

**A Mexican Border City in the Global Periphery:
Piedras Negras and Steel Manufacturing, 1935-1990**

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After more than three decades since the initiation of the Border Industrialization Program (BIP), or Programa de la Industrialización de la Frontera, the Mexican border cities continue to evolve as important but dependent localities in the global economy. Assembly plants, appearing mostly like dressed up warehouses, increasingly dominate the suburban landscapes of the Mexican border cities, even while NAFTA's legislation makes it increasingly feasible for multinational companies to locate maquiladoras in cities and towns in the interior of Mexico. This latter phenomenon, involving the liberalization of Foreign Direct Investment (FDI) beyond the border zone, and the increased allowance for the sale within Mexico of goods assembled in the plants, already is changing urban fortunes and urban geographies along the border. Transshipment of goods between the U.S. and Mexico becomes that much more important to the border cities, as is evidenced by expansion of transport infrastructure in the border zone.

Despite the rhetoric put forth by the "Transnational Capitalist Class" (TCC), to borrow a phrase from Leslie Sklair (1992), that NAFTA underlies increased manufacturing activity on the border and represents the greatest hope for economic development and increases in living standards along the border (LDF 2000), the fact is that the border region, especially (but not exclusively) the Mexican side, remains strongly dependent on those localities of the World-System, the so-called "world cities," or "global cities," where finance, technological innovation, and decision making with respect to the global economy, are centered. In other words, despite witnessing the introduction of a wide variety of new technologies in transportation, manufacturing, and telecommunications from the U.S., Japan, and Europe, the border region remains firmly within the periphery of the world-system, albeit in various forms from city to city.

The growing literature on globalization, world cities, post-Fordist decentralization of production and consumption, and the like, builds on the themes of urban political economy and urban hierarchy that are the focal point of Wallerstein's (1976) World-System concept. That is, as capital accumulation becomes increasingly

flexible, capital flows shift spatially, thereby altering the place of any given city within the global hierarchies of cities. Any given city is at a crossroads, and can demonstrate one or more aspects of the interplay between national policies on one hand, and the functioning of the world economic system on the other (Simon 1995; Lyons and Salmon 1995; Friedmann 1995). Whether of the core, semi-periphery or periphery, cities are products of the intersection of the structure of the world system, national policies, and local agency (Friedmann 1995).

It is my contention that by studying individual cities of the periphery, social scientists can better understand the multiplicity of ways that the periphery has served the core through time. In short, we can better understand how the capitalist world economy has evolved, and in the process, the multiple forms that the periphery can assume. Only then can we revise Wallerstein's concept of the World System to better reflect the systems's increasingly global (as opposed to merely international) nature, and its flexibility. I use Piedras Negras, Coahuila, Mexico as a case study, because its linkage as a peripheral producer of heavy industrial products, in particular unfinished steel products, spanned several decades, predating by nearly thirty years the maquiladora phenomenon. Thus, the city has experienced peripheral industrialization longer than nearly all other Mexican border cities, and its economic and social transformations since the 1930s reflect Mexican development ideologies more strongly than most border cities.

This paper evaluates the changing nature of the interconnectedness of Piedras Negras with the main political, industrial, and financial centers of Mexico between 1935 and 1990. I purport to shed light on Wallerstein's concept of core, periphery, and semi-periphery, and to examine the role that state development ideology has played in shaping the macro-geography of the city.

According to Wallerstein (1976), the world-system consists of a hierarchy of regions: the core (the countries or localities that receive the bulk of capitalism's wealth), the periphery (which produces wealth for the benefit of the core while enjoying very little development of its own as a result), and the semi-periphery (whose level of well-being is somewhere in between.) Between the late fifteenth and early twentieth centuries, the major core areas of the world-system were Holland, England, Germany, and other mercantile nations of Europe. Each core country developed its own sphere of accumulation, through commerce, the development of an agro-industrial economy, and the colonization of the periphery, which consisted of almost all the tropical and subtropical regions of the world. The periphery was organized by the nations of the core as sources of cheap raw materials for agro-

industrialization, at first through slavery and later through feudalist means of coerced labor. The semi-periphery, mostly Southern and Eastern Europe, took on some characteristics of the core, but served the core through low wage labor engaged in agricultural, mining and micro-industrial activities, and lacked the formation of producer services common in the core (Wallerstein 1976, Hugill 1988).

During the Twentieth Century, the character of the periphery changed dramatically, in tandem with changes in international flows of capital. This is especially so during the Fordist phase of international capitalism after World War II, and the post-Fordist phase of global capitalism after 1970. This case study of Piedras Negras illustrates nicely how dramatically the periphery can change in terms of its role in the world-system, even while it remains dependent. As we will see, Piedras Negras played a relatively important role within Mexico's domestic industrialization of the Twentieth Century. At times, the locality experienced economic diversification through the forward economic linkages of steel production, and an improvement in wages. This trend, however, was reversed in the most recent era of export-oriented industrialization, dominated by the maquiladora phenomenon and the privatization of formerly parastatal enterprises (partly government-owned, partly private) such as the steel industry (Schettino 1996). Piedras Negras represents the most dramatic example on the border of how privatization of a parastatal industry can dramatically change the linkages of a locality of the periphery with distant economic command centers.

As Hugill (1988) explains, Wallerstein's World-System model is fundamentally spatial and dynamic, because according to the theory, a country or other region can shift between the core, semi-periphery, and periphery. At the same time, Hugill criticizes the theory for its emphasis on agro-industrial development as the source of wealth for the core, and its omission of technological changes in industrial production in the twentieth century. For example, in the 1920s and 1930s, Germany maintained its status as a leading core nation, despite its lack of colonies, lack of reliable sources of raw materials for agro-industrialization, and its substitution of synthetic materials for agricultural raw materials in industry (Hugill 1988).

In the same manner, one can reason that the activities of the periphery and semi-periphery have dramatically changed since World War II, as a result of technological progress in agricultural, industrial, transportation, and information technologies. A reality of the world capitalist economy of the Twentieth Century is that capital flows have become more and more flexible. Correspondingly, the assembly of rudimentary

manufactured goods has gradually been relocated from former industrial regions of the core to low-wage areas of the periphery. Moreover, low wage labor in the periphery has almost totally replaced labor coercion (slavery and feudalism). Although much of the periphery maintains its rural and agricultural character, there are more and more localities that are taking on manufacturing. Nonetheless, in terms of economic development, the periphery remains strongly dependent upon the core, for technology, markets for products, and investment capital.

These points are pertinent to my analysis of the urban geography of Piedras Negras. As we shall see, those few border cities such as Piedras Negras that experienced import substitution industrialization in the middle decades of the twentieth century began to approach a position almost within the world semi-periphery. This is consistent with the pattern found in larger industrial cities of Mexico between the latter 1930s and latter 1970s (Aguilar M. 1983). The semi-periphery generally is characterized by increases in wages and a modest level of modernization in the manufacturing sector that could finance further development (Wallerstein 1976, Hugill 1988). In short, I argue that Wallerstein's theory, based predominantly on the early and intermediate stages of capitalism, could also be applicable to the most recent stages of capitalism, those since 1900, by accounting for the system's Keynesian and post-Fordist eras, during which technology has been transferred to the periphery, albeit in a limited and controlled fashion. Case studies are necessary to lend a flexibility to Wallerstein's theory and account for the different experiences of the different peripheries. By examining the multiple forms the periphery can assume, through case studies such as that of Piedras Negras, we can better understand how the world-economy of capitalism functions.

Prior to the establishment of the steel plant, the most important economic activities of Piedras Negras and its environs were ranching and coal mining in the valleys of the Rio Econdido and Rio Grande (Messmacher 1983; Sánchez Jiménez 1990). The railroad arrived in Piedras Negras in 1883 to transport coal to other parts of the country, increase trade between Mexico and the U.S., and enhance the connections between the northern border and the center of Mexico (Sánchez Jiménez 1990). The quality of coal of the region is relatively low, but sufficient for small iron forgeries and the railroad repair shop, established during the Porfiriato. The government had established the repair shop, referred to as "la Maestranza," given the national priority of developing stronger rail connections between the border and the rest of the country on the eve of the revolution. However, after the revolution, the government closed the plant for reasons not well understood. The result was a high rate of unemployment in Piedras Negras (Corrales 1996).

The construction of the steel plant of Piedras Negras began in 1935 by the parastatal enterprise, "La Consolidada" (La Consolidada, S.A.), based in Mexico City. The company selected Piedras Negras for a plant, to take advantage of the coal deposits in the area and the abundance of trained but underutilized steel workers who had worked in the railroad repair shop (Corrales 1996).

Although strongly dependent upon the principal plant in Mexico City, Piedras Negras enjoyed steady and

stable increases in wages from its steel plant. As part of the strategy of import substitution industrialization, the state desired to halt the high rate of imports of steel and steel products, such as plows, construction materials, and railroad supplies. For example, between 1910 and 1920, the Mexican importation of steel increased 305%. Because of this dependency, the Piedras Negras steel plant would become an important supplier of various steel products, including wire, nuts and bolts, and raw steel ingots destined for processing in the principal plant of la Consolidada in Mexico City. The typical wage of steel workers, between 3.5 and 7 times the minimum wage, permitted an expansion of Piedras Negras's economy. In spite of this progress, however, Piedras Negras never enjoyed control over its production, because la Consolidada extracted the surplus value of production (Corrales 1996). We can conclude, then, that a locality of the periphery in reality can achieve modest economic gains, and take on some of the characteristics of the semi-periphery, without ever escaping the periphery's dependency.

After World War II, the products produced by the steel plant at Piedras Negras, and the city's connectivity with other regions of the country, changed strongly, while demonstrating simultaneously some of the different forms the periphery can assume. The country suffered economically from the global shortage of steel during the war, yet remained a net importer of steel. This scenario prompted the state to establish another parastatal steel company, Altos Hornos de Mexico, S.A. (AHMSA) in Monclova, Coahuila, 250 kilometers to the south of Piedras Negras, and the junction of two main lines of the National Railroad. This large plant became the new destination of the steel ingots from Piedras Negras, in part because of the close proximity of the two plants, and in part because in 1958, AHMSA purchased the iron fields located in the state of Chihuahua that had been the sole source of iron for the Piedras Negras plant. In other words, Piedras Negras developed a steady dependency on Monclova between 1945 and 1962. In 1962, AHMSA purchased the plant in Piedras Negras from la Consolidada (Corrales 1996). AHMSA became a "crown jewel" of the Mexican strategy of import substitution industrialization by 1962, and Piedras Negras would live in the shadows of Monclova for some three decades. Nonetheless, during the years AHMSA managed the Piedras Negras plant, wages and employment rates remained relatively high in Piedras Negras. In fact, the most productive years in the plant's history were the 1960s, when employment reached 1,500 workers and the associated urban multiplier effect produced an incipient middle class (Blair 1969). Today, the sizeable homes by Mexican standards of steel workers, downtown shop owners, and other merchants are visible immediately to the north, west, and south of the central business district.

Early in the 1980s, the Mexican economy suffered a significant shock which resulted in the abandonment of the import substitution model. In that decade, Piedras Negras experienced a dramatic economic decline, which would influence negatively the city's place in the global periphery. Domestic demand for steel dropped due to the monetary crisis. The crisis was primarily the result of falling oil prices during a time when Mexico had depended on oil to finance its external debt. This debt was created in the 1970s when oil prices were favorable, and the state believed these prices justified significant borrowing to be used for infrastructure and other development. In retrospect, the policy of depending on the exportation of oil to finance borrowing for economic development was a failed strategy. As a result, President De la Madrid and all subsequent presidents have pursued a policy of privatization of state-owned and parastatal enterprises (Villarreal 1990). Salinas de Gortari privatized AHMSA in 1991, and the steel plant in Piedras Negras was shut down for good the same year (Corrales 1996). Since the plant closing, the level of well-being of the city has declined. The location south of the central city that the steel plant occupied is largely abandoned, and is relegated to non-labor-intensive crushing of rock used in road surfacing. Deterioration of formerly prosperous inner city neighborhoods has become obvious. Informal squatter settlement appear with greater frequency throughout the urban zone, primarily in pockets of the arid periphery of the city. The historic downtown has received only minor gentrification in recent years, which is largely limited to the southern portion where freight forwarding agencies are housed. South of the downtown and adjacent to the original train depot, the historic Hotel del Ferrocarril, which the city intends to eventually remodel and reopen as a museum, remains neglected due to lack of municipal funds.

Conclusions

During the era of import substitution industrialization, Piedras Negras witnessed not only higher wages, but an economic multiplier effect involving expanded consumer services and the businesses providing them, the expansion of transportation and industrial infrastructure that would help in the city's future economic expansion, and the construction by the two parastatal steel companies of housing for workers and managers. The latter development would expand the suburban zone of the city toward the southeast. Nonetheless, the increased level of well-being in Piedras Negras during the steel era could not be sustained during the present era of economic liberalization. Today, the city's most important economic activities, including import-export activities, tourism, maquiladoras, and the mining of low-grade coal, generally do not produce sufficient incomes that could elevate the locality economically

and socially once again toward the level of the semi-periphery.

Customs agencies and freight storage and forwarding facilities, both in Piedras Negras and the adjoining Texas city of Eagle Pass, are few in number compared to Laredo-Nuevo Laredo, some 180 kilometers to the southeast. More than one-third of all trade between the U.S. and Mexico passes through The Two Laredos, which enjoys more favorable connections by interstate highway and rail (LDF 2000). Piedras Negras plays a relatively minor role in terms of binational trade. Furthermore, the city is not a favored site of the maquila industry, most likely due to lack of a managerial class and the persistent perception of strong unions dating back to the steel era (Vázquez Delgado 1999; Messmacher 1983). Moreover, maquiladoras offer on average lower wages than those of domestic industry (Quintero Ramírez 2000).

In reality, there is no single periphery, but rather, different forms of the periphery. As Wallerstein (1976:232) explains,

“ . . .the ongoing process of a world-economy tends to expand the economic and social gaps among its varying areas in the very process of its development. One factor that tends to mask this fact is that the process of development of a world-economy brings about technological advances which make it possible to expand the boundaries of a world-economy. In this case, particular regions of the world may change their structural role in the world-economy, to their advantage, even though the disparity of reward between different sectors of the world-economy as a whole may be simultaneously widening.”

As this case study demonstrates, a locality may enjoy influxes of capital from distant localities, and as a result, experience dramatic changes in its physical form and economic function. In the long run, however, a locality of the periphery of the capitalist world-economy most likely will remain imprisoned within the periphery, given the tendency for the world-economy to create and recreate geographically uneven development.

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