

THE QUALITY OF EMPLOYMENT OF EMPLOYEES IN TIJUANA AND MONTERREY WHO HAVE A HIGHER EDUCATION

A Quantitative Analysis

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Abstract:

Within the framework of the economic restructuring and employment flexibility of recent decades, this paper makes a comparative analysis of the job quality of employees who have a higher education, in Tijuana and in the metropolitan area of Monterrey. Both are cities in northern Mexico that are characterized by their important economic and industrial dynamics. Used for the study was Mexico's National Survey of Urban Employment from 1994 to 2002. We found that the job conditions of employees with a higher education still have advantages over the conditions of workers with less education, in spite of some precarious trends, especially with regard to the lack of social security and the lengthening of the work week in Tijuana. In Monterrey, improvement in the quality of employment is evident.

Key words: employment, quality, higher education, labor market, social security, Tijuana, Monterrey.

Growing concern exists in Mexico with regard to the future of graduates from institutions of higher education. Although the topic has been addressed since the 1970s (Muñoz Izquierdo, 1979 and 1992), recent reports have indicated important levels of underemployment (ANUIES, 2003) and disadvantageous working conditions for a generally privileged sector of the labor market.¹

Other studies emphasize that in spite of the increasing supply of graduates,² the income of labor strata with higher education remains notably different from the income of workers with less than a university education (Meléndez, 2003; García y De Oliveira; 2003; Llamas y Garro, 2003; Planas, 2004).

Recent information may respond to a situation that has been negatively influenced by the low growth of the Mexican economy following the US crisis of September, 2001. According to the national institute of statistics, geography and computer science (Instituto Nacional de Estadísticas, Geografía e Informática—INEGI) (2004), an unemployment rate of 3.25% was registered from January to December of 2003, with slightly more than 1,300,000 individuals out of work. By mid 2004, this figure had surpassed 4% of the economically active population (EAP). Out of the total number of unemployed, more than 500,000 were professionals.³

The meaning of this information is affected by the known fact that in Latin American societies, where unemployment benefits are nonexistent, the poor must work at all times. Since they carry out activities in the informal economy, the unemployment rate for the sectors with the least education is not high. On the other hand, the lack of employment for a graduate of higher education may represent a waiting period while work in accordance with educational expectations is found. During this time, the graduate's family will be in charge of his subsistence. In any case, the figures are a symptom of a labor market in which obtaining more credentials contributes to increased competition.

Due to the above, the topic of the *return on higher education*—in the terminology of the theory of human capital—rouses the interest of society. On one hand, it

eliminates the functional aspect of the educational system in relation to the labor market; i.e., the usefulness of education as the best tool for accessing good conditions as a self-employed worker or employee. On the other hand, the topic exacerbates the employment concerns of individuals considering higher education, and inflames public debate on the fields of study that offer the best immediate opportunities in the labor market.

In this general panorama, not only is it necessary to take into account the temporality of the phenomenon and its relation to economic cycles, but consideration must also be given to the spatial variable. It is known that since the 1980s, the evolution of Mexico's labor market and the economy has presented clear differences by region. In general, since the reconversion began in the 1980s, the cities in northern Mexico have obtained better results in creating jobs and income for employees.⁴

This article proposes to analyze the quality of employment of employees with a higher education, by considering only two urban areas in northern Mexico—Tijuana, Baja California, and the metropolitan area of the city of Monterrey, Nuevo León—from 1994 to 2002, the most recent year of the national survey of urban employment (Encuesta Nacional de Empleo Urbano—ENEU). The selection of both cities is justified by the different characteristics of their industrialization and labor markets.

Monterrey has been known for its commercial and industrial activity since the mid 19th century, with a notable rate of growth during the entire 20th century. Small, medium and large companies of all types have been established and developed. Large industrial groups (Pozos, 1996:58, Pozas, 2003) have encouraged the development of logistic and professional services and business administration. Business leaders throughout Mexico attempt to imitate the expertise of which Monterrey boasts. This evolution has formed a labor market with an educational level higher than the national average, in which the professional segment has great importance.⁵ Thus the economy and the labor market in Monterrey reveal the transformations of the import substitution model in a territorial setting where companies have looked for ways to compete in the new conditions of an open market.

The second city, Tijuana, has shown sizable demographic growth since the 1970s, and the development of a particular form of industrialization with the installation of in-bond assembly plants known as *maquiladoras*. The city is known for its rapid creation of jobs and the controversy regarding poor working conditions and salaries of workers in the *maquiladoras* (Bendensky *et al.*, 2004; Hualde, 2001:19).

Both Monterrey and Tijuana are characterized by the unique dynamics of being located in a border state. They are closely linked to the United States and face conditions of restructuring and flexibility although with different types of industry. In Monterrey, industry has been associated with domestic capital since the late 19th century, and closely related to a sector of innovative professional services. In Tijuana, industry is represented by a sector of assembly plants founded three decades ago by large companies from Asia and the United States. The sector is linked to the electronics industry (especially televisions) and medical services; its growth has been accelerated by the arrival of emigrants from other states of Mexico, and by its strong relationship with the state of California in the United States, where approximately 8% of Tijuana's economically active population is employed.⁶

It is not an exaggeration to state that Tijuana is one of the preeminent cities of *maquiladoras*, and that Monterrey's market is characteristic of the import substitution model, restructured in the 1980s.

Because of the above, it will be of interest to analyze the quality of employment in these cities during the 1990s.

Theoretical References and Methodological Note

Our study begins with the changes that have occurred in past decades in the labor market and in companies; in other words, the project revolves around labor and production. During recent years, a large number of studies has referred to the restructuring of production as a process that has directly influenced labor markets (Pozas, 1993; Pozos, 1996 and 2000; Contreras, 2000; De la Garza, 2000). Restructuring is interpreted as encompassing a series of policies and transformations of a different type that companies (and occasionally governments) undertook to reestablish earnings in an increasingly globalized economy with ongoing technological revolution. This process generated, and produced, successive waves of flexibility in labor markets, a phenomenon that synthesizes the most important changes in the forms of regulating labor: flexibility to hire and terminate, flexibility in the work process (functional or polyvalent), flexibility of wages and even geography (Coriat, 1990; Carrillo y Hualde, 1991; Contreras, 2000). These forms of flexibility refer to contractual legality that is becoming more simplified, nonexistent in certain settings or in many others, simply not followed.

In Mexico, flexibility is generally produced by imposition or in a unilateral manner, in contrast with other countries (such as Holland or Denmark, for example, where unions have negotiated its forms and limits)(De la Garza, 1999).

Flexibility originated in the changes that affected the Taylor/Ford model predominant in industry, and reflects primarily the employment conditions of employees. The phenomenon has led to precarious forms of work: temporary contracts, employment without social security, deregulation or incentives, wage flexibility, etc. (Pollert, 1994).

The analysis of flexibility seems adequate to characterize a large part of employees in industry (especially large companies); however, the concept may not be as pertinent for the professional labor market. It is known that the professions form a varied, heterogeneous labor market with internal hierarchies and forms of labor regulation that only on occasion are similar to those of employees with less education (Hualde, 2000).

Traditionally, a higher education provided access to a labor setting in which self-employment was important.⁷ On the other hand, positions for professionals are characterized as including management positions that supervise the workforce. Such professionals tend to have an ambiguous status between the owners of organizations and nonprofessional workers. Wage negotiations tend to be more individualized, and except for some sectors like universities or the public sector, the presence of unions is infrequent.

The professional labor market is associated to a large degree with employees having a higher education. It has the characteristic of autonomy, which in principle gives its actors greater ability to govern their employment trajectories (Abbott, 1988; Dubar y Tripier, 1998). This characteristic is questioned, however, by salaries, increased competition in the labor market, and career uncertainty. It is precisely this transformation that makes the two market segments—professional and nonprofessional, considered different by some authors—esemble each other (Reynaud, 1997:178).

Various authors (Carrillo y Hualde, 1991; De la Garza 2000; Contreras, 2000) have indicated that flexibility has produced precarious employment characterized by several dimensions. Cano (1998), states that “conceptual closeness to employment precariousness assumes breaking away from a supposed radical differentiation between precarious and non-precarious workers. Mention must be made, therefore, to *dimensions of precariousness* that are present in diverse degrees and types in all

forms of employment. Four of them are outstanding: a) insecurity regarding the continuity of the employment relationship, b) degradation and vulnerability of the work situation, c) uncertainty and insufficiency of income from wages, and d) reduction of social protection.

In this sense, precariousness would be the most negative effect of flexibility on employment. The question is whether flexibility also affects employees with higher education, and if so, in which dimensions of precariousness.

Based on this question, we have developed an indicator of the quality of work. Its extremes would be precarious employment and employment of high quality, which resemble the dimensions explained by Cano. Insecurity regarding the continuity of the employment relationship can be measured through the temporality of contracts, and is a reference to the vulnerability of the work situation. Abnormally long or excessively short work weeks also refer to vulnerability. The analysis of wages provides an idea of the third dimension stated. The reduction of social protection can be measured by counting employees without health insurance coverage.

In this manner, the quality of employment in this study will be measured by an indicator based on five principal variables:⁸

Pertaining to the Labor Market as an Employee

Based on the definition and methodology used at ENEU, an employee is considered to have more stable employment conditions than a non-employee. An employee is defined as a person who works for an individual, company, institution or office, governed by a written or oral contract, in exchange for a wage or salary. Non-employees do not have a contract.

Forms of Employment Contracts

Employment contracts are the type of agreement that employees establish with their employer, company, institution or office, and are the basis of the employment relationship. The types of contracts considered by ENEU are: written contracts for an indefinite time period⁹ (*base, planta, plaza de confianza*, etc.), written contracts for a definite period of time or completed project¹⁰ and oral or parol contracts. Those who have a written contract have employment of better quality than those who have an oral contract.

Legal Benefits

ENEU (INEGI, 2000) defines legal benefits as the goods and services supplementary to wages that employees receive from their employers or institutions of social security, as a result of legal provisions, contracts or work agreements, or out of tradition or custom. The survey collected information on the following benefits: year-end bonus, paid vacations, profit sharing, affiliation to social security (Instituto Mexicano del Seguro Social—IMSS or Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado—ISSSTE), and the retirement savings system (Sistema de Ahorro para el Retiro—SAR). This study considers only health services (IMSS, ISSSTE or a private physician supplied by the employer), since they are assumed to be the most important benefit in the labor market. Employees who have access to the social security system will have employment of better quality than those who do not.

Hours Worked

The work week is considered to have 48 hours. The ENEU asks the number of hours worked each week, with three possible answers: from 35 to 48, less than 35 and more

than 48. If the employee works more than 48 or less than 35 hours, his employment conditions are of lower quality than those of employees working from 35 to 48 hours, provided that working more is due to dealing with an excess work load, and working less is due to a production crisis or a lack of raw materials or clients.

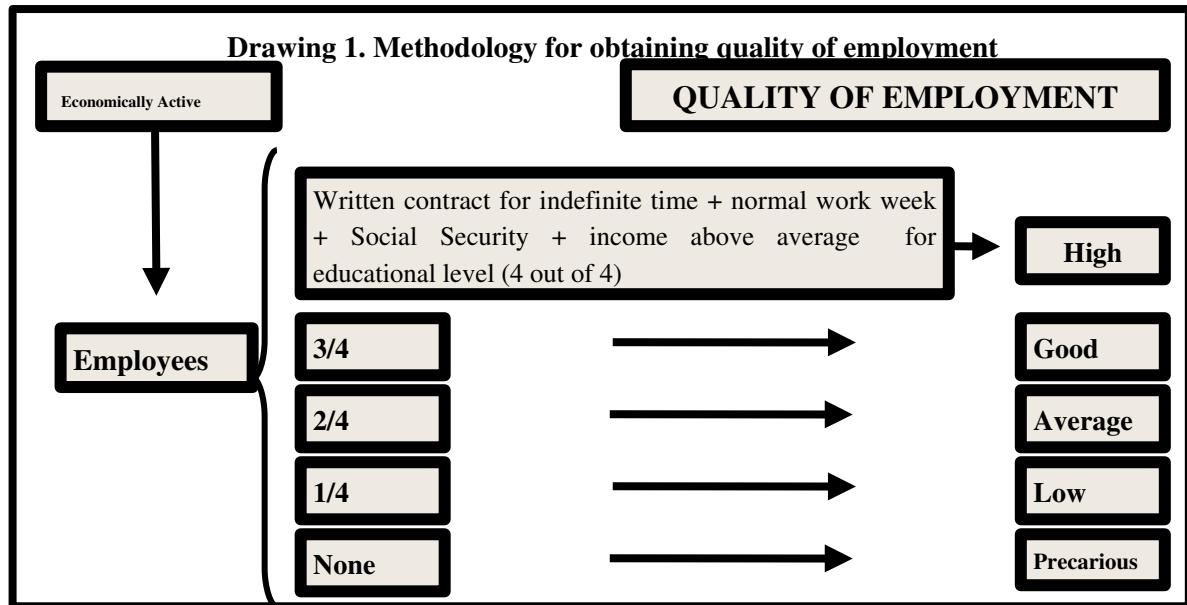
Income

The final analysis is a comparison of wages received by employees. The average wage per educational level is compared with each employee's wages. The result indicates if individual employees are receiving more or less wages than the average for their educational level.

A classification of quality of employment is thus obtained as a function of the presence or absence of the previously mentioned characteristics or variables. Chart 1 summarizes this information.

This study is based on specific analytical frameworks linked to the economy and employment sociology. It consciously discards important issues regarding education and work (discussed by other authors) that have arisen from interpretative frameworks that propose to analyze broadly the relations between economy and education. Such proposals include the theories of modernization or technical functionality, the theory of human capital or theories with a vision of class or status (Rubinson and Browne, 1994).

DRAWING 1
Methodology for obtaining quality of employment



The relations between education and work in specific territories have been addressed from sociological perspectives that assume the relative autonomy of the systems of education and production. Such perspectives also attach importance to analyzing the forms of interaction of actors in concrete frameworks of society (Hualde, 2001).

This study selects the framework of flexibility and precariousness because the objective refers to the quality of employment differentiated by educational level. Therefore, the study is presented with defined objectives and recognizes interpretative limitations. To know the quality of employment with more precision, it would have been

important to supplement the data from the national survey of urban employment (Encuesta Nacional de Empleo Urbano) with more exact interviews or surveys from certain sectors, thus permitting conclusions on the meaning of some of the variables used. For example, the temporality of contracts is an indicator that in general terms defines the quality of employment, assuming that an indefinite contract is an advantage for the employee. We are aware, however, that this advantage is not always a guarantee of stability in moments of crisis, of low economic growth or when companies are restructured. In this case, fieldwork would have been able to establish causal relationships among various variables. As a result, this article has the limitations marked by the exclusive use of a survey. It does, however, permit an original comparison of two labor markets in a certain time period, by taking into account the educational level of the population.

Dimensions of the Quality of Employment among Employees with a Higher Education

Employment Contracts

Our analysis refers only to wage-earning employment, considered traditionally as the employment of *typical* social relations and as the object of protection of labor law. Within the economically active population, wage-earning employment is the category that contains most individuals, both with and without a higher education. In 2002, 75% of the economically active population in the Monterrey metropolitan area and 71% of the same population in Tijuana were employees.

The document that synthesizes the relation of protection towards employees is the employment contract, defined in the federal labor law (Ley Federal del Trabajo—STYPS, 1998) as “the document through which a person is obligated to perform personal subordinated work for another party, in exchange for the payment of wages.” INEGI (2002) indicates that the employment contract “refers to the type of agreement that employees establish with their supervisor, company, institution or office as a basis of the employment relationship.” Thus the employee has a written contract for an indefinite time period—a n agreement of undetermined duration that stipulates that a person has been hired as a regular worker of a company, business or establishment, and therefore has legal rights and obligations.

Although the law permits written or oral contracts, for a definite or indefinite time period, numerous studies (Covarrubias, 1992; Pozos, 2000; Bouzas y De la Garza, 1999; De la Garza, 2000; Contreras, 2000) have stated the need for contracts to guarantee stability for the employee, which is achieved to a certain degree by granting employees a “place, base, plant or salaried position”. In recent years, however, Mexico has seen an increase in temporary employment (García, 1999; Sotelo, 1999; Pozos, 2000).

This trend is explained by company policies to reduce costs through two procedures:

The first is to reduce permanent personnel and replace them (when production increases) with temporary personnel hired through temporary agencies. Gazzoti (1987:114) believes that this strategy is a mechanism of direct precariousness for jobs since temporary personnel do not enjoy the same benefits as permanent personnel, ranging from job stability to on-the-job accident insurance.

The second procedure is the growing trend to subcontract companies that supply products or services. Large companies subcontract services (the cleaning and repair of pieces of the final product), tasks or stages of the work process (assembly,

polishing, dyeing, etc.), or they transfer stages of production (sales, distribution) to third parties through systems of representation, concession or consignment. In both cases, part of the risk is transferred and costs decrease. In this situation, Gazzotti (1987:115) indicates that employment is exposed to direct precariousness.

The studies mentioned, however, have alluded primarily to workers in industry or services, without taking into account professionals or employees with a higher education.

Our analysis found that during the period considered, employees with a higher education and an indefinite contract are approximately 90% in both cities: an average of 87% for the Monterrey metropolitan area, and 93% in Tijuana (Chart 1). Monterrey showed an increase in indefinite contracts until 1999, a decrease in following years and a rise in 2002. In Tijuana, the trend fluctuated but almost never fell below 90%. Thus in both cities, contracts for indefinite time periods for employees with a higher education are the norm, and employees who do not have this kind of contract are the exception.

CHART 1
Distribution of Employees with a Higher Education, in terms of a Written Contract for an Indefinite Time Period, 1994-2002

Years	Monterrey Metropolitan Area		Tijuana	
	Have	Do Not Have	Have	Do Not Have
1994	85.2	14.8	91.6	8.4
1995	85.9	14.1	88.3	11.7
1996	85.2	14.8	94.2	5.8
1997	84.9	15.1	93.4	6.6
1998	90.0	10.0	97.4	2.6
1999	91.1	8.9	91.7	8.3
2000	86.4	13.6	92.8	7.2
2001	89.3	10.7	95.3	4.7
2002	91.0	9.0	92.7	7.3
Average 1994-2002	87.7	12.3	93.0	7.0

Source: Prepared by author, based on data from ENEU 1994-2002, INEGI.

In both cities, most employees with temporary contracts are in the services sector (Chart 2). A somewhat sizeable number of employees has contracts for definite time periods in manufacturing, although the proportion of the total is quite low. In Tijuana, temporary contracts decreased notably in the time period in manufacturing.

CHART 2
Distribution of Employees with Higher Education in terms of Temporary Contracts. Monterrey Metropolitan Area and Tijuana, 1994 and 2002

Sector of Activity	Monterrey Metropolitan Area		Tijuana	
	1994	2002	1994	2002

Agriculture, forestry and fishing	00.0	01.0	01.2	01.1
Manufacturing industry	16.8	20.8	36.6	08.5
Construction	07.6	04.7	12.9	15.4
Commerce, restaurants and hotels	20.4	15.5	22.1	26.3
Transportation, storage and communications	02.1	05.6	01.2	01.4
Financial services, insurance and real estate	01.5	01.0	00.4	01.0
Community, social and personal services	51.6	51.4	22.8	36.7
Trans-border workers	00.0	00.0	02.8	09.6
Total	100.0	100.0	100.0	100.0

Source: Prepared by author, based on data from ENEU 1994-2002, INEGI.

Commerce has also taken on importance in employment while contributing to increasing the number of workers in precarious labor conditions. This increase is due to the creation of new types of jobs in commerce known as product "distributors", who are paid according to the volume of sales, while obtaining discounts from the manufacturer as a function of that volume; in this manner, each "distributor" encourages others to sell the product in order to obtain the company discount. The message that the worker is becoming an entrepreneur is made explicit, but not the true character of concealed employees, whose income is determined by the volume of sales (Gazzotti, 1987:117). These employees disguised as "entrepreneurs" have none of the benefits granted by labor laws.

The above information indicates that although flexibility has affected industry, the services sector continues to have much more temporality, and as a consequence, instability, even for employees with a higher education.

In both cities, the results obtained for the educational level analyzed indicate a sizable advantage for those who have a higher education. As in the previous case, the situation is more favorable in Tijuana than in Monterrey; but in both cities, the average numbers of employees who have contracts for an indefinite time period (73.3% and 62.9%) are clearly higher for those who have a higher education. It is important to point out that both cities, and especially Monterrey, show a tendency for increased numbers of contracts for an indefinite time period.

Health Services

Without doubt, health protection is one of the most important rights for workers. Yet not all employers comply with this fundamental norm: on the contrary, during the past

two decades, efforts have been made to decrease and even eliminate the health protection that labor law ensures employees.

In principle, the topic of social security is related to temporary hiring, since temporary personnel do not enjoy the same benefits as full-time workers (*base* or *plaza*)—benefits that range from job stability to insurance coverage for accidents at work. However, as we shall see below, flexibility in the health benefits of employees with a higher education is much more extensive than contracts of a definite time period.

Both cities show increases in the proportion of employees with a higher education who lack health services: in Monterrey, the percentage increased from 5.4% to 12.5%, between 1991 and 2002 (Graph 1). This market has manifested an upward trend in a lack of health services since 1993, interrupted during the economic growth of the late 1990s, and resumed in 2001. The tendency in Tijuana has been moving the same direction, but in a smaller proportion: from 20% to 25% during the entire period (Graph 2).

Thus, although having a higher education is almost a guarantee of having a contract of an indefinite time period, the probability of being affiliated to the Social Security Institute continues to shrink. The decline is especially marked in the labor market of Tijuana, where approximately 20% of employees with a higher education are unaffiliated.

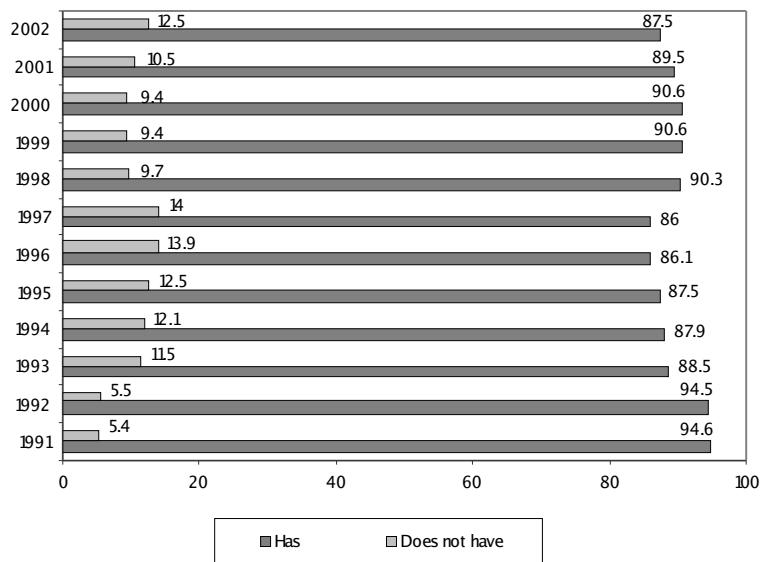
If we associate the lack of social security by sector of economic activity, once again we find that the most unprotected sector is services. In Monterrey, 70% of all unaffiliated workers in 2002 were in the services sector, while in Tijuana the proportion was 36.4%. These percentages increased during the period of study.

In Monterrey, the manufacturing industry and commerce are in second place, with 9.2% of all workers not having social security. In Tijuana, the sector of trans-border workers includes 28.2% of all workers not affiliated to social security. This data reflects the different economic dynamics between the cities: while trans-border employment is almost nonexistent in Monterrey, it is especially significant in Tijuana because of the health situation. In Tijuana, the advantage of working in the United States and having an income in dollars, does not necessarily mean being affiliated to the US social security system.¹¹

The lack of health protection was greater among workers without a higher education during the period under consideration: 25% to 30% of employees in Monterrey and 30% or 35% in Tijuana. No clear trends are observed in this segment. In Monterrey, maximum figures were reached in 1995 and 1996, followed by downward movement; a stable situation in the final three years was approximately 25%. In Tijuana, as usual, the fluctuations do not show a definite trend (Graphs 3 and 4).

GRAPH 1

Distribution of Employees with a Higher Education, in terms of Health Services.
Monterrey Metropolitan Area, 1991-2002 (%)*

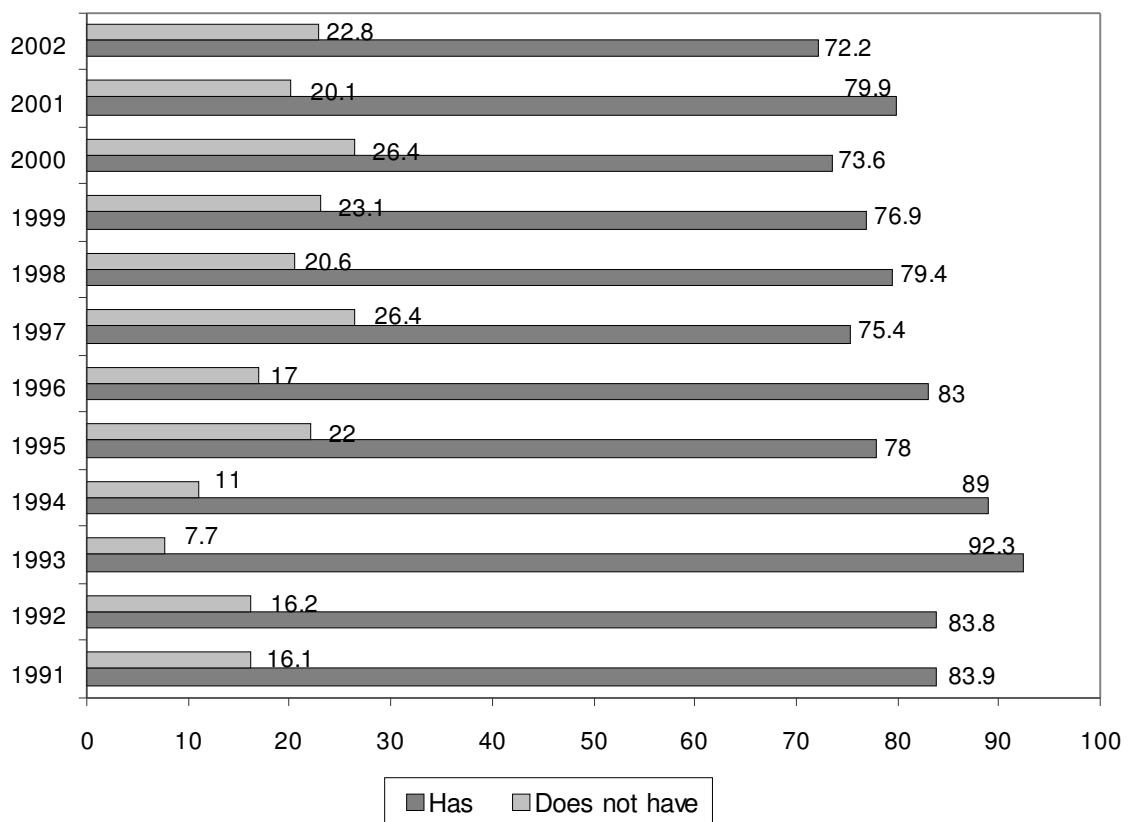


* Includes IMSS, ISSSTE, private medical service paid by employer and voluntary social security coverage (only from 1991 to 1993).

Source: Prepared by author, based on data from ENEU-INEGI for the years under consideration, as for all graphs in the article.

GRAPH 2

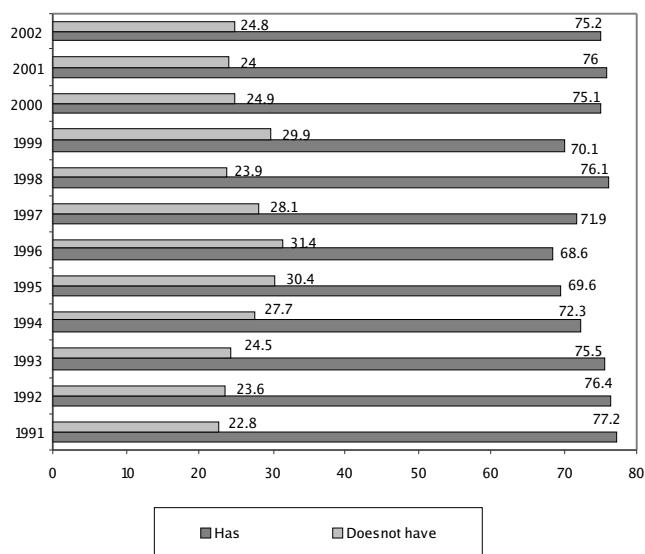
Distribution of Employees with a Higher Education, in terms of Health Services. Tijuana, 1991-2002 (%)*



* Includes IMSS, ISSSTE, private medical service paid by employer and voluntary social security coverage (only from 1991 to 1993).

GRAPH 3

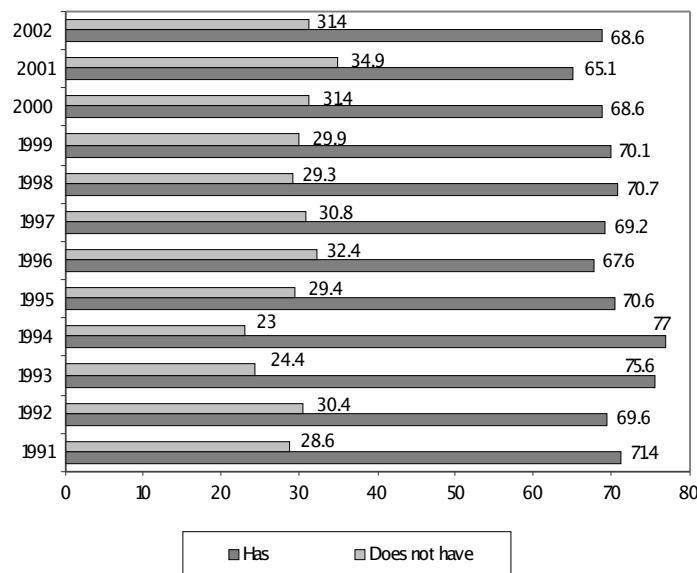
Distribution of Employees without a Higher Education, in terms of Health Services. Monterrey Metropolitan Area, 1991-2002 (%)*



* Includes IMSS, ISSSTE, private medical service paid by employer and voluntary social security coverage (only from 1991 to 1993).

GRAPH 4

Distribution of Employees without a Higher Education, in terms of Health Services. Tijuana, 1991-2002 (%)*



* Includes IMSS, ISSSTE, private medical service paid by employer and voluntary social security coverage (only from 1991 to 1993).

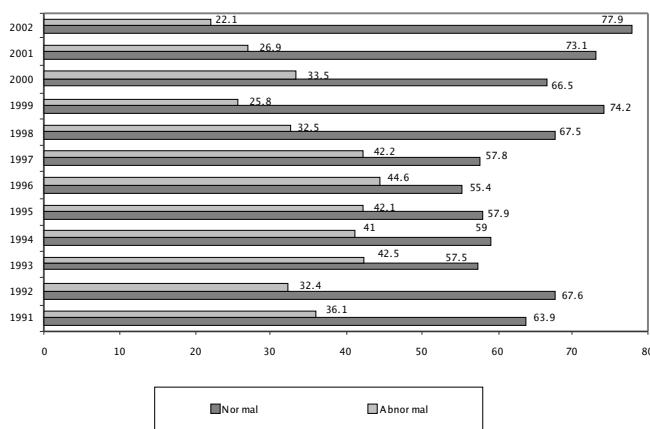
The Work Week

The federal labor law (Ley Federal del Trabajo) establishes that the normal work week is 48 hours, while the national survey of urban employment (Encuesta Nacional de Empleo Urbano) considers a range of 35 to 48 hours. Analyzing an extension of the work week is important because when wages decrease, employees work more hours in an attempt to maintain their income. In connection with the crisis of the 1980s, reference has been made to a type of *forced self-exploitation* (Cortés y Ruvalcaba, 1991). Other authors have written about the same phenomenon (Sotelo, 1999; Pozos, 2000; Ramos, 2000). On the other hand, work weeks of less than 35 hours tend to be a characteristic of unstable employment or of sectors of the population such as women or students who cannot commit their time to a *normal work week*.

These phenomena, however, have not been widely studied with regard to employees having a higher education. In Tijuana and Monterrey, this sector is seen to have *abnormal* work weeks. In Monterrey, up to 45% in 1996 had abnormal work weeks, although a strong downward trend was observed in the final years of the period under study. In 2002, only 22.1% worked abnormal work weeks (Graph 5).

GRAPH 5

*Distribution of Employees with a Higher Education, in terms of the Work Week.
Monterrey Metropolitan Area, 1991-2002 (%)*



The panorama was very different in Tijuana during the 1990s, where the percentage of employees with a higher education who were working work weeks longer or shorter than the normal work week was lower than in Monterrey, and never over 34%. Yet an important, sustained increase occurred from 2000 to 2002, with a peak of 38.4% (Graph 6).

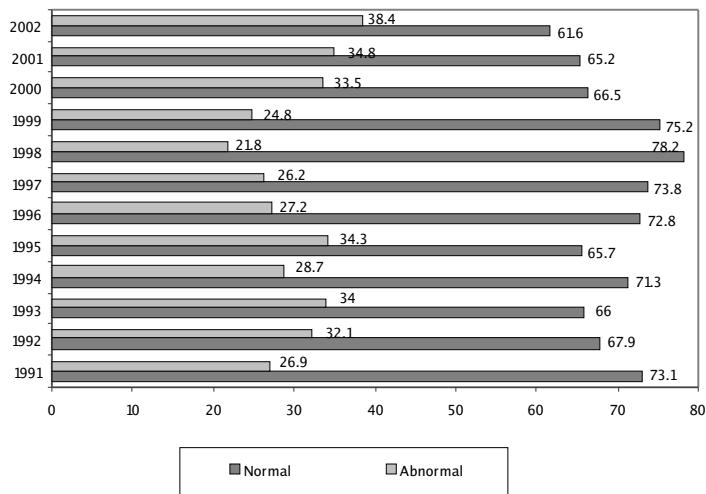
A fact of interest is that in Monterrey, atypical work weeks were present mainly in the services sector, while in Tijuana, they were more common in manufacturing; i.e., in the in-bond plants (*maquiladoras*). This finding coincides with other research, which has emphasized that although plant engineers received relatively high wages, long hours were a constant in this type of employment (Hualde, 2001).

A comparison of educational levels shows that employees without a higher education, in both cities, have fewer atypical work weeks than employees who have a higher education. Thus the affirmation can be made that the best conditions of employees with a higher education are *abnormal* work weeks in one-third of the cases.

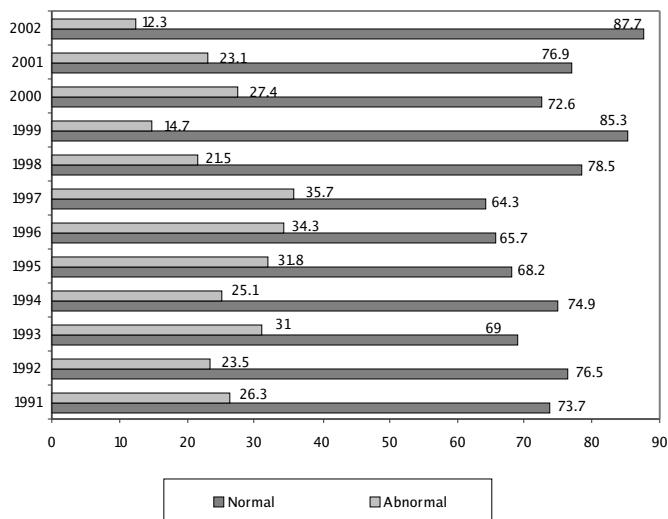
By city, ENEU data indicate an uneven evolution for the Monterrey metropolitan area, where the clearest increase in *abnormal* work weeks occurred in 1995, 1996 and 1997 (after the crisis of 1994), with lower percentages but greater variations in the following years (Graph 7). In Tijuana, the percentages of employees with a higher education who work *abnormal* work weeks are generally lower than in Monterrey, yet these percentages grew significantly from 1999 until reaching 26.6% in 2002. Most employees who have an *abnormal* work week work more than 48 hours per week (Graph 8).

In the professional and non-professional segments of the labor market, the existence of jobs with *abnormal* work weeks is more widespread in Monterrey, in spite of a downward trend. In Tijuana, the opposite occurs, in spite of an increase in 1999-2000 of work weeks longer than 48 hours.

GRAPH 6
Distribution of Employees with a Higher Education, in terms of the Work Week.
Tijuana, 1991-2002 (%)

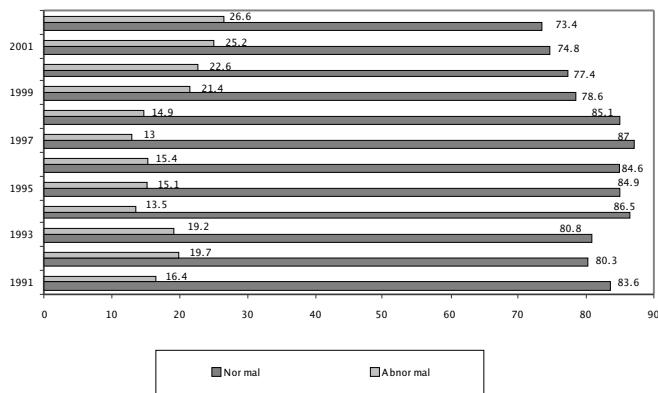


GRAPH 7
Distribution of Employees without a Higher Education, in terms of the Work Week. Monterrey Metropolitan Area, 1991-2002 (%)



GRAPH 8

Distribution of Employees without a Higher Education, in terms of the Work Week. Tijuana, 1991-2002 (%)



Monthly Income

A known general tendency is the decline of wages in the Mexican labor market, where the minimum wage has lost its ability to allow "a decorous economic level for the worker and his family". Attention has also been given to wage differences and the polarization of income in various sectors of the population. Such differences in Tijuana and Monterrey are reflected in Chart 3, by educational level. Higher educational levels are assumed to correspond to higher incomes.

CHART 3

Employee Income (Average, Maximum and Minimum), by Educational Level. Monterrey and Tijuana, 2002 (pesos)

Educational Level	Average Income	Minimum Income	Maximum Income
MONTERREY METROPOLITAN AREA			

No formal studies	3 540	645	13 545
Some elementary	3 812	387	19 350
Finished elementary	3 965	600	34 730
Some secondary	4 030	400	21 500
Finished secondary	4 078	215	36 001
Some high school	4 724	430	26 000
Finished high school	6 737	62	38 700
Some vocational studies	3 883	900	18 060
Finished vocational studies	5 044	200	24 510
Some college	6 019	430	40 000
Finished college	10 372	860	91 400
Master's and/or doctorate	19 050	4 300	68 000
TIJUANA			
No formal studies	3 693	1000	13 545
Some elementary	4 345	430	19 350
Finished elementary	4 368	645	34 730
Some secondary	4 528	645	21 500
Finished secondary	4 947	860	30 960
Some high school	5 721	860	26 000
Finished high school	6 856	62	38 700
Some vocational studies	5 345	3 010	10 320
Finished vocational studies	6 684	1 935	24 510
Some college	7 024	1 290	40 000
Finished college	10 243	1 900	38 700
Master's and/or doctorate	14 287	4 300	45 000

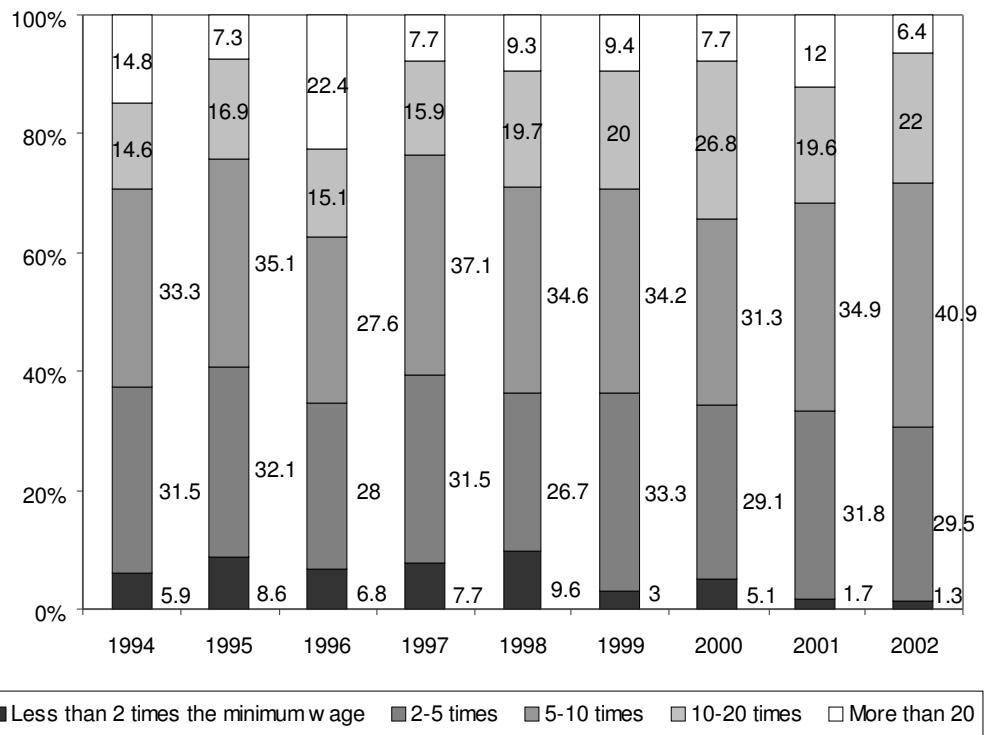
Source: Prepared by author, based on data from ENEU 2002.

In Monterrey, the income of employees who have finished college is approximately three times the income of workers with no formal studies; the income of employees with graduate studies is six times greater. In Tijuana, the differences are somewhat smaller, especially among employees with graduate studies. Yet in any case, the "reward" for education is evident in both cities.

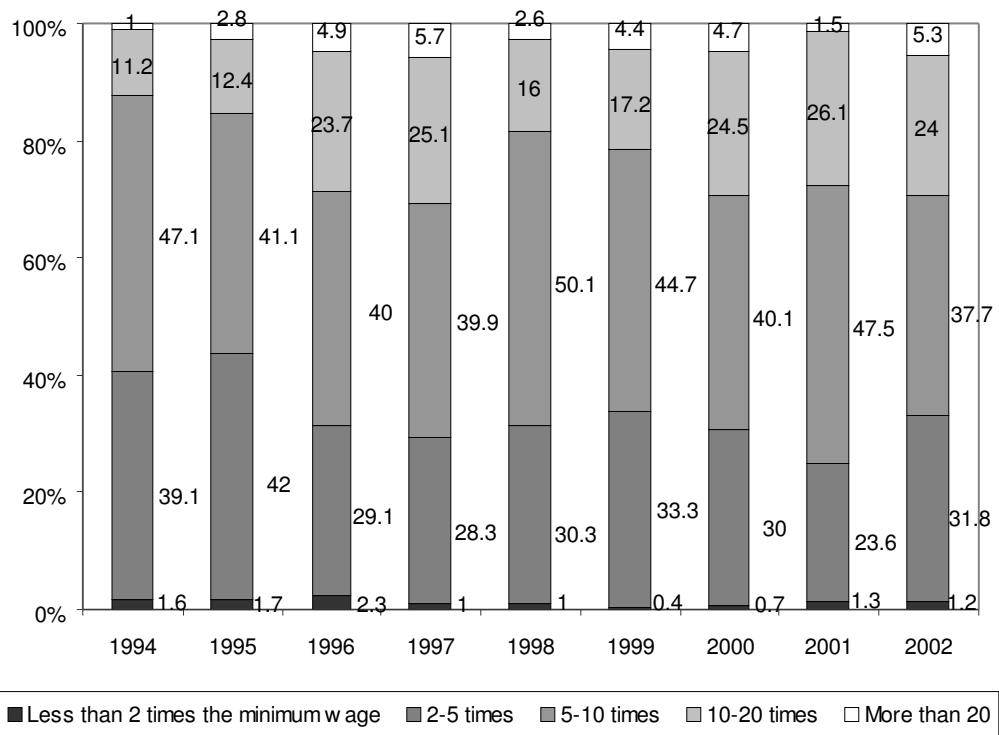
A study of the evolution of income during the 1994-2002 period shows a degree of improvement for employees with a higher education, on comparing their income with the minimum wage (Graphs 9 and 10). Such improvement, however, does not necessarily imply a better lifestyle or more purchasing power, given the known deterioration of the minimum wage.¹²

GRAPH 9

Distribution of Employees with a Higher Education, in Comparison with the Minimum Wage. Monterrey Metropolitan Area, 1994-2002 (%)



GRAPH 10
Distribution of Employees with a Higher Education, in Comparison with the Minimum Wage. Tijuana, 1994-2002 (%)



In Monterrey, a decrease is seen among those who receive less than two times the minimum wage, as well as among those who receive from two to five times the minimum wage. Most employees with a higher education are within five to ten times the minimum wage; 30%, however, receive ten or more times the minimum wage. There is a significant relation between income and the number of hours worked, since most employees who earn more than twenty times the minimum wage work more than 48 hours per week (see Chart 4).

In both cities, most employees with a higher education earn from five to ten times the minimum wage. Almost none earns less than two times the minimum wage, but approximately 30% earn between two and five times the minimum wage. Although this number decreased after 1996, it has continued to evolve without a definite trend.

Like Monterrey, Tijuana shows a close relationship between hours worked and income received. Most employees who earn from two to five times the minimum wage work less than 35 hours per week (Chart 4).

CHART 4

Distribution of Employees with a Higher Education, in Comparison with the Minimum Wage and by Hours Worked. Monterrey and Tijuana, 2002

Monterrey Metropolitan Area									
Hours	Times the Minimum Wage								Total
	Less than 1	1 to 2	2 to 5	5 to 7	7 to 10	10 to 15	15 to 20	20 to 30	
Less than 35 hours	2.0	1.2	39.8	22.6	26.2	4.4	3.8		100.0
35-48 hrs	0.2	0.7	28.1	20.2	18.9	14.3	11.4	4.6	1.6
More than 48 hours			16.9	10.4	23.2	11.4	12.2	11.7	14.2
Total	0.5	0.8	29.5	20.3	20.5	12.3	9.7	4.2	100.0

Tijuana									
Hours	Times the Minimum Wage								Total
	1 to 2	2 to 5	5 to 7	7 to 10	10 to 15	15 to 20	20 to 30	More than 30	
Less than 35 hours	6.4	56.5	9.5	14.8	8.2	2.5	2.1		100.0
35-48 hrs	0.4	32.8	25.9	13.3	18.7	3.1	4.4	1.4	100.0
More than 48 hours		3.6	11.1	28.6	40.4	8.8	7.5		100.0
Total	1.2	31.8	20.9	16.9	19.5	4.4	4.5	0.8	100.0

Source: Prepared by author, based on data from ENEU 2002, INEGI

In the segment of employees without a higher education, interesting trends are also observed. In Monterrey, the most important is a trend to income concentration in the range from two to five times the minimum wage (almost 80% in 2002), and a strong decrease among those who earn less than two times the minimum wage. An increase is seen among those who earn between five and ten times the minimum wage.

In Tijuana, the trend is similar, with a strong concentration in the range from two to five times the minimum wage, a decrease in less than two times the minimum wage,

and a sustained increase in five to ten times the minimum wage, which reached 17.6% of the total in Tijuana in 2002.

Quality of Employment of Employees with a Higher Education

As previously stated in the section on methodology, the quality of employment is related to the indicators separately analyzed: type of contract, health services, work week and income. An employee who has a contract for an indefinite time period, is affiliated to the social security institute, works a *normal* work week (from 35 to 48 hours per week) and earns more than the average income, has employment of high quality. To the degree an employee lacks the mentioned indicators of quality, the quality of his employment is considered good, fair, low or precarious.

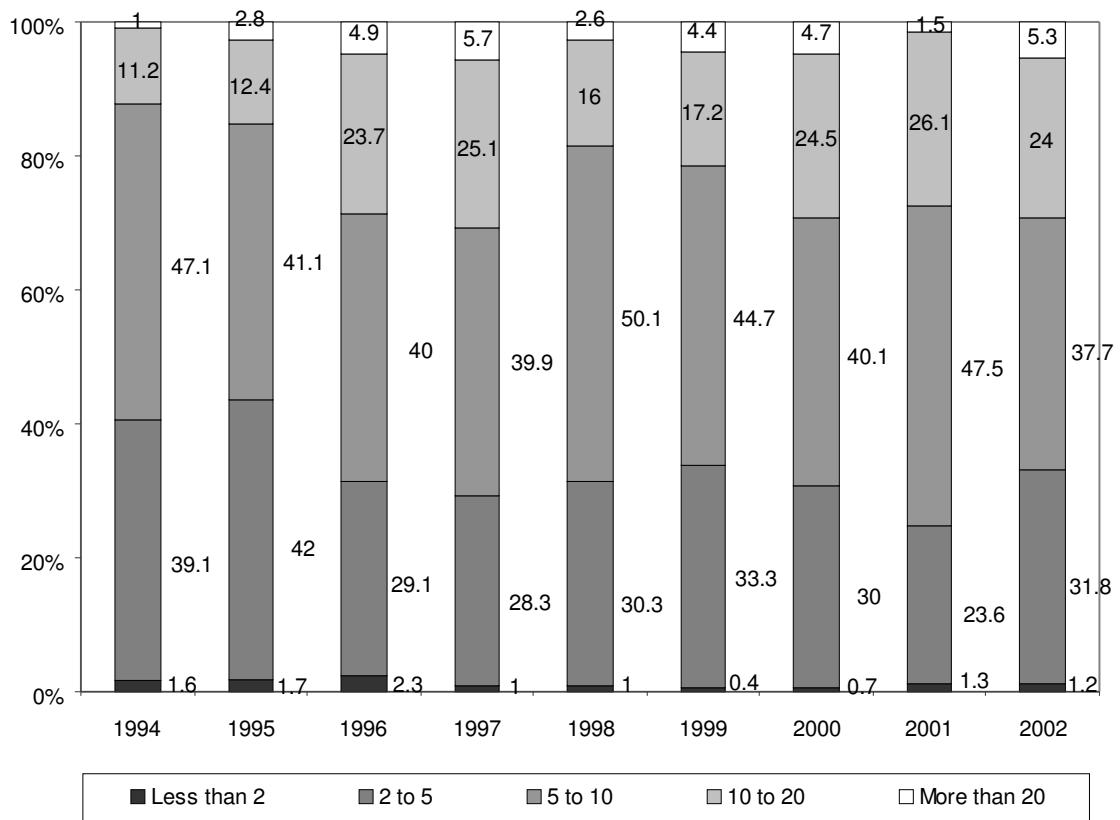
In Monterrey, employees with a higher education showed a general tendency for their employment to improve in the period analyzed. On the low end of the scale, a decrease in the indicators of precarious, low and fair quality is observed. On the other extreme is a trend of ups and downs in increased employment of good and high quality. For example, until 1997, jobs of high quality did not exceed 20% of the total number; after 1997, the indexes surpassed 20%, especially in 2002 when 31.1% was attained. On the other hand, most jobs are grouped in the category we refer to as "good quality". Until 1997, this grouping oscillated between 40% and 42% and reached a maximum of 44% in 2001, when slightly more than one-half of the employees in Monterrey were in the range of good quality (Graph 11).

In Tijuana, the quality of employment as well as the observed tendency, although quite fluctuant, are less favorable than in Monterrey. Relatively high figures of low-quality employment were observed in 2000 and 2002. A similar phenomenon occurs in 1999, 2001 and 2002 with regard to figures relative to the fair segment. In third place, the proportion of employees who have a higher education and employment of good quality is less than one-half in Tijuana, but jobs of high quality are more scarce (between 14% and 19%), and have tended to decrease during the past four years (Graph 12).

The results of a separate analysis of the above factors show that in Tijuana, the long work weeks and the percentages of employees with a higher education who have no social security, contributed to slight deterioration in the quality of employment in this segment of the labor market during the past four years. This phenomenon may be related to the stagnation of the US economy and the resulting crisis undergone by the in-bond plants at the border, which has led to an increased rate of employment in the services sector.

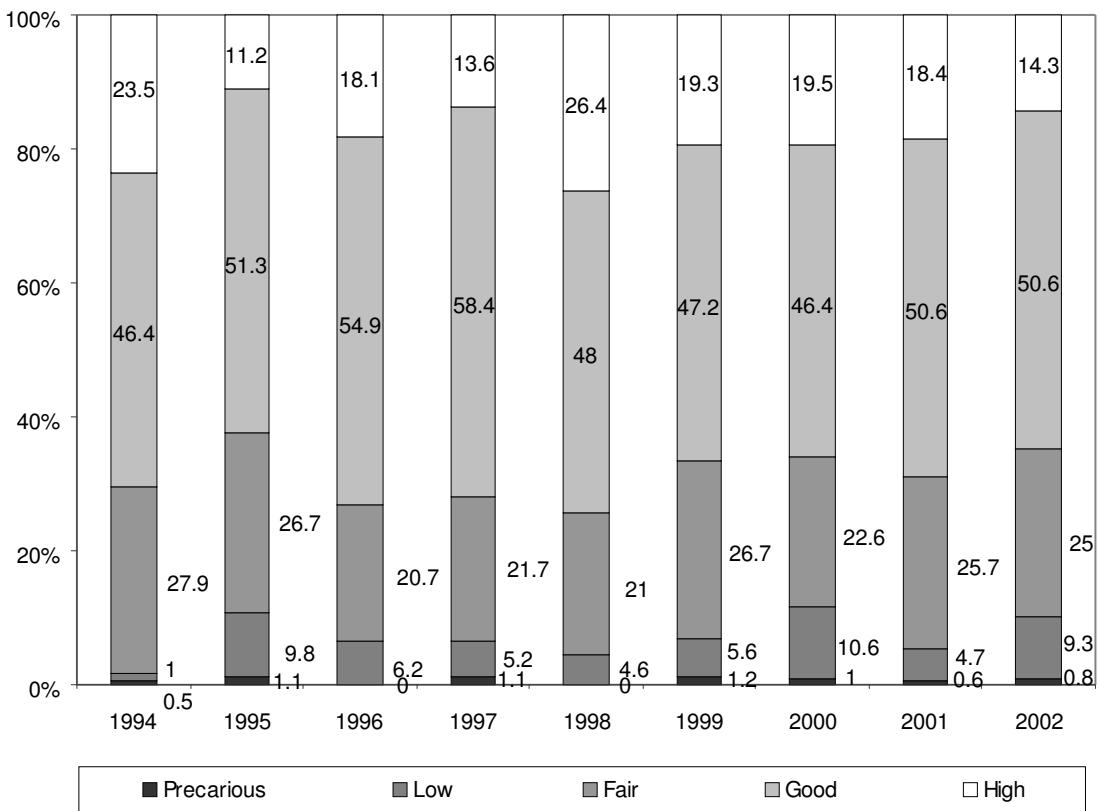
GRAPH 11

Distribution of Employees with a Higher Education, in terms of Quality of Employment. Monterrey Metropolitan Area, 1994-2002 (%)



GRAPH 12

Distribution of Employees with a Higher Education, in terms of Quality of Employment. Tijuana, 1994-2002 (%)



Conclusions

In the two cities analyzed in this study, the employment conditions of employees with a higher education continue to show evident advantages over employees with less schooling. However, between 1998 and 2002, in Tijuana as well as Monterrey, the unemployment rate for those with a higher education increased and even surpassed in some cases, the unemployment rate for employees with less schooling.¹³

In the period analyzed, the employment conditions of employees with a higher education experienced variations that point to precarious trends, especially in terms of the lack of social security and the lengthening of the work week in the labor market of Tijuana. In contrast, the results from Monterrey show improvement in the quality of employment of employees with a higher education.

In this sense, reference can be made to a certain degree of deterioration in the quality of employment, and to an increase in flexibility. This aspect seems more clear in terms of some employers' reluctance to affiliate their employees to the social security system. With regard to the work week, the lengthening tendency may be a result of a voluntary acceptance of longer work weeks in exchange for more income.

This project also shows that in spite of attempts to make employment conditions more flexible in manufacturing, the sector (even in cities like Tijuana, where the in-bond industry predominates) continues to be more rigid than services or commerce, in which labor regulation has always been more lax.

If we compare the study's results with the characterizations of the industrial models indicated earlier, we can conclude that although the differences in indicators are not sizable, the quality of employment in Monterrey conserves certain traits that are more favorable than Tijuana. From this perspective, the restructured import substitution

model seems more positive than the in-bond plants that characterize Tijuana to a large degree.

Another type of analysis will be required to explain the way that certain factors, such as emigration, the border situation at Tijuana or the presence of defined company cultures contribute to reproducing these differences.

Notes

¹ This is the interpretation of the ANUIES test; see for example, <http://www.campusmilenio.com/n65/rodriguez65.htm> or Planas (2004).

² Llamas y Garro (2003:156) calculate that in the 1990s, one out of every five new employees (or 20 out of every 100) had a professional education.

³ INEGI (2003) reveals that the proportion of the economically active population with a high school or college education, in conditions of open unemployment (3.5%) is almost two times the rate of those who have not completed elementary school (1.8%).

⁴ Except for cities like Monclova, which has experienced high unemployment rates in recent years.

⁵ Data obtained from "Perfil sociodemográfico del área metropolitana de Monterrey", (INEGI, 2000:31).

⁶ In 2000, the states of Nuevo León and Baja California were in second and third place respectively in terms of the average years of schooling: 9.7 for Nuevo León and 8.8 for Baja California (Aguayo, 2002:256).

⁷ The Anglo-Saxon theory of professions, which has seen the greatest development, situates the liberal professions like medicine and law at the center of its analyses (Dubar and Tripier, 1998; Hualde, 2000).

⁸ Author such as Jurado (2003:27) and Martínez (2002) have a similar indicator to measure the quality of employment, but use only three variables. Jurado does not take into account the number of hours worked each week, and Martínez analyzes income separately rather than including it in the indicator of employment quality.

⁹ According to ENEU 2000: "Written agreement of indefinite duration that determines that a person has been hired as a regular worker of a company, business or establishment, and is thus subject to legal rights and obligations", (INEGI, 2002).

¹⁰ According to ENEU 2000: "Written agreement in which the employed party assumes legal responsibility in terms of accepting a sole or regular payment for completing a specific task, or for a previously established time period" (INEGI, 2002).

¹¹ They are assumed to be unaffiliated to US Social Security.

¹² It is useful to mention that the minimum wage in Tijuana is higher than in Monterrey.

¹³ In 2002, the unemployment rate of individuals with a higher education was 3.6% in Monterrey, and 1.8% in Tijuana, while the unemployment rate of those without a higher education was lower: 3.5% in Monterrey and 1.2% in Tijuana.

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Received: November 3, 2004

Accepted: March 9, 2005