Workbench Consortium, are necessary because maquiladoras have historically paid almost no taxes. Tax reform in 2001 which levied a special tax on salaries was recently struck down by the *Corte de Justicia de la Nación* as unconstitutional. The tax was perceived to be acting as a profound disincentive for new investments in the maquiladora sector of the economy (Sourcemex, 2003). Nevertheless, the single women heads of households have organized themselves well and have lobbied their maquiladora employers to build a school in the *Colonia 10 de mayo*. Their next goal is a park, but maquiladora managers have been reluctant to donate funds for such a project for fear that the park would not be adequately maintained.

In the summer of 2002, the Tijuana municipal government carried out a very controversial program of actually destroying substandard, irregular housing which it judged to be in overly precarious locations, and which would lead to disasters when the next heavy rains fell. According to Betanzos (2002a), from 250 to 300 houses in the *colonia Puerta al Futuro* were demolished in August of 2002 which did not have building permits and would be flooded in the coming rainy season. Only 80 to 90 of these dwellings were inhabited, but 500 persons were left homeless by the demolitions. Unlike the *Puerta al Futuro* demolitions which simply left people homeless and did not consult them ahead of time, later plans by the municipality to relocate 600 families living on the washes of the *Arroyo Alamar* and 300 families which lived in the *Cañón Las Torres* included relocation (Salinas: 2002). PRI alderman, Carlos Barbosa, who decried the demolitions, said that if this was to be the way in which the city government was going to deal with all of Tijuana's irregular settlements, they should begin with the rich neighborhoods which were responsible for an immense number of irregularities (Betanzos: 2002b)

While poorer residents have been displaced to the periphery by higher land prices, as noted above, many newcomers arriving in the city and taking up

maquiladora jobs often invade land very near to their workplace and build housing there. The *Arroyo Alamar*, referred to above, is a little to the south of *Ciudad Industrial* and much of the area around it settled by migrants to Tijuana who work in maquiladoras (Kopinak and Barajas, 2002: 237). Tijuana maquiladora workers who are migrants are more likely to live in the same colonia as the plant that employs them, or an adjacent colonia, than are workers born in Tijuana. This can be problematic, since they are likely to be living very close to sites where the highest risk hazardous waste is generated (Kopinak and Barajas, 2002: 235, 237).

In the case of families living downstream from the most dangerous brown field site of abandoned hazardous waste on the border, the former *Metales y Derivados* factory located on the southwest side of *Ciudad Industrial*, migrants invaded this land because they did not have the resources to purchase land, and they have dug shallow wells even though the ground water is contaminated. This area has one of the highest concentrations of children under fourteen years of age in the city. Those living closest to their workplace tend to have migrated from the areas of Mexico which have experienced the deindustrialization and/or economic recession in the 1980s and have sent large numbers of their inhabitants elsewhere: central Mexico, the states of Aguascalientes, Guanajuato, Hidalgo, Mexico, Morelos, Querétaro, and the Distrito Federal.

A rare example of a grass roots organization mobilizing local people to petition government and industry to clean up brown field sites such as *Metales y Derivados* is the *Colectivo Chipancingo Pro Justicia Ambiental*, an affiliate of the Environmental Health Coalition in San Diego, which is supported financially by a grant from the North American Commission for Environmental Cooperation. Activists tend to be long term residents. In public speeches, members of the *Colectivo* talk about the fact that their community existed before industry came to *Ciudad Industrial* in the 1970s, and they can remember when the *Arroyo Alamar*, now very polluted by industrial contaminants, was clean enough to wash and swim in. It is their observation that health problems within their community have skyrocketed since the arrival of industry, and especially since the abandonment of lead and other toxic heavy metals and the failure to contain much of it at the *Metales y Derivados* site.

People who are more recent migrants, however, do not have long term memories of their current communities on which they can draw, which contributes to their social exclusion. The *Report on Environmental Conditions and Natural Resources on Mexico's Northern Border* says that:

another factor that contributes to these problems [infrastructure deficiencies] is that many of the people who migrate to the border don't establish roots there or adopt a 'border' identity. They feel that their stay on the border is only temporary and that one day they will return to their place of origin. This attitude creates an obstacle to their contributing in a real way to solving the problems of their cities. (ITESM and InfoMexus, 2002: 61)

Nevertheless, the costs of maquiladora pollution in terms of human health have been estimated to be high. In a study of the health damages attributable to particulate emissions from two sample maquiladoras in Ciudad Juárez, Blackman (forthcoming) estimates the cost to be \$25 million per year, and to be incurred much more on the Mexican side of the border. He argues that although the value of health damages from non-maquiladora industries, such as brick kilns, is much higher, policy makers should pressure maquiladoras to further control air pollution because the resources for pollution control are scant, and it would be less costly to change the behavior of the two maquiladoras than the hundreds of small brick kiln operators.

Although there has been very little research done on the impact maquiladoras have had on public health, the first article surveying what little is known shows that vital statistics at Mexico's northern border compares unfavorably with the Mexican average (Harlow, Denman and Cedillo: forthcoming). Life expectancy is slightly higher and the percent of low weight births are lower in the country as a whole. Baja California especially shows higher rates of age-standardized mortality, infant mortality and perinatal mortality. Chihuahua also had higher age-standardized mortality infant mortality, and Sonora also has higher infant mortality. There is also a much higher prevalence of obesity among women in the northern states, increasing their likelihood of developing diabetes, the fourth leading cause of death in Mexico.

Discussion

The findings in this paper that other forms of export led development preceded maquiladora industrialization in Tijuana does not support the hyperglobalist understanding of globalization as a totally new phenomenon. It is also clear that new technologies are not the main force underlying maquiladora industrialization here. Moreover, the strong representation of Mexican entrepreneurs, managers, and engineers in the maquiladora labor force makes denationalization and the adoption of any homogeneous world culture difficult.

The findings might seem to support the sceptical orientation to globalization, which argues that current trends of economic integration are not as unique as those which took place earlier in history, especially at the turn of the twentieth century. The Porfiriato was such a clear case of export led development policy, that Mexico's embrace of maquiladora industrialization as a way of linking itself to external economies may seem like going back historically, and not really embarking on a new path. The closure and downsizing of maquiladora industries since the end of 2000 would also support a sceptical orientation by giving rise to doubts about the permanence of maquiladora industries.⁵ The latest use of the term *reconversión* observed by this author refers to foreign investors actually leaving Mexico in response to the latest U.S. recession. Ernesto O'Farrill, president of Bursametrica Management, a partner of Standard and Poor, said:

A la industria maquiladora se le caen los pedidos, despide gente, cierra plantas e incluso compañías globales aprovechan esas circunstancias de contracción para realizar lo que llaman su reconversión, que no es otra cosa que cambiarse sus plantas de país. (Frontera, 17 de abril de 2001)

After this statement was made, the tightening of security at the border in response to terrorist attack and the war in Iraq plunged maquiladora industries even further into decline. This suggests that thick globalization, which was found to be present in the kinescope corridor right at the border, will be limited to that one area.

On the other hand, some of the biggest maquiladoras in Tijuana have announced new investments, which weakens support for an interpretation of this area which would coincide with a sceptical orientation to globalization. At the beginning of 2003, Samsung announced that they would invest as much as they had in Tijuana (\$30 million) in a new factory in Querétaro making refrigerators and air conditioners (Frontera, January 19, 2003). Their Tijuana factories have moved some production to China, but also added new employees. At that time they also said they had plans for another electronics factory in 2004 and still another in 2005. Their goal is to sell more of their products in the Mexican market. Likewise, Toyota is building a large plant at the eastern end of Tijuana.

⁵ Between 2001 and 2002, the number of maquiladora plants in Baja California dropped from 1 267 to 1 055. In march of 2003 there were 1 057 plants. Between 2001 and 2002, the total number of persons employed by Baja California maquila plants dropped from 261 505 to 221 311. In march, 2003, 218 882 persons were employed. INEGI, 2003, *Industria maquiladora de exportación*, mayo.

Held *et al.* (1999: 17) do not take a sceptical point of view, but suggest that “globalization may differ between historical eras,” which is much closer to a transformationalist understanding of globalization, seeing it as contingent on conjunctural forces and contradictory. We suggest here that maquiladora industrialization constitutes a particular historical form of globalization, which Held *et al.* (1999: 17) define as “the spatio-temporal and organizational attributes of global interconnectedness in discrete historical epochs”. Spatio-temporal simultaneity has been made possible by communications technology which only recently came into existence, allowing for different parts of a production process taking place in different locations at the same time. A very unique part of the organization of this historical form of globalization at the head of the Baja California peninsula is the construction of a labor force made up by very high levels of migrants from other parts of Mexico. Moreover, we argue below that most of these migrants will probably not return to their places of origin, even if rates of unemployment continue to rise within maquiladoras.

Very little is known about how migrant maquiladora workers respond to unemployment since there has been no research on the topic. However, there are several reasons to believe that workers would not return to their places of origin:

1. Unemployment rates are probably still higher in their places of origin than at the border. Most have acquired material goods necessary for life (e.g. refrigerators, land, dwellings) which tie them to the city in which they acquired maquiladora work.
2. Leaving their place of origin was based on a formal or informal understanding that they would bring back economic support when they returned, and if they are unemployed they probably do not have the wherewithal to meet their family’s expectations in this regard.
3. Maquiladora workers are quite young, and probably search for other work in the formal and/or informal economies of maquiladora cities, as well as taking advantage of work in the United States if they have a possibility of crossing and contacts on the other side. Operation Guardian, by which the US government has invested millions of dollars into new surveillance equipment and Border Patrol personnel, makes it unlikely that those intending to migrate to the United States will do it in the Tijuana area, but farther to the east where the risks of injury and death are very high.

Having concluded that maquiladora industrialization represents a particular historical form of globalization in this area, further research needs to be done to understand in what form it will be consolidated in the future. Alonso, Carrillo and Conteras (2002) have identified several kinds of learning trajectories in Tijuana maquiladoras, many of them very advanced and highly skilled. However, they conclude that these trajectories could be interrupted by the downturn in maquiladora industries caused by the weak U.S. economy and flight of some production to China. Hualde (forthcoming), on the other hand, assesses Baja California's maquiladora regime to be weakened from within by the failure to train the vast majority of workers in highly skilled techniques. The low skilled character of most of the maquiladora labor force will make it difficult for them to compete with other areas of the world where the multiskilling aspect of lean production models has been implemented more thoroughly. As demonstrated in this paper, the migratory status of many maquiladora workers compounds this situation, since they are too burdened with absorbing the social costs of this new form of globalization to invest in their own human capital. One of the clearest examples of this is the lack of adequate housing, leading migrants to invade unoccupied land and build their own dwellings. This has been a constant across different historical forms of globalization in Tijuana, with workers in the tourist economy of the 1930s taking over abandoned stables to renovate as housing, and maquiladora workers in the eighties and nineties often using materials discarded by maquiladora industries as building supplies.

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