

## La Declinación del Poder de los Sindicatos en México

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### **Mensaje Para los Estimados Participantes del IV Congreso de AMET:**

Lamentamos no haber podido traducir este estudio de inglés en español antes de la fecha límite para la entrega de ponencias. Además, los resultados presentados aquí son provisionales. Terminaremos una versión más definitiva, y la traduciremos en español, antes del Congreso. Las personas interesadas en recibirla pueden mandar un correo electrónico a [tedlevine@earthlink.net](mailto:tedlevine@earthlink.net)



The last two decades have witnessed a substantial decline in the rates of unionization in Mexico. Rather than relying on official figures provided by the unions, this study uses individual workers' responses to a nationally representative, household survey to measure the extent of unionization. This approach has at least two advantages: (1) It avoids the possibility that reported figures may be influenced by exaggeration on the part of some unions; (2) It records only the extent to which workers are affiliated with a union *and know that they are*. Thus, to the extent that “ghost unions” (unions which ostensibly represent workers, though the workers are unaware that they are represented) are a significant factor, and assuming that we consider such institutions (if they exist) not to be the objects we wish to study, our use of the household survey avoids the possibility of our figures being biased upward by the reporting of “membership” in such institutions—or coverage by contracts negotiated by such institutions—as union membership. Using these data we first derive weighted estimates of union density for the years 1984, 1989, 1992, 1994, 1996, 1998 and 2000, in the aggregate, and by industry, occupation and two geographic classifications. We use a series of graphs to illustrate the trajectories of these union densities according to each of these categories. Next, we use regression (probit) analysis and a method of counterfactuals to determine the percent of the change in aggregate union density from 1984 to 1998 that can be attributed to changes in the industry, occupation and gender mix and other worker characteristics, as opposed to the percent that must be attributed to other factors, including structural and institutional changes impacting the ability and will of unions to organize new workers. We find that the former only explains a minimal part of the decline. Finally, we use the union relative wage gap as one measure of union power and find preliminary evidence that the power of unions to raise workers' wages declined somewhat over the same period.

## Data

Our data are from the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH), a national, random sample of households, stratified by population size of city or locality, with sampling weights that make estimates drawn from the sample nationally representative. The data contain a number of useful worker characteristics including, crucially, whether workers are affiliated with a union in their principal job. In order to make meaningful comparisons across years, we have defined a set of detailed and more aggregate industry categories (21 and 6 categories, respectively), and a set of educational and occupational categories, that are consistent across all years. However, because of the change between 1998 and 2000 in the industrial classification system (from the Clasificación Mexicana de Actividades y Productos or CMAP to the Sistema de Clasificación Industrial de América del Norte or SCIAN [NAICS in English]), it was not possible to derive the more detailed industrial categories for 2000 that would be consistent with those of previous years. Thus, for comparisons between 2000 and previous years, we rely on more aggregate industry categories. Moreover, because the surveys in years prior to 1998 do not separate regular wages from overtime, we aggregated wages and overtime in 1998 and 2000 to ensure comparability across years.

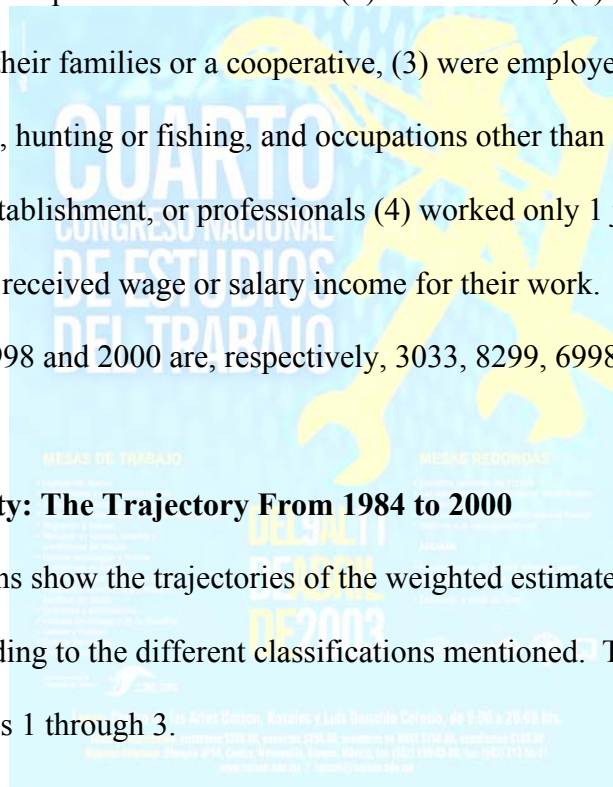
We have restricted our sample in a number of ways to ensure the reliability and meaningfulness of our estimates, and particularly our union/non-union comparisons. We exclude workers under the age of 16 and those who work an average of no more than 20 hours per week. To ensure an accurate measure of wages, we exclude workers who are self-employed, business owners, those working for cooperatives, those working for family businesses, and those working without compensation. Including these would permit leakages (e.g. unreported, non-wage compensation in the case of family businesses and cooperatives), or possible misreporting of what are really returns to capital as wages (for the self-employed, business owners, family business workers and cooperative members). We rely on income reported for the month prior to the survey to measure wages, and therefore exclude those

who did not work that month. Further, because information is available on union status only for the primary job in 1984 and 1989, we exclude those with more than two jobs or more than two sources of wage income. Finally, we exclude certain sectors (farming, livestock, forestry, hunting and fishing) and certain occupations (domestic servants, vendors with no fixed or stable establishment, any agricultural occupation) that are traditionally “beyond the pale of unionization.” Professionals and workers with unclassified occupations are also excluded.

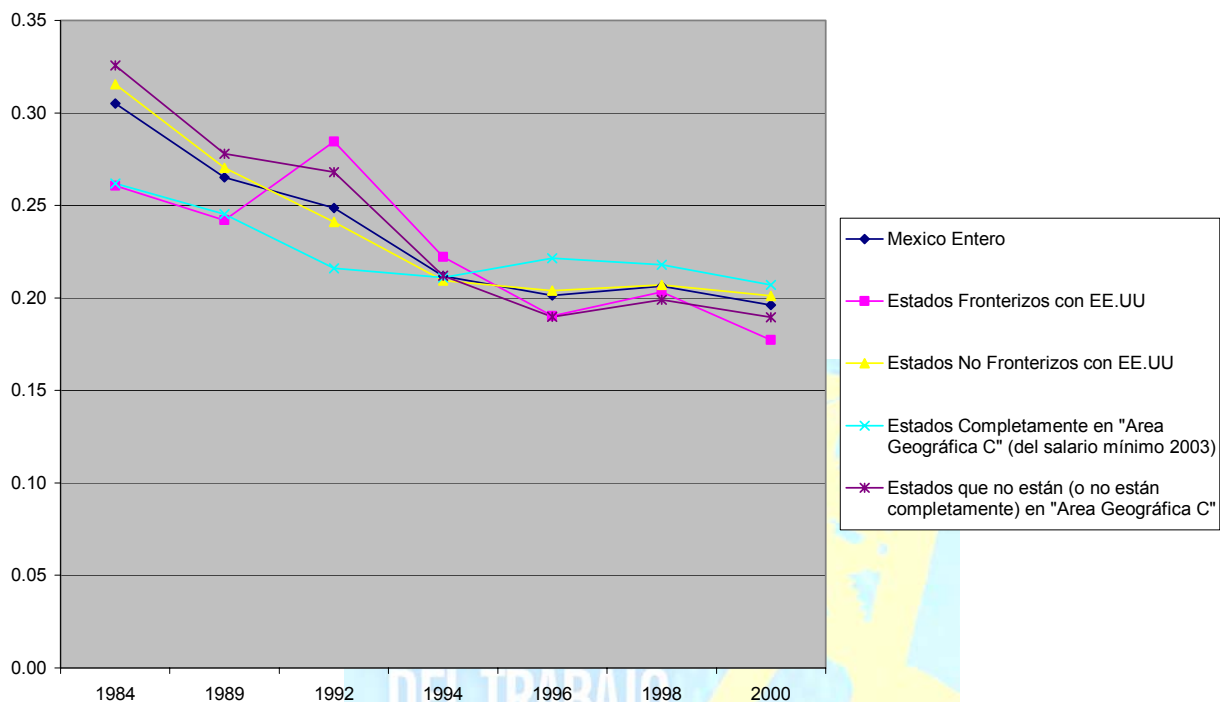
Our sample therefore represents workers who (1) were over 16, (2) were employed in a business not owned by themselves, their families or a cooperative, (3) were employed in industries other than farming, livestock, forestry, hunting or fishing, and occupations other than domestic service, sales without a fixed or stable establishment, or professionals (4) worked only 1 job, (5) worked more than 20 hours per week, and (6) received wage or salary income for their work. The sample sizes for 1984, 1989, 1992, 1994, 1996, 1998 and 2000 are, respectively, 3033, 8299, 6998, 8310, 9237, 6808 and 6578 (see Cuadro 1).

### **Estimates of Union Density: The Trajectory From 1984 to 2000**

The following graphs show the trajectories of the weighted estimates of union density for this universe of workers, according to the different classifications mentioned. The numbers are given at the end of this paper in Cuadros 1 through 3.



**Gráfica 1: Proporción de Empleados Afiliados a Sindicatos en México Entero, y Segun Dos Clasificaciones por Estado (1984-1998)**



Calculaciones de los Autores Utilizando Datos de la Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH 1984, 89, 92, 94, 96, 98 y 2000).

Sectores Excluidos: agricultura, ganadería y caza, silvicultura y tala de árboles, pesca.

Ocupaciones Excluidas: trabajadores en actividades agrícolas, ganaderas, silvícolas, y de caza y pesca; vendedores ambulantes y trabajadores ambulantes en servicios; trabajadores en servicios domésticos; profesionistas.

Otras Exclusiones: personas menores de 16 años de edad; cooperativistas, trabajadores familiares, trabajadores sin retribución, trabajadores por cuenta propia, patrones, empleadores y propietarios de negocios; trabajadores con más de un empleo; los que recibieron sueldos, salarios o jornales de más de un fuente o que no recibieron ninguna de éstos el mes antes de la entrevista; y los que no trabajaron el mes antes de la entrevista; las cifras derivadas de muestras con menos de 30 observaciones.

Fuentes de Datos Originales: INEGI 1992, INEGI 1996, INEGI 2000.

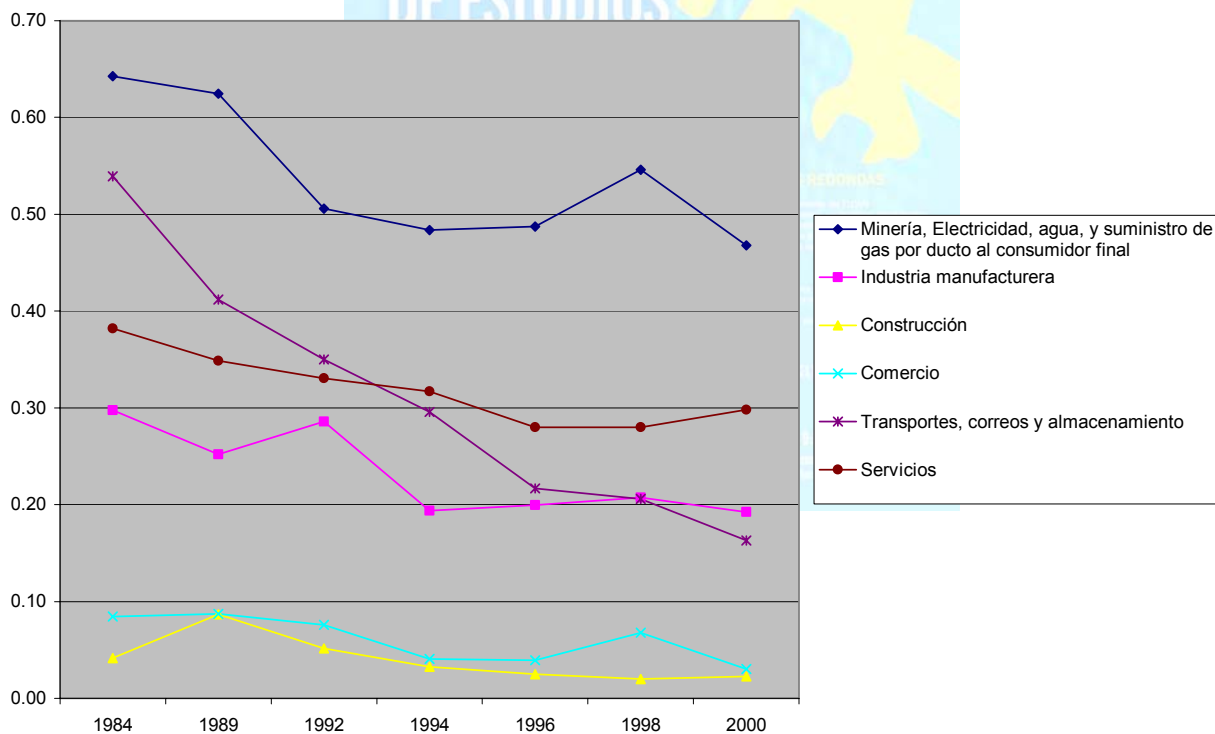
Gráfica 1 illustrates clearly the decline in union density over this period. For México as a whole, the decline was from just over 30 percent in 1984 to just under 20 percent in 2000. The biggest and steadiest decline was from 30 percent in 1984 to 21 percent in 1994, with a slight further decline to 20 percent in 1996, and an approximate leveling-off thereafter (with a slight increase in 1998). The trend is globally similar if we consider only those states that do not share a border with the United States of America (U.S.), and similarly if we consider only those states that do not lie entirely in “Área



Geográfica C” (the area with the lowest minimum wages—according to the classification in use in 2003). However, in the case of those states that lie entirely in “Área Geográfica C”, union density was 26 percent in 1984—below the national level of 30—and 21 percent in 2000, slightly above the national level, and the two trajectories intersect in 1994. The trajectory for the border states is more variable, beginning at 26 percent in 1984, initially dropping slightly and then spiking to 28 (above the national level of 25) in 1992, and following a similar pattern as (but declining faster than) the national trajectory thereafter. There is a substantial drop in union density in the border states from 20 percent in 1998 to 18 percent in 2000.

The next graph illustrates the trajectory for major industry categories:

Gráfica 2: Proporción de Empleados Afiliados a Sindicatos por Sector (1984-1998)



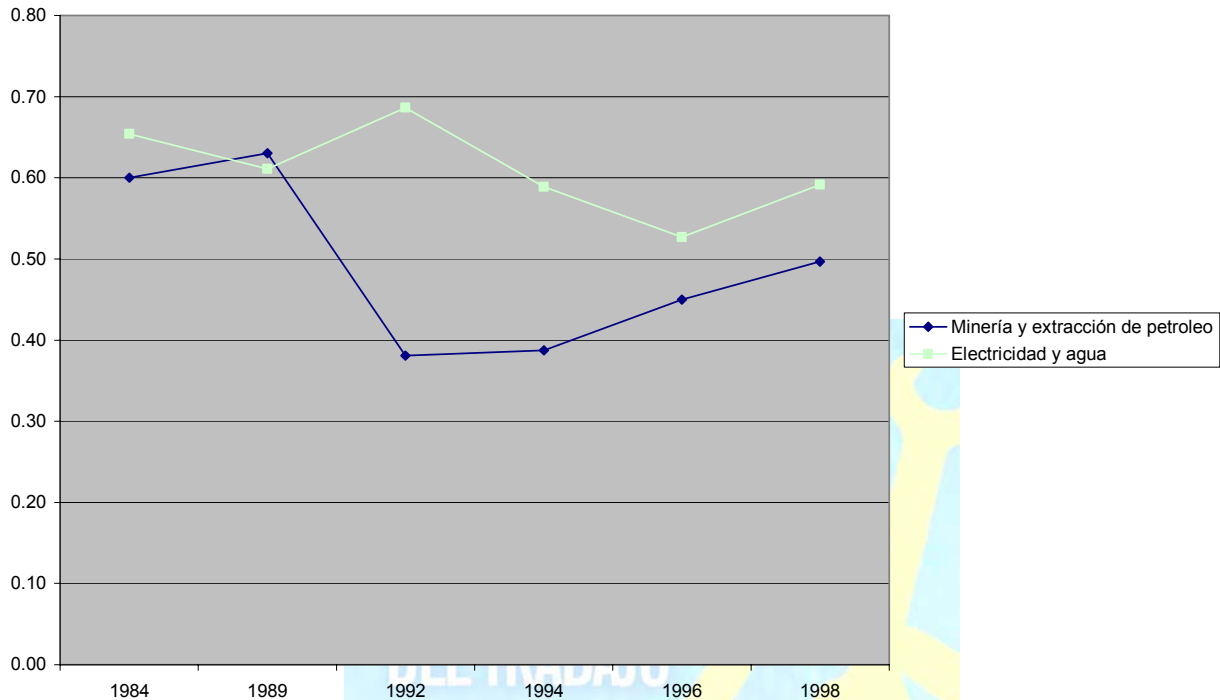
Las fuentes y exclusiones son iguales como en la Gráfica 1. Again, there is a general trend of decline in all sectors. However, by far the most dramatic is the sharp and steady decline in union density in the transportation, shipping and warehouse sector, from 54 to 16

percent over the entire period, a drop of 38 percent! The mining, electricity, water and gas pipeline industry also experienced a dramatic decline in union density, from 64 to 47 percent (17 points), but with a large spike from 1996 to 1998. The service and manufacturing sectors both had 10-point declines in union density (from 38 to 29 and 29 to 19 percent, respectively). The commercial sector dropped from 8 to 3 percent, and the construction sector, after a substantial increase to 9 percent by 1989, then dropped 7 points over the 1990s to 2 percent in 2000.

By the year 2000, the mining, electricity, water and gas pipeline sector was still, by far, the most unionized sector, at 47 per cent, and the commercial and construction sectors continued to have, by far, the lowest union density, at merely 3 and 2 percent, respectively. Among the three sectors in the middle, transportation shipping and warehousing went from the top to the bottom position, and services remained well above (by 10 points) manufacturing, but both still with substantial union densities of 29 and 19 percent, respectively.

We do not have more detailed subcategories for construction and transportation, shipping and warehousing, and we do not present the graphs of the trajectories of the subsectors of commerce (wholesale and retail), which are low and similar to that of the whole sector. However, in the following graphs we present trajectories of union density in the more detailed subcategories of the remaining sectors. Again, it is only possible to give those trajectories up until 1998, due to the change in classification systems between the 1998 and 2000 surveys. Note also that we have omitted points based on fewer than 30 observations. The greater variability across years observed in these graphs may be reflective of a combination of (1) greater sampling error due to smaller sample sizes, and (2) the fact in the previous graphs, fluctuations in the sub-sectors tended to average each other out to some degree when we aggregated them together. Thus, some part of the higher observed fluctuation reflects actual fluctuations in union density in the more disaggregated sectors, and some part is simply an artifact of having smaller samples to work with.

**Gráfica 3: Proporción de Empleados Afiliados a Sindicatos en Industrias Extractivas y de Agua, Electricidad y Suministro de Gas (1984-1998)**

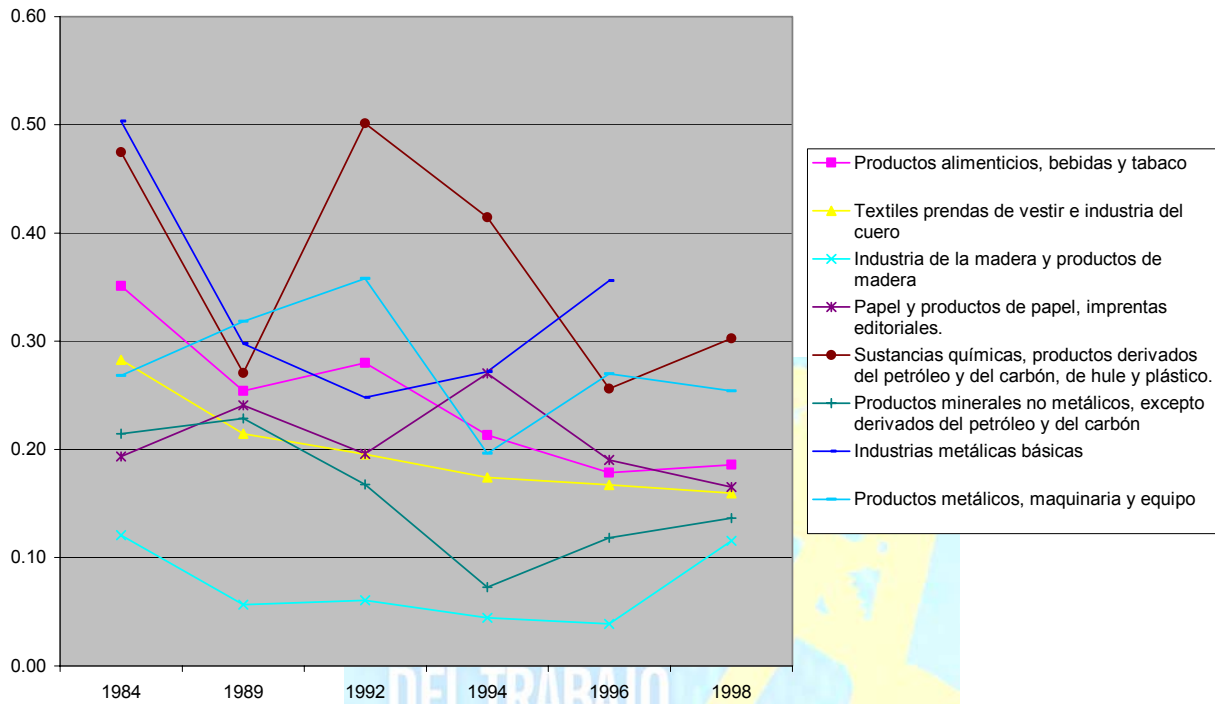


Las fuentes y exclusiones son iguales como en la Gráfica 1.

Union density in the electricity, water and gas pipeline sub-sector remain above that in the mining and petroleum extraction sub-sector for most of the period covered. Union density in mining and petroleum extraction experienced a sharp decline from 1989 to 1992, from 63 to 38 points, and then recovered nearly half of the points lost, ending in 1998 with 50 percent, nine points below electricity, water and gas pipelines. Again, the general trend of decline over the entire period is apparent, but more complicated, with union density in electricity, water and gas pipelines rising over much of the 1990s, but still far from recovering the union density lost from 1989 to 1992. As we know from the previous graph, unionization for the entire sector dropped sharply again from 1998 to 2000.



**Gráfica 4: Proporción de Empleados Afiliados a Sindicatos en Industrias Manufactureras (1984-1998)**

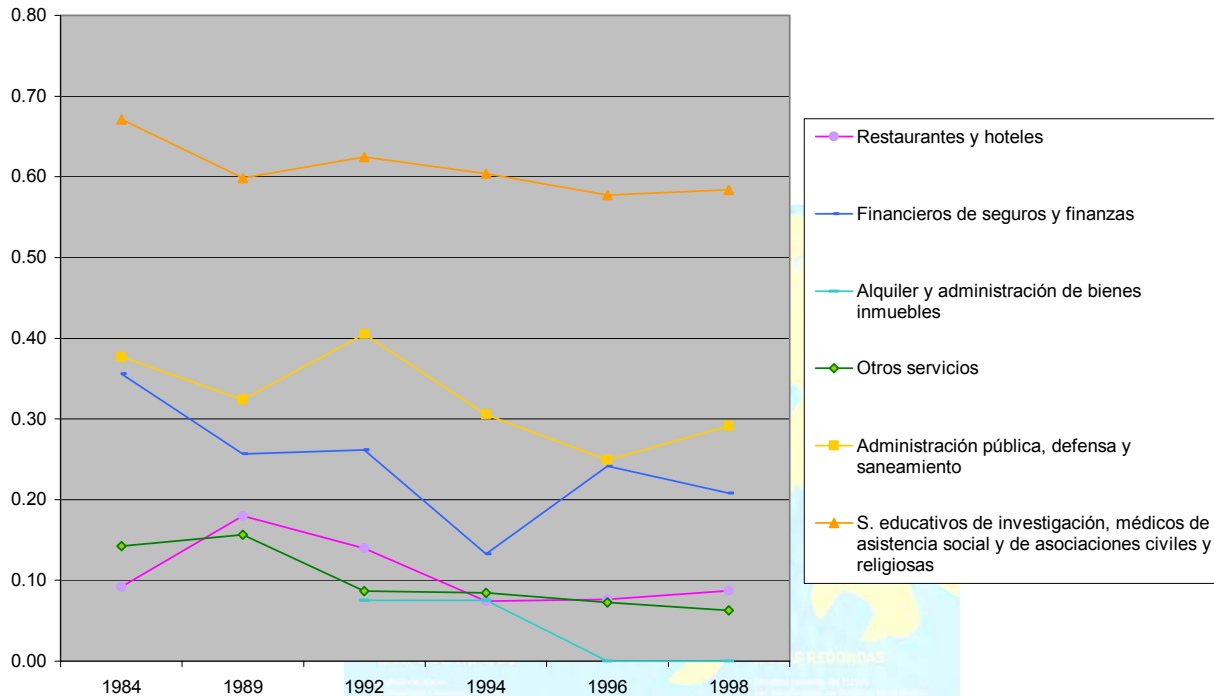


Las fuentes y exclusiones son iguales como en la Gráfica 1.

In the manufacturing sub-sectors, chemical substances, petroleum derivatives and plastics, and basic metals began and ended the period as the top contenders for union density, though with a loss of 17 and 23 points, respectively. (We omit the last point in the basic metals graph, because it is based on a sample of only 25 observations.) However, the initial high point in the chemicals, petroleum derivatives and plastics sub-sector is based on only 69 observations, and all of the estimates for basic metals come from fewer than 100 observations. Thus, fluctuations in these trajectories ought to be viewed with a healthy skepticism. Metal products, machines and equipment remained at the bottom throughout this period, and ended in 1998 approximately where it began after an initial dip followed by a long, slow decline, and then a sharp rise at the end. All of these sub-sectors experienced an over-all decline in union density from 1984 to 1998, and most converged to between 10 and 20 percent by

1998. Among the most significant declines in this middle group were food products, beverages and tobacco, textiles, apparel and leather, and non-metallic mineral products.

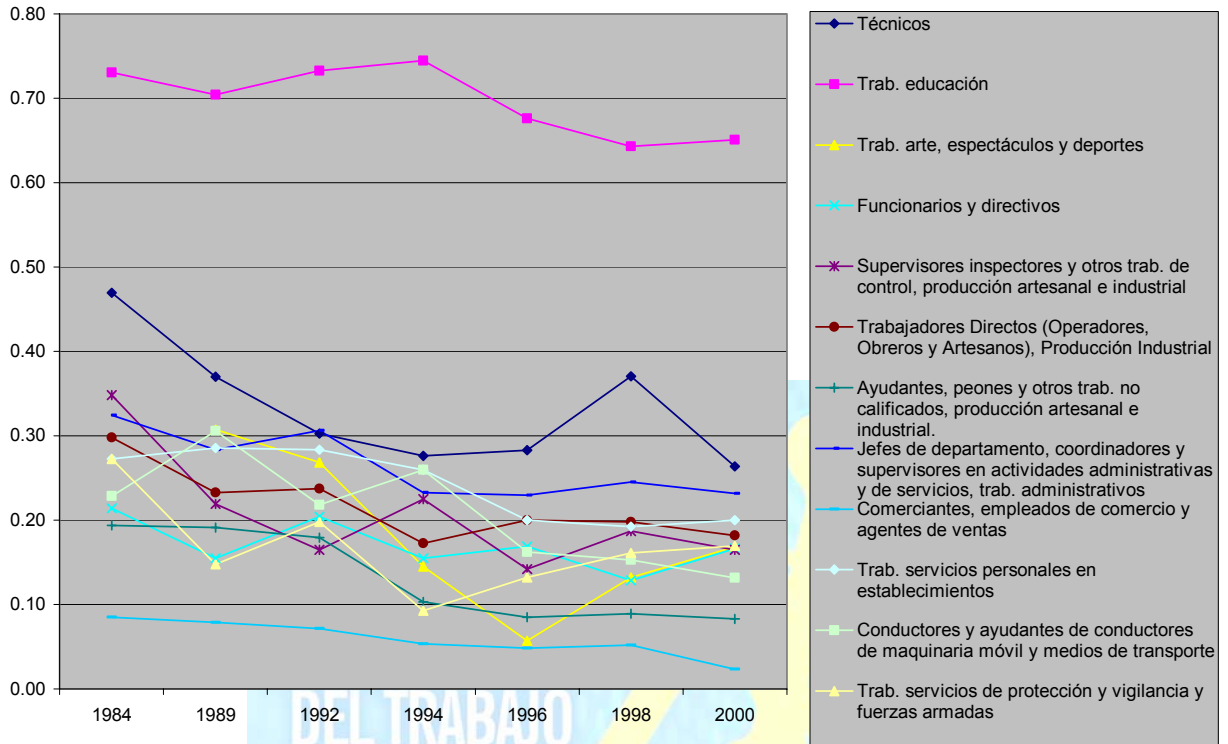
**Gráfica 5: Proporción de Empleados Afiliados a Sindicatos en Industrias de Servicios (1984-1998)**



Las fuentes y exclusiones son iguales como en la Gráfica 1.

Among the services, the education, research, social assistance medical and civil and religious associations group maintained, by far, the highest union density, with a decline that is slight by comparison to other high-density industries, but still a fall of nearly 10 points from 57 to 68 percent. The remaining sectors all experienced a general decline in union density, except for restaurants and hotels, which spiked and then ended where it started at 9 percent. Public administration, defense and health maintained second position, and insurance and finance maintained third, ending in 1998 with 29 and 21 percent union density, respectively. The real estate sector remained at the bottom, ending with zero observed union membership in either 1996 or 1998 (but based on small samples).

**Gráfica 6: Proporción de Empleados Afiliados a Sindicatos por Ocupación (1984-1998)**



Las fuentes y exclusiones son iguales como en la Gráfica 1.



Education workers remained, throughout the period, far and away the most highly unionized occupation, with a decline of 8 points from 1994 to 2000 (73 to 65 percent). The administrative occupations maintained second place, but with a substantial decline from 32 to 23 percent. Just beneath them is a large cluster of other occupations, all showing a general declining trend over the period, beginning at between 19 and 35 percent, and ending at between 8 and 26 percent. Again, the general trend among them was a period of steepest decline in the 1980s and early to mid 1990s, with a tendency to level off or even recover slightly thereafter, and then sometimes drop slightly again from 1998 to 2000. Among this group, the arts, performance and sports workers experienced the steepest sustained decline, from 31 percent in 1989 to 6 percent in 1996, following an equally steep (but incomplete) recovery to 17 percent in 2000. (We do not show the initial high point in 1984 of 73 percent, based on a sample of only 23.) However, for this occupation alone, sample sizes are all below 100.

### **Explanations of the Decline**

In this section, we use a statistical technique to decompose the decline in over all union density in México into two parts, corresponding to two different explanations.

The ultimate explanation can be thought of as a mixture of these two: At one extreme, rates of unionization could change due to changes in the over all composition of the economy, and characteristics of workers. In principle, the mix of industries, occupations and genders could change, without there being any change in the average effect (holding everything else constant) that being in a particular industry or occupation, or being of a particular gender, has on a worker's likelihood of being a union member. Thus, unionization levels might change because of changes in this mix, without there being any underlying structural or institutional change. A similar possibility holds with respect to levels and kinds of educational attainment. At the other extreme is the possibility that the industry and occupation mix and worker characteristics remain the same, but there are structural and institutional

changes affecting the ability or propensity of unions to organize and retain members. Such changes could include changes in the laws controlling collective bargaining and union membership, changes in their enforcement, changes in the structure and organization of unions, and their relation to the government or ruling party, impacts of globalization on the potential risks of unionizing, and other such explanations. More likely than not, both kinds of change occur simultaneously.

We can decompose the change in union density into two parts, (1) that explained by changing industry, occupation and gender mix and worker characteristics, and (2) that explained by structural and institutional changes affecting the impact of each of these on a worker's probability of being a union member.<sup>1</sup> First, we estimate the coefficients of the following probit regression model using the 1984 data:

$$(1) \quad \Pr(U_i = 1) = \Phi(X_i\beta) \text{ where } X_i\beta \text{ is from the linear model}$$

$$(2) \quad U_i = X_i\beta + \varepsilon_i$$

Here,  $U_i$  is a union indicator (dummy) for the  $i^{\text{th}}$  worker that takes the value 1 if the worker is a union member and 0 otherwise.  $X_i$  is a vector of characteristics determining union status, including a full set of industry (using the more disaggregated sectors) and occupation dummies, age, age squared, a sex dummy, a set of dummies indicating level and type of educational attainment (including technical school), an indicator for location in a rural or urban zone, an indicator of whether the person lives with one or more family members who are in a union, and an indicator as to whether the person lives in a state lying entirely in "Área Geográfica C".  $\beta$  is the vector of coefficients on the union-status-determining characteristics, and  $\varepsilon_i$  is the error term representing random, individual deviations from the predicted value of  $U_i$  in the linear model (2) due to factors not contained in the model. Finally,  $\Phi(\cdot)$  is the standard normal cumulative probability density function. In words, we derive estimates  $\hat{\beta}$



of the coefficients  $\beta$  in the model that relates probability of being a union member to the union-status-determining characteristics.

For each individual, we can then derive an individual's predicted probability of being a union member from that individual's characteristics (including industry and occupation), and the mean of that predicted value across individuals gives the predicted union density in 1984. Using the same estimated coefficients derived from the 1984 data, we then substitute the data from 1998 into the equations and compute the mean of the predicted probabilities. That exercise tells us what union density would be predicted to be in 1998, according to the 1998 industry, occupation and gender mix and worker (and family) characteristics, if the relative effects of each of these on a worker's probability of being in a union remained the same in 1998 as it was in 1984. The difference between the latter and the former is a measure of the change in union density due to changes in the mix of union-determining characteristics (including industry and occupation). Finally, we estimate the equation from the start again, only this time using the 1998 data from the beginning, and compute the predicted 1998 union density using the 1998 data. The difference between this and the previous predicted union density is a measure of the change in union density due to change in the estimated coefficients.

We could as well have started with 1998 as the base year instead of 1984 and performed the decomposition in the reverse direction, with potentially different results. In order to ensure that our choice of base year does not matter, we perform the decomposition in both directions and let the part of the change in union density attributable to each of the two kinds of changes (changes in worker characteristics vs. changes in the structural parameters) be the average of the corresponding parts calculated in each of the two directions.<sup>2</sup>

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<sup>1</sup> The technique used here is applied in Farber (1987) to the U.S. labor movement.

<sup>2</sup> We take this suggestion, common in the calculation of indices of many sorts, from a seminar given by Shatakshee Dhongde in the UCR Department of Economics. Her paper is available at <http://www.economics.ucr.edu/seminars/shatakshee.pdf>.

We present the results of this exercise below only in summary form:

	Year	
	1984	1998
Actual (Estimated) Union Density	0.307	0.207
Predicted Union Density Using 1984 Equation	0.307	0.286
Predicted Union Density Using 1998 Equation	0.221	0.208

Based on these predictions, and performing the calculations, we find that of the 9.86 percent decline in union density in México, only 1.67 percent is explained by the change in industry, occupation and gender mix and worker and family characteristics, while 8.29 percent is explained by changes in the estimated coefficients of the model. In other words, less than one-fifth of the decline in union density is due to changes in industry and occupation mix and worker characteristics, while more than four-fifths of it is due to structural, institutional and other changes to the effect of each worker characteristic to his or her probability of being a union member. Thus, for explanations we must look principally at structural and institutional changes.

### Measuring the Decline in Union Power

One of the numerous things that unions attempt to be is to raise the wages of their members above what they would otherwise be, absent the union. Again using regression analysis, we can estimate the following wage equation:

$$(3) \quad \ln(w_i) = \gamma x_i + u_i \delta x_i + \varepsilon_i$$

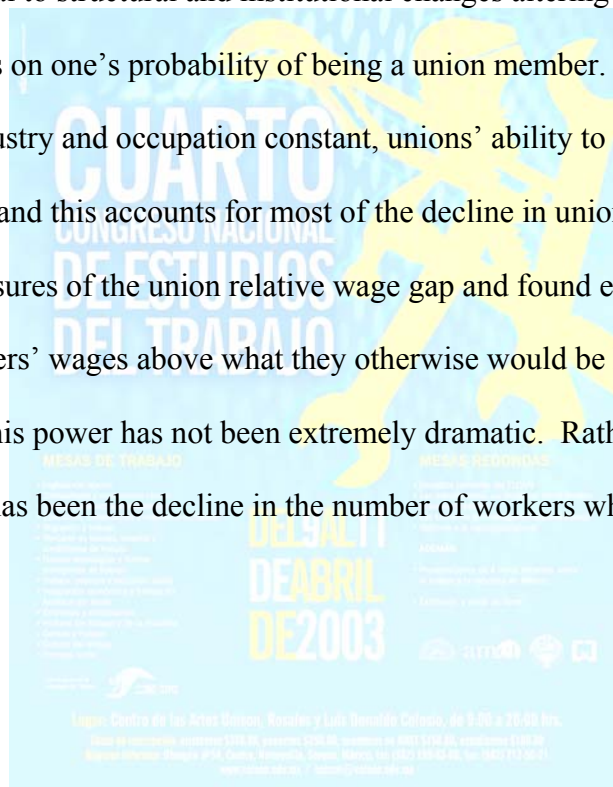
Here,  $w_i$  is the worker's wage,  $x_i$  is the vector of wage-determining characteristics<sup>3</sup> (including most of those used for the union status equation in the previous section), and  $u_i$  is the union status dummy, and  $\gamma$  and  $\delta$  are coefficients of the model that we estimate. The proportion, by which a worker's wage would change if his or her status were changed from non-union (0) to union (1), while holding the parameters of the model and all of the worker's characteristics fixed, is  $\delta x_i$ . Using the estimate,  $\hat{\delta}$ , and the average of the characteristics across workers, we derive the average union relative wage gap for the whole economy.<sup>4</sup>

Our preliminary estimates (without correction for selection bias) of the union relative wage gap for 1984 and 1998 are 19.5 percent and 17.7 percent, respectively. Thus, the capacity of unions to raise workers' wages has fallen slightly (1.8 percentage points out of 19.5). However, if we choose either 1994 or 1996 instead of 1998, the relative wage gap is about 15 percent, instead of nearly 18 percent. It is possible that measurement problems are influencing the 1998 estimate, due to our convention of adding together wages and overtime pay (based on our reading of the ENIGH documentation from earlier years to suggest the two were aggregated in a single measure). If union workers earn more overtime pay than non-union workers holding all else constant, this could bias our 1998 measure upward. Either way, the capacity of unions to increase members' wages above what they would otherwise be fell from 1984 to 1998, but according to our preliminary measures the decline is not extremely dramatic. The major effect comes not from the diminished power of unions to raise the wages of those who happen to be their members, but rather from the diminished share of the workforce that happen to be union members.

## Conclusion

<sup>3</sup> In this and the previous model, we include a constant in the worker characteristic vector.

We have presented estimates of the trajectories of union density in México by industry, occupation and two geographical classifications. Over all, and in nearly every category, México has experienced a substantial decline in union density over the last two decades. For México as a whole, the decline is from 30 to 21 percent, or a decline by approximately one-third. Our preliminary analysis shows that less than one-fifth of that change can be attributed to changing industry, occupation and gender mix and worker characteristics. We have argued that the remaining four-fifths of the decline must be explained by appeal to structural and institutional changes altering the effect that having a particular characteristic has on one's probability of being a union member. That is, holding individual worker characteristics, industry and occupation constant, unions' ability to organize and retain workers has declined substantially, and this accounts for most of the decline in union density. Finally, we have presented preliminary measures of the union relative wage gap and found evidence that the capacity of unions to raise their members' wages above what they otherwise would be has diminished over this period, but the decline in this power has not been extremely dramatic. Rather, the more dramatic impact on workers wages has been the decline in the number of workers who are unionized.



<sup>4</sup> This procedure is described in Lewis (1986). For present purposes, we are ignoring the problem of selection bias. In a future version of this paper, we will consider a correction for selection bias. However, Lewis argues that the standard corrections for selection bias are unreliable, and prefers the uncorrected measures.

Cuadro 1: Proporción de Empleados Afiliados a Sindicatos por Sector

Sector	Proporción de Empleados Afiliados a Sindicatos							Número de Observaciones en la Muestra						
	1984	1989	1992	1994	1996	1998	2000	1984	1989	1992	1994	1996	1998	2000
Minería, Electricidad, agua, y suministro de gas	0.64	0.62	0.50	0.48	0.49	0.54	0.47	97	267	166	221	265	202	157
Industria manufacturera	0.29	0.25	0.28	0.19	0.20	0.20	0.19	816	2200	1835	2081	2487	1859	1732
Construcción	0.04	0.09	0.05	0.03	0.02	0.02	0.02	351	930	983	1087	917	571	831
Comercio	0.08	0.08	0.07	0.04	0.04	0.07	0.03	470	1298	1110	1228	1357	1144	1035
Transportes, correos y almacenamiento	0.54	0.41	0.35	0.30	0.22	0.20	0.16	197	429	411	435	451	348	293
Servicios	0.38	0.34	0.33	0.31	0.28	0.28	0.29	1154	3336	2662	3385	3929	2806	2648
Mexico Entero	0.30	0.27	0.25	0.21	0.20	0.21	0.20	3033	8299	6998	8310	9237	6808	6578
Estados Fronterizos con EE.UU	0.26	0.24	0.28	0.22	0.19	0.20	0.18	736	1732	1014	1063	985	1053	1145
Estados No Fronterizos con EE.UU	0.32	0.27	0.24	0.21	0.20	0.21	0.20	2297	6567	5984	7247	8252	5755	5433
Estados Completamente en "Area Geográfica C" (del salario mínimo 2003)	0.26	0.25	0.22	0.21	0.22	0.22	0.21	1308	3833	3276	4199	5459	3337	3204
Estados No Completamente en "Area Geográfica C"	0.33	0.28	0.27	0.21	0.19	0.20	0.19	1725	4466	3722	4111	3778	3471	3374

Calculaciones de los Autores Utilizando Datos de la Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH 1984, 89, 92, 94, 96, 98 y 00).

Sectores Excluidos: agricultura, ganadería y caza, silvicultura y tala de árboles, pesca.

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Otras Exclusiones: personas menores de 16 años de edad; cooperativistas, trabajadores familiares, trabajadores sin retribución, trabajadores por cuenta propia, patrones, empleadores y propietarios de negocios; trabajadores con más de un empleo; los que recibieron sueldos, salarios o jornales de más de un fuente o que no recibieron ninguna de éstos el mes antes de la entrevista; y los que no trabajaron el mes antes de la entrevista.

Fuentes de Datos Originales: INEGI 1992, INEGI 1996, INEGI 2000.



Cuadro 2: Proporción de Empleados Afiliados a Sindicatos por Sector Detallado

Sector Detallado	Proporción de Empleados Afiliado a Sindicatos						Número de Observaciones en la Muestra					
	1984	1989	1992	1994	1996	1998	1984	1989	1992	1994	1996	1998
Minería y extracción de petróleo	0.60	0.63	0.38	0.39	0.45	0.50	31	173	101	141	171	113
Productos alimenticios, bebidas y tabaco	0.35	0.25	0.28	0.21	0.18	0.19	167	377	347	486	508	306
Textiles prendas de vestir e industria del cuero	0.28	0.21	0.20	0.17	0.17	0.16	151	505	415	390	586	503
Industria de la madera y productos de madera	0.12	0.06	0.06	0.04	0.04	0.12	69	144	128	129	169	116
Papel y productos de papel, imprentas editoriales.	0.19	0.24	0.20	0.27	0.19	0.17	34	138	74	99	116	94
Sustancias químicas, productos derivados del petróleo y del carbón, de hule y plástico.	0.47	0.27	0.50	0.41	0.26	0.30	69	241	201	170	207	204
Productos minerales no metálicos, excepto derivados del petróleo y del carbón	0.21	0.23	0.17	0.07	0.12	0.14	60	117	158	160	153	107
Industrias metálicas básicas	0.50	0.30	0.25	0.27	0.36	0.27	60	74	38	48	65	25
Productos metálicos, maquinaria y equipo	0.27	0.32	0.36	0.20	0.27	0.25	180	532	408	533	595	443
Otras industrias manufactureras	0.32	0.36	0.00	0.00	0.09	0.13	14	31	13	25	27	17
Electricidad y agua	0.65	0.61	0.69	0.59	0.53	0.59	66	94	64	79	91	87
Construcción	0.04	0.09	0.05	0.03	0.02	0.02	338	907	949	1056	900	555
Comercio al por mayor	0.11	0.09	0.07	0.04	0.03	0.08	114	396	324	350	378	391
Comercio al por menor	0.08	0.09	0.08	0.04	0.04	0.06	342	861	747	854	940	730
Restaurantes y hoteles	0.09	0.18	0.14	0.07	0.08	0.09	139	358	382	453	558	413
Transporte y comunicaciones	0.54	0.41	0.35	0.30	0.22	0.21	197	428	410	433	451	346
Servicios financieros de seguros y finanzas	0.36	0.26	0.26	0.13	0.24	0.21	76	183	115	133	106	93
Servicios de alquiler y administración de bienes inmuebles	0.00	0.08	0.08	0.08	0.00	0.00	14	25	44	41	51	32
Otros Servicios: de esparcimiento, cultura, recreación y deportivos; profesionales, técnicos especializados y personales; de reparación y mantenimiento; relacionados con la agricultura, ganadería, construcción, transportes, financieros y comercio; de organismos internacionales	0.14	0.16	0.09	0.08	0.07	0.06	233	904	788	853	1054	874

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Servicios de administración pública, defensa y saneamiento	0.38	0.32	0.41	0.31	0.25	0.29	260	639	448	631	783	483
Servicios educativos de investigación, médicos de asistencia social y de asociaciones civiles y religiosas	0.67	0.60	0.62	0.60	0.58	0.58	419	1172	844	1246	1328	876

Las fuentes y exclusiones son iguales como en el Cuadro 1.

Cuadro 3: Proporción de Empleados Afiliados a Sindicatos por Ocupación

Ocupación	Proporción de Empleados Afiliados a Sindicatos							Número de Observaciones en la Muestra						
	1984	1989	1992	1994	1996	1998	2000	1984	1989	1992	1994	1996	1998	2000
Técnicos	0.47	0.37	0.30	0.28	0.28	0.37	0.26	167	491	431	599	531	368	373
Trab. educación	0.73	0.70	0.73	0.74	0.68	0.64	0.65	179	563	299	481	578	386	439
Trab. arte, espectáculos y deportes	0.73	0.31	0.27	0.15	0.06	0.13	0.17	23	91	64	79	73	56	42
Funcionarios y directivos	0.21	0.16	0.20	0.15	0.17	0.13	0.17	64	190	193	230	246	196	173
Supervisores inspectores y otros trab. de control, producción artesanal e industrial	0.35	0.22	0.16	0.22	0.14	0.19	0.16	97	291	196	237	267	210	252
Trabajadores Directos (Operadores, Obreros y Artesanos), Producción Industrial	0.30	0.23	0.24	0.17	0.20	0.20	0.18	849	2369	1870	1847	2170	1635	1569
Ayudantes, peones y otros trab. no calificados, producción artesanal e industrial.	0.19	0.19	0.18	0.10	0.09	0.09	0.08	301	633	836	1172	1151	786	790
Jefes de departamento, coordinadores y supervisores en actividades administrativas y de servicios, trab. administrativos	0.32	0.28	0.31	0.23	0.23	0.25	0.23	555	1435	1115	1258	1493	1168	1087
Comerciantes, empleados de comercio y agentes de ventas	0.08	0.08	0.07	0.05	0.05	0.05	0.02	245	742	653	802	849	732	651
Trab. servicios personales en establecimientos	0.27	0.29	0.28	0.26	0.20	0.19	0.20	280	716	593	764	905	611	561
Conductores y ayudantes de conductores de maquinaria móvil y medios de transporte	0.23	0.31	0.22	0.26	0.16	0.15	0.13	189	501	487	527	548	403	353
Trab. servicios de protección y vigilancia y fuerzas armadas	0.27	0.15	0.20	0.09	0.13	0.16	0.17	84	277	261	314	426	257	288

Las fuentes y exclusiones son iguales como en el Cuadro 1.

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