WHERE ARE THE WORKERS? FORGOTTEN PRODUCTION IN NON-EXPORTING MANUFACTURING IN TIJUANA, MEXICO

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Introduction

Today's industrial manufacturing is highlighted when it becomes the darling of successful internationalized production. This phenomenon is reinforced by political elites with an enduring commitment to neoliberal economic policies and free trade. This has clearly been the case in Mexico since the North American Free Trade Agreement (NAFTA) took effect in 1994. The NAFTA has had multiple impacts throughout North America, but one of the most notable has been the boom of *maquiladora* operations in northern Mexico. For example, this sector contributed 80 percent of the total value-added in manufacturing in the state of Baja California and 57 percent of all manufacturing value-added in the City of Tijuana. Employment figures show a parallel trend, with the maquiladora sector employing 75 percent of employment at the state level and 54 percent in the City of Tijuana.

And yet, as striking as these figures may be, maquiladora enterprises in Tijuana only represent 19 percent of all local manufacturing firms. In other words, there is a clear dichotomy in industrial manufacturing in Tijuana between an internationalized sector and a sector whose production may not enter international markets. What is clear is that a vast number of industrial enterprises employ half of the workforce—some 65,000 workers—who fall outside of the "darling" internationalized category of successful workers.

Understanding the production structure under which these workers operate can better explain Tijuana's international linkages with the San Diego, California region and with the rest of the world. It also aids in understanding the internal dynamics that have led this westernmost region of Mexico to become a model, not only of economic growth but also of economic concentration and extreme poverty.

The principal hypothesis of this essay is that the diverse and unspecialized structure of production in which these forgotten workers are occupied demonstrates the existence of a highly diversified economy. This economy provides finished and intermediate products for domestic consumption,

thereby freeing the region from a historical pattern of dependence on imports from the United States. This same production structure can provide employment to thousands of newly arriving immigrants relocating from other Mexican regions. An important correlate to this proposition is that industrial production in Tijuana may be severely underestimated and that, in general terms, wealth in the Tijuana region is far greater than has been reported.

The dichotomy in the labor force that this production structure reveals begins to obviate the simple Marxist division between capital and labor. Instead, workers' conditions today must be defined by their relationship to the international economy, where in many cases internationalized workers benefit at the expense of workers laboring for domestic production.

The Puzzle

One constant in economic research is that the study of international trade flows (or domestic regional exchanges) tells us something about the needs and production qualities of trading partners;[1] this is especially true for the Tijuana-San Diego region. The two great cities that form this region are opposites in terms of economic development. San Diego is a highly developed techno-center built up around the communications industry and research centers focusing on life sciences. Tijuana, in contrast, is a developing economy plagued with the typical ills of underdevelopment—inadequate infrastructure, extremes in income distribution, and still dependent on cross-border services and internationalized manufacturing with few or no national linkages, even as it moves toward diversification.

Previous work by this author has reported on the general structure of international trade flows within the region.[2] The expected flows of goods directed to, and exported by, the maquiladora industry are accompanied by some unexpected flows, especially in the multiplicity of much diversified imports (all in small quantities), which are goods that are not reflected in the export structure from the city of Tijuana.[3] This being the case, the

[1] See, for instance, David J. Hayward, *International Trade and Regional Economies. The Impacts of European Integration on the United States*. Westview Press, Inc., Boulder, Colorado, 1995.

[2] See Gustavo del Castillo and Cathy Kopinak, "Economic Linkages Across the U.S.-Mexico Border; Tijuana-San Diego and the World Economy." Latin American Studies Association, Palmer House Hilton Hotel, Chicago, Ill. Sept. 24-25, 1998.

[3] Imports into Mexico are recorded by what is known as a *pedimento de importación*. This is an import permit that records the country of origin, the destination of the goods, their quantity, their value, and their tariff classification. The imports that are registered through this mechanism have to be valued at over $1000 dollars. Other "small" imports under this value usually go unrecorded, and they may or may not pay tariff duties. Because of these administrative procedures at Mexican customs it is possible that many industrial imports that arrive in Tijuana are utilized in production in the city, and contribute to the regional gross product. The research involving these international

simple question is, then, where did these imports go? Who utilized them, and how? And finally, what do they signify for the industrial structure of the region?

A Look at Transborder Imports and Exports

The study of transborder trade flows for Fall 1995 reveals not only the great variety of imports into Tijuana as their final destination, but also the very small amounts of these various imports that were entering the city (Table 1).

Table 1. Distribution of Imports into Tijuana: Fall, 1995.

Number of Import Permits	*Frequency*	
1-10	166	
11-20	184	
21-25	91	
26-50	532	$S_{1\text{-}50} = 973$
51-100	669	
101-150	826	
151-200	541	$S_{51\text{-}200} = 2{,}036$
201+	5,743	
N=	8,754	

These data display a "binomial distribution"; that is, there are many imports arriving in small quantities, and many others that enter in much larger quantities. I suggest that this dichotomy has a profound effect on Tijuana's production and labor structure. We might ask, what kind of industries import the same product once or twice—or twenty times—in a given time span? These industries must certainly be different than those importing the same product one thousand times over the same period. Not only are the industries different, but I propose that the type of manufacturing is also different between these two kinds of industries, and this has implications for the social relations of production in the manufacturing sector.

trade flows was carried out by the author at the end of 1995 and it involved the recording of all import and export permits occurring through Mexican customs at the Otay Mesa border crossing. The measurement was only done for some five weeks for a period which may not be totally representative of the "typical" trade occurring in the region, because it was done in November and December, a period which has been shown in other research to involve a slowdown of productive activities in the *maquiladoras* and in all other manufacturing. These findings can only signify two things: first, because *maquiladoras* were shutting down for the period, *maquiladora* imports and exports are underrepresented in this study. Second, because only *pedimentos* valued at over $1000 dollars were registered, "small" imports are also underrepresented since many of them may cross the border without being captured by customs data.

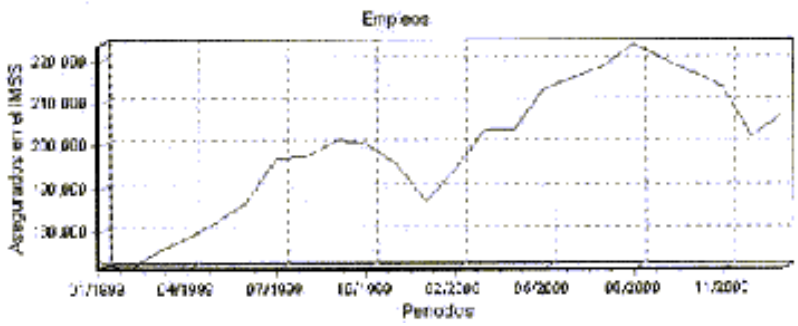
The argument I offer is that those industries importing small quantities of unfinished intermediate products are themselves micro to small enterprises (which, given Tijuana's dynamic industrial structure, may go unregistered by the industrial census or other state or local data-gathering mechanisms). In this sense, these enterprises may form a large part of Tijuana's informal sector. Second, because of their size, these industries are unlikely to reach economies of scale. Therefore, salaries will be less than those required in the formal sector, a tendency that is reinforced by the employment of extended family members. Third, given this production structure, productivity is likely to be lower than that demanded by the internationalized, or maquiladora, sector. Finally, the value added by these industries will also be less than that which prevails in the internationalized sector.

On the other hand, those imports appearing most frequently comprise vehicles (n = 682) and goods directed to the maquiladora industry, such as: paperboard articles packing (n = 832), electrical machinery and equipment (n = 1201), and plastics (n = 1526). In other words, goods of an intermediate nature are (n = 5595) 63.9 percent of all imports. Where have the 40 percent of imports not directed to the maquiladora industry gone?

Looking at Tijuana's Exports

Exports are equal to about 25 percent of the imports entering Tijuana. This ratio demonstrates a slowing in economic activity toward the end of the calendar year (when this research was conducted). At this point in the year, the maquiladoras have shipped their goods abroad to supply holiday demand; maquiladora workers have returned home (dismissed by their employers so that this workforce continues to be classified as "temporary" and thus ineligible for end-of-year bonuses and other benefits) and domestic manufacturing is slowing because workers are beginning their holiday season. This yearly recurring pattern can be appreciated in figure 1. Although total employment increases from the year to year, seasonal downturn variations are clearly visible.

Figure 1. Variations in Seasonal Employment. 1999-2000.



The magnitude of Mexican exports, undoubtedly, is greater at other times of the year when industrial activity is in full force—principally during the summer months.

Table 2 reveals some distinct and interesting patterns of Mexican exports, including, most notably, the wide variety of products involved.

Table 2.
Distribution of Mexican Exports: Fall, 1995.

Number of Export Permits	*Frequency*
1-10	125
11-20	113
21-25	87
26-50	344
51-100	399
101-150	465
151-200	353
200+	1,094
N=	2,980

Many of the export permits with frequencies above 125 correspond, not surprisingly, to primary and perishable products, changing to manufactured goods as the frequency of permits increases. As with imports, a higher frequency also represents products leaving Mexico after manufacture in the maquiladora industry (including the furniture, plastics, paper, and electrical sectors). Also at the high end–and this is representative of Baja California's economy—are export permits for seasonal vegetables. Still, these aggregate numbers tell us little about Tijuana's manufacturing sector beyond the obvious—that the maquiladora sector exports its products.

What is clear is that, for both exports and imports, the City of Tijuana and the surrounding region are importers of many primary products that will need further processing before consumption. This is particularly true for the many import permits ranging from 1 to 50, which include some 973 products, or about 12 percent of the total of imports registered. That is, Tijuana's industrial structure is composed of industries requiring diverse industrial inputs, but in small quantities.

General Characteristics of Tijuana's Manufacturing Sector

Total employment in Tijuana's manufacturing sector represents less than a third of the city's total employment, as shown in Table 3. Tijuana's economically active population as a percent of total population appears in Table 4.

Table 3. Employment in the Manufacturing Sector in Tijuana.

Year	*Percent*
1995	25.5
1996	27.7
1997	28.1
1998	30.2
1999	29.8
2000	28.4

Source: INEGI. Encuesta Nacional de Empleo.

Table 4. Economically Active Population in Tijuana.

Year	*Percent*
1995	56.1
1996	56.1
1997	57.5
1998	56.9
1999	57.7
2000	59.1

Source: INEGIR. Encuesta Nacional de Empleo Urbano.

These totals can be further subdivided by the size of the enterprise, as shown in Table 5.

Table 5. Employment by Size of Manufacturing Enterprise.

Size	*Percent*
Micro	4.7
Small	8.6
Medium	24.7
Large	61.7

Source: Secofi, *Banco de Informacion Sectorial,* 2000.

The characterization of an enterprise as "micro" through "large" hides the enormous differences between these productive structures. Official characterizations only differentiate these industries by size, which cannot tell us the na-

ture of the productive processes involved within them. These differences are defined as follows: a micro enterprise employs between 1 and 30 workers; a small firm employs between 31 and 100; a medium-size firm employs between 101 and 500 workers; and large firms employ more than 501 workers. Table 6 shows the average total employment by size of enterprise during 1999 and through August 2000.

Table 6. Average Total Employment by Size of Enterprise.

Size	*Average Tot. Employ.*
Micro	8,889.3
Small	16,158.9
Medium	46,373.7
Large	115,734.3

Source: SECOFI. *Banco de Información Sectorial,* Sistema de Información Empresarial Mexicano, 2000.

Available data permits us to determine the actual number of workers within the municipality of Tijuana in each type of manufacturing enterprise, as shown in Table 7.

Table 7. Average Employment
per Enterprise Size Manufacturing Sector.

Size	*Employment*	
	Tijuana	*Mexicali*
Micro	5.9	5.0
Small	3.0	2.7
Medium	11.6	11.9
Large	1,966.0	57.3

Source: Banco de Información Sectorial. Sistema de Información Empresarial Mexicano, 2000.

These numbers differ considerably from the size classifications used by the statistical gathering machine. With the sole exception of the employment range for large industries, the classification corresponds to reality—but only for Tijuana, given that "large industries" are considerably smaller in Mexicali, for example. In general terms, the manufacturing apparatus is, per industry size, much smaller than one would expect from the classificatory schemes. In this context, it is not surprising that raw imports entering the region are imported in small quantities—except in the case of goods going to the *maquiladora* sector.

Regional Exports

The question of interest here is whether, given the structure of production outlined above, small producers relying on very small amounts of their inputs from imports (as indicated above) play any role in the region's export process. The argument is that most of the production taking place in Tijuana—and which relies on a wide variety of imports—is actually consumed in the region. Therefore, we would not expect to see manufactured exports coming from non-maquiladora enterprises. Table 8 shows some characteristic exports from the region.

Table 8 shows the direct relationship between the variety of goods being exported and the associated number of export permits. In other words, given the presence of the *maquiladora* industry, which specializes in a few products, we would expect the greatest number of export permits being applied to the shipment of these goods abroad. The inverse also holds true; that is, that the greatest variety of products would require the fewest export permits. Still, the question remains whether Tijuana's many small manufacturing businesses can account for the high number of "small" exports? If the answer is "yes," then one could argue that Tijuana's productive structure might be engaged in the external sector through both imports and exports.

Table 8. Regional Exports by Variety of Products and Frequency of Export Permits.

Variety of Products	*Number of Export Permits*						
range	1-10	11-20	21-50	51-100	101-150	151-200	200+
37					125		
8					113		
4				87			
10							344
5							399
4							465
2							353
3							1,094

An analysis of the great variety of exports (n = 37/125 permits) shows that, at one end of a continuum, they are not manufactured products but agricultural exports and primary goods. At the opposite end of this continuum lies the manufactured exports most closely associated with the maquiladora industry (furniture, electrical machinery and equipment), along with agricultural products. Thus, the general trend is that Mexican exports are greatly diversified, but as the number of export permits increases this

diversification is greatly reduced. In other words, there is no doubt as to the concentration of manufactured goods and types of products around the *maquiladora* industry.

As noted earlier, another key trend is the growing importance of agricultural products, mostly produce, in Baja California's export structure. Both of these trends are linked to increasing capital investments in high technology, ranging from the production/assembly of electronic products in maquiladoras to agriculture dependent on sophisticated irrigation systems, improved seed varieties, and refrigerated transport systems to bring the product to the U.S. market without spoilage. Both export structures also rely on an ample industrial reserve army. In the case of agricultural production, these are indigenous workers from southern Mexico who have found employment on the region's large agro-export farms.

The Case of the Missing Workers

If international trade flows between Tijuana and San Diego do indeed indicate the presence of small manufacturing firms in Tijuana producing for the internal market, then a problem immediately arises. It is that official statistics supposedly account for all manufacturing workers within the manufacturing sector. The problem is two-dimensional. First, these employment totals do not correlate with the nature of the import structure discussed above. Second, this total varies depending on the source of the official statistics. In other words, supposing that all the official statistics were consistent and correct in their estimation of employment in the manufacturing sector, then this employment structure would still not account for the characteristics of the imports into the region. Because of the high reliability of the data on trade flows (although we know it is an underestimation), and because of the existence of contradictory figures on total manufacturing employment, a doubt remains as to whether all workers have been accounted for and whether we know how they are actually employed.

This exercise utilizes data for 1998 through the estimators for 2000. Employment figures are captured using two highly distinct methodologies. The first method begins with information provided by the general population census, and *derives employment in the different economic sectors* from information as to whether respondents are economically active—that is, whether they receive income from part-time or full-time employment. The second method relies on more specific information provided by industrial censuses, which multiply sampled industries by the number of registered enterprises within the specific economic sector. Drawing from both of these information sources one can derive the number of workers *theoretically* employed within the manufacturing sector in Tijuana, as shown below.

1988				
Total population	1,181,495			
Economically Active (56.9%)	672,270	*Missing Workers*		*Percent of Active Pop.*
Active in Manufacturing (30.2%)	203,025			
Active in Manufacturing (INEGI)	146,634	**56,642**		27.89%
1999				
Total Population	1,104,324[1]			
Economically Active (57.7%)	637,194	*Missing Workers*		*Percent of Active Pop.*
Active in Manufacturing (29.8%)	189,884[2]			
Active in Manufacturing (Census)	146,634[3]	43,250		22.7%
Active in Manufacturing (Secofi)	187,322	2,562		1.3%
	Average	188,603	25,482	8.0%
Analysis of Variance (Secofi)				
Minimum employed in manufacturing	171,000	18,884		9.94%
Maximum employed in manufacturing	201,380	11,496		6.05%
Man employed in manufacturing	187,156	2,728		1.43%
2000				
Total Population	1,134,772			
Economically Active	670,650			
Active in Manufacturing (28.4%)	190,464	5,708		2.99%
Maquiladora employment	184,752			

[1] Source: *Proyecciones de Población por entidad federativa.* Conapo, 1995.
[2] INEGI
[3] Censo de Población.

As can be appreciated from these data, there is a range of figures for manufacturing employment in Tijuana, which are summarized in Table 9.

Table 9. Range of Missing Manufacturing Workers.

	Numbers of missing wokers	
1998	56,642	(27.89%)
1999	43,250	(22.7%)
	18,844	(9.94%)
	11,496	(6.05%)
	2,728	(1.43%)
2000	5,708	(2.99%)

Table 10. Average Total Employment and Missing Manufacturing Workers.

Industry Size	*1999-2000*	*Missing Workers*	
Micro	8,889.3	56,642	1998
Small	16,158.9	43,250	1999
Medium	46,373.3	5,708	2000
Total	71,421.5		

It is difficult to say with certainty which numbers are the most credible. In this sense, this exercise must be viewed as a simulation. The range covers from approximately 30 percent of all manufacturing non-maquila jobs to as low as 1.5 percent. Data was presented earlier on the number of micro, small, and medium-size enterprises in Tijuana, as well as the average employment within these different industries. Because the average employment within these three different groupings is similar—ranging between 5.9 persons in micro industries to 11.6 persons in midsize ones—we can group their average total employment (Tables 6 and 7) to differentiate these industries from those in the "large" category (which can be anything but maquiladora industries and which, in any case, fall outside of this analysis). The sum of total average employment within this aggregate of industries is 71421.5, as may be seen in the Table 10.

Table 11. Difference between Total Average Employment and Unaccounted Workers.

Total Average Employment	*Unaccounted Workers*		*Difference*[1]
71,421	1998	56,642	14,779 (20.6%)
71,421	1999	43,250	28,171 (39%)
71,421	2000	5,708	65,713 (92%)

[1] It must be remembered here that the total average employment is good for all of 1999 and some months of the year 2000.. In this sense, the difference experienced for 1998 is overestimated in the sense that the aggregated employment in the different sized industries would be less in that year than the numbers shown for 1999 and 2000.

This comparative figure of total employment in industries of different sizes exceeds the largest number of unregistered workers by 14,779. The argument pursued in this essay has been that many unregistered workers fall into this category because the industries in which they work are operating on the margins of the formal economy—in terms of their industrial registration, of the ability of census workers to locate them, and so on. The discrepancy be-

tween such unaccounted workers and the totals reflected in employment figures for micro, small, and medium-size industries is most likely due to the fact that, in this particular case, the workforce has actually been located and registered in the official statistics.

The discrepancy between the total average employment and the number of unregistered workers is summarized in Table 11.

The accounting difficulties expressed above can be attributed to at least two main causes. The first has to do with the emphasis that both academics and public policy makers give to the region's maquiladora industry, while forgetting the importance of domestic-manufacturing producers. The second problem, trying to locate missing workers, is more structural in nature. The border region exhibits production dynamism unlike any elsewhere in Mexico. This dynamism is the result of social actors' need to adapt constantly to changes in the bilateral relationship and cross-border exchanges, fluctuations in monetary and fiscal policy, changes in the demand structure because of the high rates of immigration, and so on. These constantly changing factors have consequences in the production structure of Tijuana and the surrounding region. One of the clearest expressions of this dynamism involves the extreme variety in, and small quantity of, products being imported by micro, small, and medium-size enterprises which will later be used for domestic production and consumption.

Without conducting a more detailed and specific analysis using analytical tools, such as I/O models, it is difficult to estimate the impact that unaccounted workers have in the regional economy. Because of the nature of the imported products that small enterprises are using, we have posited that value-added, and incomes generated, by these activities does not compare with value-added in the maquiladora sector. Yet it would be inappropriate to conclude—discounting the multipliers from the production of all these workers and their enterprises—that this kind of production has no effect on the local economy. In fact, because of the structural problems mentioned above, many of these possible effects also go unregistered. (The registration of these effects could be ascertained if we had I/O models applied to the City of Tijuana and its region, along with an army of field anthropologists.) The following section explores some of these possible effects.

The Effects of the Missing Worker

What kind of economic impact do these many unaccounted workers have on the Tijuana economy and on its neighborhoods, and how extensive can these impacts be? Here we must revert to an analysis of workers within their households because—given that they are unregistered and unaccounted for—their participation is felt first in their living spaces. These workers wealth or poverty will also be reflected by their children and spouses and in the demands that this

population puts on services, infrastructure and overall social policy in Tijuana. Some of these effects can be estimated by looking at the value added in the manufacturing sector, anticipating salaries within this sector and other multiplier effects that workers and their activities have on the city. In this context, value added within the general manufacturing sector (including the maquiladora industry) is shown in Table 12.

Table 12. Value Added in Tijuana's Manufacturing Sector.

Year	*1994*	*1999*
Average wages paid	17,672 pesos	44,707
Per worker	25.3 pesos	76.60
Per place of employment	1048.9 pesos	4620.00

The totals being utilized for 1994 are: Number of enterprises=2,205; total value added= 2,312915; total employment=91,419. *Censos Económicos de Manufacturas de 1999,* INEGI, 1999. Data for 1999 are: Number of enterprises=2548; total value added=11,773,208; total employment = 153,530. Ibid, reference.

It is important to emphasize that these figures include maquiladora operations. To separate out the behavior of maquila operations from non-maquila ones requires a number of questionable subtractions. Still, we have no choice but to follow this procedure. By adding the number of total enterprises in each manufacturing subsector we can obtain totals for the number of enterprises and employment by subsector, as shown in figure 13.

Table 13. Comparison for Maquila and Non-maquila Manufacturing, Tijuana, 1998.

		Maquila	*Non-maquila*
Total employment	165,694	107,244	58,450 (37%)
Number of enterprises	3,304	631	2,673 (80.9%)

The *maquiladora* sector employs about 60 percent of workers in the manufacturing sector, but it accounts for only 20 percent of the manufacturing enterprises. In other words, two possibilities open up with regard to determining value-added in manufacturing by non-maquila industries. Either 80 percent of all value-added is attributable to non-maquila manufacturers, or there is such an uneven distribution that we can attribute most value-added to maquila operations and conclude that, although the composition of manufacturing heavily favors non-maquila enterprises, they cannot but contribute 20 percent of all manufacturing value added.

Most recent data for maquila operations show the following figures (Table 14).

Table 14. Value Added
in the Maquiladora Industry, Tijuana, 1998.

Number of enterprises	*667*
Total value added	15,517,371
Average value added per enterprise	23,264
Average value added per worker	106.3

Source: Dirección General de Estadística; Dirección de Estadísticas Económicas. *Anuario Estadístico del Estado de Baja California,* Gobierno del Estado de Baja California, 1999.

These figures differ from those in Table 13 in that the average value-added per worker is slightly higher (30 pesos). More significantly, the value added by enterprise is five times larger. In other words, the data in Table 13 clearly underestimates the maquiladora sector's contribution. What appears to be happening is that the great number of non-maquiladora operations pulls the averages in Table 13 downward. Also clear is that the maquiladora sector remains largely labor intensive, and this is the reason why value added per worker remains low. In general terms, the value added by the manufacturing sector represents 50.7 percent of all value added in Baja California[4] (recall that maquila operations involve 19 percent of all manufacturing businesses, but account for 80.9 percent of all manufacturing employment; Table 14).

However, the the data on value added within the maquiladora sector in Tijuana appears to exceed the value added by the manufacturing sector in its totality![5] In other words, it is possible that maquiladora contributions to regional value added are over-estimated in Table 15, and under-estimated in Table 13. Still, because we have more confidence in the employment numbers we can trust the conclusion regarding the labor intensity of maquila operations in the region. This indicates that the human component—as distinct from the economic analysis attempted here—can be analyzed in some depth. For our purposes, we would like to analyze the employment effects on households and families. More specifically, what are the "multipliers" for the households and families of unaccounted manufacturing workers?

We concluded above that there were between 56,642 and 43,250 workers that were unaccounted for during 1998 and 1999. This means, in effect, that

[4] Source: Censos Económicos de Manufacturas de 1999, INEGI.

[5] The difficulty here is that the value added definition seems to differ between the Censos Económicos and the Direccion General de Estadística –both generated by the INEGI. The possible difference lies in the accounting for the trade balance and its relation to production carried on by the maquila; in other words, some calculations of value added take into consideration (1) the role played by foreign imports, while other calculations (2) only take into account the value added where inputs have a national origin.

somewhere between 39% and 20% of all manufacturing non-maquila workers had been "disenfranchised" (Table 12) because they did not appear in official statistics they may as well have disappeared.[6] If so, does this mean that the human population associated with this group of workers as a component of a social group or class has also been forgotten by policymakers? They certainly cannot be put aside analytically.

Close to half a million people compose Tijuana's workforce, as defined by the Mexican population census.[7] This means that our estimate of unregistered workers (Table 11) represents approximately 10 percent of the total working population. If this working population represents heads of households, the number of households accounted for by these workers would thus total 29,573. Also, if an unregistered worker represents the sole income earner in a household he would be responsible for three other persons, yielding a total of 150, 000 people dependent on the earnings of unregistered manufacturing workers (Table 15).

Table 15. Workers and Household Composition in Tijuana.

Number of households	295,773
Total population	1,207,045
Average number of persons per Household	4.08
Average number of households per Residence	2.44

Source: XI Censo de Poblacion y Vivienda 2000, INEGI.

Yet, the data presented above indicates that there are close to 2.5 households per residence. Thus, according to the census definition of a household, there are at least two and a half principal wage earners per residence. If this were the case, the 150,000 dependents of the unaccounted work force would drop by half. That is, the manufacturing labor force not accounted for would be responsible for approximately 60,000 persons; in other words, this labor force is responsible for approximately 5 percent of the total population of the city of Tijuana.

[6] But, of course, these human beings do not disappear. They must be accounted for at the local level in terms of the services and other infrastructural elements which must be provided for them: schools, sanitation, hospitals, water supplies, etc. And, of course, during the last decade they have been felt in electoral terms, effectively displacing the PRI as the dominant political party in favor of the PAN; few can dispute their impact in the last presidential election when Vicente Fox was elected.

[7] Source: XII Censo de Población y Vivienda 2000, INEGI. The Mexican census incorporates children as young as 12 years old as part of a potential labor force. Under this definition only .62% were looking for work, while 14% dedicated themselves to household tasks, 28% of them being women. This indicates the strong presence of women in the Tijuana labor force, while 17% of those sampled stated that they just don't work.

Concluding Remarks

The question to be asked is under what conditions this population is being maintained by the workers of a manufacturing sector with the following characteristics:

- very small in terms of the size of the enterprises involved (Tables 5, 6, 7);
- one in which the current annual salary is approximately U.S. $5,000 Table 13);
- one in which this salaried wage is responsible for an average of three additional persons per household;
- 10 percent of this manufacturing workforce is "self-employed";[8]
- small value added through its manufacturing activities (Tables 13, 14, 15); and
- very low, though highly varied, imported production inputs.

It is also important to note that this population lives in a city with one of the highest costs of living in Mexico, and where the example of "modern living" comes from San Diego, which is among the five top U.S. cities in terms of the cost of living.

Table 16. General Indicators of Mexico's Manufacturing Workforce for 1995 (Index, 1980=100).

Average hourly wage	84.8
Median real wage per worker	78.3
Man-hours worked	62.8
Salaries	96.7

Only the figures for the last month of 1995 are shown here.

The conditions of the manufacturing workforce were somewhat worse in 1995 than in 1980. Most notable is the drop in hours worked; 13 percent of these manufacturing workers labor fewer than 33 hours per week, compared to 18 percent nationally.[9] In general terms, this workforce is young (see the figure on workforce distribution). This workforce and its dependent population (Table 16) must labor for wages that do not surpass three

[8] *Ibid.* Also see the analysis of poverty done by Diana Alarcón and Terry McKinley, "A Poverty Profile for Mexico in 1989." *Frontera Norte,* número especial, El Colegio de la Frontera Norte, vol. 6, 1994.

[9] Banco de Información Económica, INEGI, "Encuesta Industrial Mensual", 2000.

minimum wage levels (Table 17),[10] in a situation where real wages rise only marginally above the official minimum wage (see annex figure on minimum salaries-Tijuana).

These conditions lead one to wonder about the productivity of the non-maquiladora manufacturing sector and its relationship to wages (and the "weight of consumption")[11] upon individual workers, especially as it manifests itself in Tijuana. So rather than asking why there are limited links between the maquiladora industry and the rest of the Mexican manufacturing sector, we should be inquiring into the nature of the apparently structural obstacles that hinder the transfer of industrial practices and knowledge from the maquiladora industry to the domestic industry.

Table 17. Economically Active Population in Baja California and Salary Levels.

Less than 1 minimum salary	4.1%
Between 1 and 2 salaries	25.3%
Between 2 and 3	29.0%
More than 3 to 5	20.5%
Between 5 to 10	13.1%
More than 10	5.5%

Source: INEGI. *Encuesta Nacional de Empleo, 1998*. México, 1999.

In this context, it is not surprising that the differences between the two manufacturing sectors in Tijuana—export-oriented and domestic-oriented—are so pronounced. This difference must be seen as the result of public policy decisions made over the last thirty-five to forty years and encompassing all levels of government. But, as I have tried to show throughout this essay, there are a great many people directly involved in the production process within this sector, and a great many others who are dependent on their labor. De-emphasizing their importance will take public policy in a direction that is not only contrary to sound economic policy, but also contrary to these Mexican citizens' human rights.

[10] For 1998, three minimum salaries represents 103.3 pesos or some 10 dollars (Comisión Nacional de los Salarios Mínimos).

[11] For an understanding of this concept, see A.V. Chayanov, *The Theory of Peasant Economy*. University of Wisconsin Press, 1986.