

Employment and unemployment in Mexico's labor force

Mexico's official unemployment rates are low, even after upward adjustment to U.S. concepts; ten complementary indicators measure more fully the country's underutilization of labor

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With the negotiation and passage of the North American Free Trade Agreement, interest in the Mexican economy has increased. Mexico is the world's 13th largest economy and a major participant in world trade. The country is America's third largest trading partner, after Japan and Canada, and bilateral trade has grown rapidly since Mexico joined the General Agreement on Tariffs and Trade in 1986. Furthermore, part of Mexico's rapid labor force growth has been absorbed by the United States through migration. From the twin perspectives of trade and immigration policies, it is important to analyze the extent to which Mexico has been able to provide adequate employment for its growing labor force.

Mexico became a member of the Organization for Economic Cooperation and Development (OECD) in May 1994.¹ The country's per capita income is in the range of that seen in the lower income OECD countries such as Greece and Portugal. Mexico's labor market, however, differs from that of other OECD member countries. The variations reflect different demographic and economic developments, as well as different labor market institutions (or the lack thereof). One of the most striking differences is in unemployment rates. Over the 1980's, when most OECD coun-

tries experienced persistently high unemployment despite a prolonged economic upswing, Mexico managed to reduce its unemployment rates to very low levels during a period of economic restructuring and little growth.

The official urban unemployment rate for Mexico fell continuously from 1983 to 1991, reaching a low of 2.6 percent in 1991. In 1993 and early 1994, the rate rose somewhat, but remained under 4 percent. Rural unemployment rates are even lower. In highly developed countries, such low rates would be interpreted as a sign of full employment, but the same cannot be said for Mexico.

Basically, two factors help to explain the low measured unemployment rates in Mexico. First, the Mexican concept of unemployment excludes some persons who would be counted as unemployed under the U.S. concept. Adjustment to the U.S. concept would raise the reported rate, but would still leave it relatively low. Second, and more important, Mexico's low unemployment rates mask a large number of persons in unstable, marginal jobs. Thus, the rates reflect the need for persons to subsist through any work at all, rather than a situation of full employment.

In a country without unemployment compensation,² persons without work are forced into mar-

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ginal activities—street vending, for example—which results in their classification as employed rather than unemployed, even if they work as little as 1 hour a week. Part-time work, marginal self-employment, and nonremunerated work in family businesses are frequently the only options for many workers in Mexico. The actual unemployed are just those who have the resources to be able to afford to search for work as their only labor force activity. They tend to be younger and better educated than the rest of the population. Often, they belong to families that can afford to support them while they search for work.

Mexico's term for its official urban unemployment rate is *desempleo abierto*, or open unemployment, implying that there are other, more hidden aspects of unemployment which are not captured by the figures. In recognition of the incomplete nature of the official unemployment rate, Mexico's *Instituto Nacional de Estadística, Geografía e Informática* (National Institute of Statistics, Geography, and Informatics—hereinafter, Mexican Statistical Institute) has developed a framework of complementary rates. This array of rates expands upon the conventional urban unemployment rate to measure 10 broader concepts of unemployment and underemployment, subsuming such groups as the so-called hidden unemployed—those who are available for work,

but are not seeking it—and persons working part time for economic reasons, looking for a second job, or working long hours for low pay. Whereas the official urban unemployment rate averaged 3.4 percent in 1993, the highest measure in the array was 23 percent.

To provide a context for a discussion of employment and unemployment statistics in Mexico, part I of this article sets forth information about economic conditions during the 1980's and 1990's, and about the source and quality of the data used in the subsequent analysis. It then offers a profile that contrasts the labor forces of Mexico and the United States, followed by a general examination of Mexico's population and labor force. Next, part II, on employment, focuses on Mexico's dual labor market, comprising a formal and an informal sector, and on sectoral employment shifts and *maquiladoras*—that unique Mexican institution begun in 1965 to promote foreign investment and jobs in the country. Finally, part III proceeds to an analysis of open unemployment, including adjustment of the Mexican unemployment rate to U.S. concepts, and concludes with a presentation of the aforementioned complementary unemployment rates, pointing out both the usefulness and the limitations of the framework. An appendix describes in detail the National Urban Employment Survey questionnaire.

I. Background

From the 1950's through early 1982, Mexico achieved substantial economic growth, significant increases in job creation, increases in the share of industrial output in the national product, and higher shares of wage and salary workers among the employed. This long period of economic progress ended abruptly in 1982. Most of the world was entering a recession in the early 1980's, and an enormous external debt became the trigger for one of the biggest economic crises in Latin America since 1929. In the 12 years prior to the recession, Mexico had embarked on a policy of aggressive deficit spending and monetary expansion, willingly financed by foreign banks offering credit at low interest rates. When prices for Mexico's oil exports began to fall in 1981, external financing of rising deficits continued. But as oil prices weakened further, foreign banks reassessed Mexico's ability to repay its debt and were no longer willing to finance it. In mid-1982, Mexico's loans came due with no money to pay back international creditors, triggering the "debt crisis."³

The crisis marked a turning point for the Mexican economy and brought about a thorough re-orientation in the Government's approach to economic development. The new Government, which took office in December 1982, immediately instituted a series of fiscal austerity measures to redress deficits in the balance of payments and current accounts of the country. Renegotiation of Mexico's large foreign debt continued throughout the adjustment period of the 1980's.

The hallmark of the new development strategy was the transformation of a highly regulated and protected economy toward an open and market-oriented one. Many markets were deregulated, and the private sector was subjected to increased competition, both domestic and foreign. Price controls were progressively lifted. State enterprises were privatized throughout the 1980's, beginning with small public concerns and culminating with the sale of larger enterprises and the nationalized commercial banks in 1990 and 1991. From 1982 to May 1992, the number of state-owned enterprises in Mexico plummeted from 1,555 to 223.⁴

Mexico's economic liberalization included the reversal of a protectionist trade policy, leading toward the country's entry into the General Agreement on Tariffs and Trade in 1986 and culminating in the final approval of the North American Free Trade Agreement by all parties in 1993. A significant restructuring of previously protected manufacturing industries has occurred in Mexico in the face of increasing international competition. Reforms were designed to improve efficiency and promote productivity growth through modernization and the enlargement of capacity.

The in-bond manufacturing system (*maquiladoras*) had already been in place since 1965; it allowed foreign (predominantly U.S.) firms to import duty-free components and machinery and to process or assemble these imported goods and components for reexport. Merchandise exported to the United States under this program could enter the United States with import duty paid only on the value added in Mexico. During the 1980's, the Mexican government successively liberalized the *maquiladora* system, which employed around 10 percent of the manufacturing work force by 1991.⁵

The roots of the crisis were so deep that it took more than 6 years of painful adjustments and reforms for the new approach to start producing visible results. Even in 1987, real gross domestic product was lower than in 1981; between 1981 and 1987, real gross domestic product per capita declined by an average of nearly 2 percent per year. Consumer price inflation averaged nearly 100 percent annually during the same period. A devastating earthquake that hit Mexico City in 1985 interrupted progress by requiring major emergency expenditures and making budget plans obsolete. Shortly thereafter, another severe shock hit the economy when international oil prices dropped precipitously in late 1985, reducing the average price received by Mexico for oil by more than 50 percent. Only toward the end of the 1980's did real output return to the level attained in 1981 and inflation fall below precrisis levels.

By 1989, the Mexican economy showed marked improvement. Average real gross domestic product growth accelerated from 1.5 percent a year in 1987-88 to 3.5 percent a year in 1989-92, outstripping population growth and resulting in an increase in real gross domestic product per capita of about 1.5 percent a year. Real gross domestic product growth slowed to about one-half of one percent in 1993 and early 1994. However, in the second quarter of 1994, the economy picked up strongly, growing at an annual rate of 3.8 percent.

Sources and quality of data

This article draws upon data from both household surveys and establishment surveys con-

ducted in Mexico, but the focus is on the household surveys. Varying geographic coverage and changing questionnaires and definitions in the household surveys hamper historical analysis. The article uses population censuses sparingly (mainly to capture some long-term trends), because they are available only every 10 years and because labor force status is not probed very deeply in the censuses. Also, definitions have changed from census to census, and data collection and enumeration problems related to the 1980 census rendered it unreliable as a labor force measure. The various sources describe characteristics of different employment universes, or they describe similar universes using different methods. The differences discussed below must be kept in mind when analyzing labor force data for Mexico.

Since the mid-1980's, Mexican labor force surveys have probed extensively into the labor force status of their respondents. Earlier surveys did not probe as deeply because they were based upon a model more applicable to measuring the status of the labor force of developed countries. The improvement has resulted in better enumeration of marginal activities that may have gone unreported in the earlier surveys, but it also results in breaks in historical continuity. Because the labor force is better enumerated in the surveys from 1985 onward, some caution must be exercised in analyzing trends over time—not only overall trends, but also trends by class of worker and by sector of employment.

Establishment surveys. Three establishment surveys are used as employment indicators, but to a lesser extent than the household surveys, as they are more limited in scope. The Monthly Industrial Survey covers about 3,200 establishments engaged in manufacturing. Each industrial sector within manufacturing is represented by establishments that combine to produce at least 65 percent of gross domestic product in the sector. Thus, some sectors are represented by 20 units and others by hundreds. For each establishment listed, the Monthly Industrial Survey enumerates all employees and production workers who worked in the establishment during the reference month.⁶

To supplement the data from the Monthly Industrial Survey, two other establishment surveys are cited. The *Maquiladora* Survey covers those establishments which assemble imported components for reexport as finished goods; these plants are not included in the Monthly Industrial Survey. The 1992 National Survey of Microenterprises provides detailed data on the characteristics of small enterprises, many of which operate in the informal sector.

Data from these three sources are used in this article as an adjunct to employment data derived

from national household surveys. They help to fill out the picture of the employment side of the Mexican labor force.

Household surveys. Mexico has a lengthy history of household surveys. The first effort took place in 1972 with the National Survey of Households, which covered the metropolitan areas of Mexico City, Guadalajara, and Monterrey. This survey was based on the U.S. Bureau of the Census *Atlántida* format, a system adopted by most of Latin America.⁷ Over the years that followed, the survey operated under various names and changing geographic coverage. From 1973 to 1976, the survey was called the Continuous Employment Survey; from 1977 through the end of 1984, it became the Continuous Occupational Survey. Despite the different names, the survey always operated under the same concepts and methods and with the same questionnaire.

The focus of the survey was initially on the largest metropolitan areas, and in the first few years of its operation, only the three major cities listed above were covered. One quarter of the Mexican population resides in these cities; they include about half of the population in all localities of 100,000 or more residents, and one-third of the population in all areas with 2,500 or more residents. In 1979, the Continuous Occupational Survey was expanded to national coverage, but in 1980 through 1982, it covered only the three major cities and some smaller cities. In 1983–84, coverage reverted to the three original cities.

In 1983, the newly formed Mexican Statistical Institute⁸ began a quarterly survey called the National Urban Employment Survey (hereinafter, Urban Employment Survey), initially covering 12 metropolitan areas.⁹ During 1983 and the first three quarters of 1984, the Continuous Occupational Survey and the new Urban Employment Survey were both conducted. The Continuous Occupational Survey was terminated at the end of 1984, and since that time, the Urban Employment Survey has been the only quarterly labor force survey conducted in Mexico.

In 1985, the Urban Employment Survey questionnaire was revised and expanded; questions were changed to enhance the quality and reliability of the results, and new topics of interest, such as location of work (in the home, vending on the street, and so on), size of employer's establishment, hours of work, fringe benefits, and income, were added. These changes made it possible to form a more complete picture of the Mexican labor market. The number of cities covered increased to 16, including 4 bordering the United States and affected by the *maquiladora* industries.¹⁰ Further extensions of urban coverage occurred in 1992, 1993, and 1994, and the

survey presently covers 37 cities with about 90 percent of the population in large urban areas (100,000 or more residents) and about 60 percent of the population in all urban areas (2,500 or more residents).¹¹

The survey data are therefore not completely representative of the nation as a whole, although coverage has improved in recent years. The failure of the survey to cover certain (mostly less urbanized) geographic areas cannot explain the fact that it yields an extremely low unemployment rate: less urbanized areas tend to have even lower unemployment rates than large metropolitan areas, as indicated by the population censuses and periodic national surveys.

The survey questionnaire has remained without important modifications from 1985 onward. However, only for the period from 1987 through December 1991 did the survey have a consistent geographic coverage. Furthermore, the questionnaire initiated in 1985 uses narrower concepts of unemployment and broader concepts of employment than the earlier surveys did. Therefore, historical comparability is a concern.

Mexico incorporated a change in its treatment of unpaid family workers¹² with the beginning of the Urban Employment Survey in 1983, following the recommendation of the International Labor Organization's Thirteenth Conference of Labor Statisticians. In accordance with this recommendation, unpaid family members who worked less than 15 hours a week were classified as employed. (In addition, the Mexican surveys include as employed some unpaid family members who did not work at all in the reference period.) In the Continuous Occupational Survey and the earlier surveys, unpaid family members who worked less than 15 hours a week were classified as not in the labor force (unless they were seeking work or waiting to start a new job, in which case they were counted as unemployed). The change caused an increase of a little over 1 percentage point in the Mexican participation rate overall, with about the same magnitude of increase for men as for women. The change to include all unpaid family workers as employed without regard to the number of hours they worked was never made in the Continuous Occupational Survey, which ended in late 1984.

Since 1985, the Urban Employment Survey has treated as employed two groups that were counted as unemployed in the previous household surveys: persons waiting to start a new job in 30 days and persons who have a job to which they expect to return in 30 days. The latter group includes persons on temporary layoff and others not currently working because of illness, strike, seasonal factors, scarcity of materials, or lack of customers. Also, unpaid family members work-

ing less than 15 hours a week, who are now counted as employed, were potentially unemployed in the previous surveys; that is, they were counted as unemployed if they were seeking work or waiting to begin a new job. Thus, in comparison with the earlier surveys, the current series of urban surveys, by definition, undercounts unemployment.

Censuses of population. Decennial population censuses are conducted in Mexico. Considerable care must be taken in interpreting these data, given different definitions and classifications of individuals over time within different censuses. No direct comparability exists between the censuses and the labor force surveys.

Some data from the 1950, 1960, 1970, and 1990 censuses are used in this article. The population census of 1980 experienced a major setback. The 1980 census questionnaire was designed to yield rather detailed information, and it was, consequently, much more complex than in previous censuses. Difficulties arose in collecting the information, as well as in coding and processing it. A large number of inconsistencies were found. For many of the labor force characteristics at the national level, the proportion in the "unspecified" category was almost a third of the total labor force.

A U.S. Census Bureau study of Mexican labor force data recommends use of the 1979 Continuous Occupational Survey in place of the 1980 population census.¹³ In their detailed analysis of the 1980 census, Teresa Rendón and Carlos Salas¹⁴ point out the reasons for the overcount of the economically active. Their critique explains the problems with the questionnaire that produced many of the data irregularities.

The 1980 census results had been used initially as a baseline for the household surveys of the 1980's. Because of the problems with that census, all data from household surveys conducted during the 1980's have been published as percentages, rather than absolute levels. A project by the Mexican Statistical Institute to recalculate the levels is under way.¹⁵

Problems also exist with the earlier Mexican population censuses. All of them generally define the employed as persons 12 years of age and older who, during the reference week, worked 1 or more hours in exchange for income or were doing unpaid work of 15 or more hours in a family firm or business. Those temporarily absent from work were included as employed in the 1970 and later censuses, but were not counted as employed in the earlier ones, unless they had a paid job. Thus, there is some degree of undercount in the 1950 and 1960 census-based labor force figures, in comparison with those of later censuses.

The population censuses define the unemployed as all persons aged 12 and older who are without work, but who are seeking it. However, there are no tests of whether one is actively seeking or available for work. The Urban Employment Surveys since 1985 and the National Employment Surveys, which began in 1988, provide a much better basis for determining labor force status.

National surveys. In place of the 1980 population census, the 1979 Continuous Occupational Survey is used as the base-year source in this article's analysis of trends over the decade of the 1980's. That survey represented an expansion at the national level of the ongoing metropolitan employment surveys carried out since 1973. Although the results lack the comprehensive coverage of a census, they appear reasonable in light of Mexico's development pattern in the 1970's and the experience of similar countries, according to the U.S. Census Bureau.¹⁶

In the second quarters of 1988, 1991, and 1993, National Employment Surveys were conducted in larger urban areas, as well as smaller urban and rural areas. (Henceforth, these surveys will be conducted biennially.) The urban component of this survey uses the same questionnaire as the aforementioned quarterly Urban Employment Survey, but it has a somewhat different geographic coverage, which is representative of all areas with 100,000 or more inhabitants. (The Urban Employment Survey presently covers some of the smaller urban areas, as well as the larger areas.) A special questionnaire was used in the less urbanized areas to capture information about agricultural and related occupations. This questionnaire uses slightly different definitions from those of the regular survey, to take account of conditions in such areas. For example, persons waiting to return to work within a 7-week period are classified as employed in the less urbanized areas, whereas a 1-month cutoff is used for the larger areas. The Mexican Statistical Institute notes that the impact of this difference is insignificant.

The 1979 Continuous Occupational Survey is not completely compatible with the later series of national surveys. The following differences should be noted:

- The first question in the 1979 survey is "What did you do during most of last week?" According to the Mexican Statistical Institute, this type of question presents the difficulty that respondents may favor their state of "inactivity" (for example, as a housewife or student) over their state of activity. Thus, even though some further questions were asked to determine whether the person had also done some work or looked for work in the reference period, the

respondent might think that his or her "inactive" condition was more important and would not respond affirmatively to these questions. In the later national surveys, the initial question is more specific and direct: "Last week, did you work to maintain the family or pay for some of your personal expenses, for at least 1 hour or 1 day?" A considerable number of more probing questions then follow. (See appendix.)

- Unpaid family workers were treated differently in 1979, compared with their treatment

in the later surveys. In 1979, such workers were required to work 15 or more hours per week to be included as employed. The 15-hour cutoff was not used in the later National Employment Surveys.

For these reasons, the 1979 survey is biased toward undercounting the labor force and employment, in comparison with the national surveys conducted in 1988, 1991, and 1993. As regards unemployment, there are two biases at work in different directions: toward undercount due to the questioning procedure and toward overcount due to the more inclusive definition in 1979. If these biases are kept in mind, the 1979 Continuous Occupational Survey, in conjunction with the later National Employment Surveys, are the best available data sources for examining trends in the labor force during the decade of the 1980's.

There are some significant inconsistencies between the 1988 and 1991 National Employment Surveys relating to the sectoral distribution of employment that are due to sample bias. That is, somewhat different geographic areas were included in these two surveys, and the areas in the 1988 survey had different industrial structures from those subsequently surveyed in 1991. According to the Mexican Statistical Institute, the 1988 survey is completely comparable with the later national surveys only in its larger urban component. The smaller area components are not comparable due to changes in sample design, as well as changes in the questionnaire used for these areas.

There is no sample bias problem in making comparisons between the 1991 and 1993 National Employment Surveys. The only need for caution applies to the distinction between the self-employed and employers. A change in definitions of these two categories in 1993 renders them incomparable with their counterpart categories of previous years; however, the two groups can be combined for purposes of analyzing trends in the status of employment.

Profile and contrasts

The National Employment Survey of the second quarter of 1993 is used in table 1 to profile the Mexican population and work force. Data are shown separately for larger urban areas and smaller areas. The larger urban areas are defined as urban areas with 100,000 or more inhabitants or capitals of States in Mexico. The smaller areas include smaller urbanized areas (2,500 or more inhabitants), as well as truly rural areas. In 1993, 44 percent of the Mexican population and 47 percent of the work force lived in the larger urban areas.

Age of population. The Mexican population is relatively young. About 30 percent of the popu-

Table 1. Profile of the Mexican population and labor force, second-quarter 1993

[Numbers in thousands]

Category	Total	Larger urban areas ¹	Smaller areas ²
Population:			
Total	86,813	38,534	48,079
Men	42,580	18,814	23,746
Women	44,054	19,721	24,333
Percent distribution by age			
Under 12 years	29.6	25.9	32.5
12 to 19 years	19.1	18.0	20.0
20 to 24 years	9.1	10.8	7.7
25 to 64 years	37.5	41.1	34.6
65 years and older	4.7	4.2	5.2
Labor force:			
Total	33,652	15,705	17,947
Men	23,243	10,220	13,023
Women	10,408	5,485	4,923
Percent distribution by age			
12 to 19 years	18.0	12.9	22.5
20 to 24 years	14.9	16.9	13.1
25 to 64 years	62.8	67.7	58.5
65 years and older	4.3	2.5	5.9
Participation rates:			
12 years and older	55.2	55.0	55.3
15 years and older	59.4	59.5	59.3
Employment:			
Total	32,833	15,214	17,618
Men	22,748	9,914	12,834
Women	10,085	5,301	4,784
Percent who were			
Employers	4.1	4.8	3.5
Own-account workers	26.8	16.7	35.4
Wage and salary workers	49.2	66.2	34.6
Pieceworkers	6.0	7.2	5.0
Unpaid family workers ³	13.9	5.1	21.5
Percent employed in			
Agriculture	27.0	1.3	49.1
Industry	22.0	28.5	16.5
Services	50.4	69.8	33.6
The United States	.6	.4	.8
Unemployment rates:			
Both sexes	2.4	3.1	1.8
Men	2.1	3.0	1.4
Women	3.1	3.4	2.8

¹ Areas with 100,000 or more inhabitants and State capitals.

² Areas with fewer than 100,000 inhabitants.

³ Predominantly unpaid family workers; however, a few nonfamily workers are included.

SOURCE: National Employment Survey, 1993, tables 1, 2, 3, 8, and 10.

lation is under the age of 12, and 58 percent is under the age of 25. By contrast, 36 percent of the U.S. population is under 25. Less than 5 percent of the Mexican population is 65 years or older, in contrast to 13 percent of the U.S. population.

Participation rates. Mexico's labor force statistics use age 12 as the lower age limit, even though Mexican labor laws prohibit individuals under 14 years of age from taking paid work and establish restrictions on work for teenagers aged 14 to 16 years.¹⁷ The 1990 census found that about 45 percent of Mexico's child workers are agricultural workers, generally assisting their families. Many minors also work in the urban, informal sector of the economy, which is unregulated; the activities in which these children engage generally are not reported to legal authorities or are exempted from such reporting. Thus, a significant number of 12- to 14-year-olds are enumerated as employed in the Mexican labor force surveys.

All other OECD countries use age 15 or 16 years as the lower limit of the labor force. In what follows, Mexico's participation rates will be presented using both the 12-year and 15-year lower age limits. For international comparisons, the 15-year-old limit is the preferred basis. However, all other data presented in this article will retain the lower age limit of 12. The following tabulation compares national participation rates for the United States and Mexico for various age groups in 1993 (note that the U.S. statistics enumerate the labor force 16 years and older):

	<i>United States</i>	<i>Mexico</i>
12 years and older	55.2
12 to 14 years	19.6
15 to 16 years* and older	66.2	59.4
15-16* to 64 years	76.7	61.3
15-16* to 19 years	51.5	47.5
20 to 24 years	77.1	63.6
25 to 54 years	83.5	66.8
55 to 64 years	56.4	54.5
65 years and older	11.3	35.5

*15 years for Mexico; 16 years for the United States.

In 1993, the overall labor force participation rate in Mexico was 55 percent, based on a working population aged 12 years and older. The rate was the same for the larger urban and smaller areas. At 66 percent, the U.S. participation rate (for those aged 16 years and older) was much higher than Mexico's. Because participation rates for the 12- to 14-year-old age group were low (about 20 percent) in 1993, Mexico's participation rate recalculated to cover only the population aged 15 years and older rises to 59 percent. Participation rates for teenagers and young adults

were higher in the United States, but rates for the elderly were higher in Mexico. The higher rates for older Mexicans reflect the low coverage Mexicans have for social security pensions: only about half of the Mexican population and about 40 percent of the labor force were insured by the Mexican Social Security Institute in 1988.¹⁸

The population in the primary working ages of 25 to 54 years had a much higher participation rate in the United States than in Mexico. This was due to the much lower labor force participation rate of Mexican women in this age group; virtually all primary-aged men in Mexico were in the labor force.

The participation rate for men aged 15 years and older was 85 percent in Mexico in 1993, while the counterpart U.S. rate (for men aged 16 years and older) was 75 percent. By contrast, the participation rate for women was much higher in the United States (58 percent) than in Mexico (36 percent). Mexican women's participation rates were higher in the more urbanized areas than in the smaller areas, while the reverse was true for Mexican men.

Employment status. In 1993, the distribution by employment status differed greatly between Mexico and the United States. Only 54 percent of all Mexican workers received a wage or salary (or were engaged in piecework for wages) that year, while more than 90 percent of U.S. workers were on a paid status. Three out of ten employed persons in Mexico were employers or working on their own account (self-employed). Such persons comprised only about 9 percent of U.S. workers. The category of unpaid family workers—which, as mentioned in footnote 12, includes a small number of unpaid nonfamily workers in Mexico—accounted for 14 percent of all employed persons in Mexico, while they were not even 1 percent of the U.S. work force. If only those working 15 or more hours a week (the U.S. concept) are counted in Mexico, the proportion of unpaid workers declines to 12 percent.

Sectoral distribution. As with employment status, there is a large contrast in the sectoral distribution of employment between the two countries. More than one-quarter of Mexico's workers are in agricultural pursuits, while such workers in the United States make up less than 3 percent of total employment. The proportion of workers in the industrial sector (mining, manufacturing, and construction) is about the same in both countries. The service sector employs half of all Mexican workers and more than 7 of every 10 U.S. workers. Less than 1 percent of Mexican workers are recorded as working in the United States and living in Mexico. These workers are not allocated by sector.

Unemployment. The official national unemployment rate in Mexico was 2.4 percent in the second quarter of 1993; the rate was considerably higher in the larger urban areas (3.1 percent) than in the smaller areas (1.8 percent). The unemployment rate for women was above that for men, and both women and men had higher rates in the larger urban areas than in the less populated areas. These rates were much lower than their counterparts for the United States and most other major developed countries, with the exception of Japan. Also, unlike the situation in Mexico, U.S. men's unemployment rates have been higher than women's over the past couple of years, but have recently drawn closer; in part, this reflects a typical cyclical pattern, although the January 1994 change in the U.S. Current Population Survey (CPS) may also be associated with some of the recent convergence in the rates.¹⁹

The differences noted above are typical of the differences between developed and developing countries (although many developing countries have reported higher unemployment rates than

Mexico has).²⁰ In particular, the demographic background of Mexico contrasts with that in the more developed countries, and this is considered further in the next section.

Population and labor force

Mexico's labor market should be viewed against a backdrop of a rapidly rising population and labor force. In 1950, Mexico was a rural and agricultural country whose inhabitants were mostly peasants and farmers. Thirty years later, however, the average Mexican lived in an urban setting and worked in the growing industrial or service sector. Rapid population growth in Mexico was fueled by a high birthrate, which began to decline relatively late, even compared with birthrates of other developing countries.

Population growth was particularly high between 1950 and 1970. The population rose at an annual rate of 3.2 percent, outpacing the labor force growth rate of 2.4 percent per year recorded by the population censuses. In the ensuing two

Table 2. Population, labor force, and participation rates in Mexico, first-quarter 1979 and second-quarter 1988, 1991, and 1993

[Numbers in thousands]

Category	1979			1988			1991			1993		
	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women
Entire country:												
Working-age population	43,639	20,996	22,643	54,243	26,301	27,942	58,317	27,825	30,492	61,000	29,465	31,535
Reported labor force	19,839	14,976	4,863	28,852	19,817	9,035	31,229	21,630	9,599	33,652	23,243	10,408
Unpaid family workers working less than 15 hours per week ¹	0	0	0	783	382	401	693	351	341	960	455	505
Adjusted labor force	19,839	14,976	4,863	28,069	19,435	8,634	30,536	21,279	9,258	32,692	22,788	9,903
Participation rate:												
Reported	45.5	71.3	21.5	53.2	75.3	32.3	53.6	77.7	31.5	55.2	78.9	33.0
Adjusted	45.5	71.3	21.5	51.7	73.9	30.9	52.4	76.5	30.4	53.6	77.3	31.4
Larger urban areas:²												
Working-age population	—	—	—	25,825	12,327	13,498	27,650	13,055	14,585	28,558	13,692	14,866
Reported labor force	—	—	—	13,342	8,835	4,508	14,706	9,617	5,089	15,705	10,220	5,485
Unpaid family workers working less than 15 hours per week ¹	—	—	—	161	71	90	141	58	83	180	78	102
Adjusted labor force	—	—	—	13,181	8,764	4,418	14,565	9,559	5,006	15,525	10,142	5,383
Participation rate:												
Reported	—	—	—	51.7	71.7	33.4	53.2	73.7	34.9	55.0	74.6	36.9
Adjusted	—	—	—	51.0	71.1	32.7	52.7	73.2	34.3	54.4	74.1	36.2
Smaller areas:³												
Working-age population	—	—	—	28,418	13,974	14,444	30,677	14,771	15,906	32,442	15,773	16,669
Reported labor force	—	—	—	15,509	10,982	4,527	16,523	12,013	4,510	17,947	13,023	4,923
Unpaid family workers working less than 15 hours per week ¹	—	—	—	622	311	311	552	293	258	780	377	402
Adjusted labor force	—	—	—	14,887	10,671	4,216	15,971	11,720	4,252	17,167	12,646	4,521
Participation rate:												
Reported	—	—	—	54.6	78.6	31.3	53.9	81.3	28.4	55.3	82.6	29.5
Adjusted	—	—	—	52.4	76.4	29.2	52.1	79.3	26.7	52.9	80.2	27.1

¹ Predominantly unpaid family workers; however, a few nonfamily workers are included.

² Areas with 100,000 or more inhabitants and State capitals.

³ Areas with fewer than 100,000 inhabitants.

NOTE: Dash indicates data are not available.

SOURCES: Continuous Occupational Survey, 1979, and National Employment Surveys, 1988, 1991, and 1993.

decades, these trends reversed, as population growth decelerated due to rural-to-urban migration (fertility is higher in rural areas), while labor force growth accelerated. By the 1980's, population was rising at a considerably lower rate of 2.5 percent annually, while the labor force was increasing by 3.2 percent a year. Further slowing of population growth to 2.1 percent annually is forecast for the 1990's; the work force is also expected to slow somewhat, growing by 2.9 percent a year during that decade.²¹

High population and labor force growth exerts a great deal of pressure on the Mexican labor market, in contrast with patterns in most other OECD countries, which, in the last decade, registered marked slowdowns in their rates of population and labor force growth. For example, during the 1980's, the U.S. population grew by less than 1 percent per year, and the labor force advanced at only a slightly higher pace, while Western Europe's population and labor force grew at even slower rates.

Table 2 shows data on Mexico's working-age (12 years and older) population, labor force, and labor force participation rates from the national surveys of 1979, 1988, 1991, and 1993. The 1979 data are available only for the entire country, while the later surveys permit a breakdown between the larger urban areas and the smaller areas, which include the smaller cities and rural areas. Data on the labor force from the surveys of 1988 onward have been adjusted to account for the change in the treatment of unpaid family workers; that is, unpaid family members working less than 15 hours a week have been subtracted from the labor force. Therefore, the adjusted data are on the same basis as the 1979 survey in this regard.

The adjusted data show a slightly less rapid advance in the work force and participation rates than the unadjusted data would indicate. One should bear in mind, however, that labor force activity was generally better enumerated in the later National Employment Surveys than in 1979. Thus, the upward trends were somewhat less rapid than the adjusted figures show.

The table indicates that from 1979 to 1988, which encompasses the period preceding the economic crisis to the year of initial recovery of output, there was a substantial increase in the size of the Mexican labor force and in participa-

tion rates, particularly for women. These trends can be placed in a context of prior trends based on population census data, as long as one keeps in mind that the 1950 and 1960 censuses probably undercounted the working population, in comparison with later censuses and surveys. Between 1950 and 1970, a significant decline in men's participation in the work force occurred. Men's participation rates remained about the same in 1979 as in the 1970 census. For women, there was only a slight increase in participation rates between 1950 and 1970, but a more significant increase occurred from 1970 (17.6 percent) to 1979 (21.5 percent.)

Participation rates for women tended to be higher in larger urban areas than in the countryside. Data from the employment surveys for the three major cities combined—Mexico City, Guadalajara, and Monterrey—can be used as indicators of long-term trends in urban areas, as the following tabulation shows:

	<i>Total</i>	<i>Men</i>	<i>Women</i>
1973	52.7	74.6	33.1
1983	48.9	68.6	30.8
1990	52.1	72.1	34.6
1991	54.6	74.7	36.1
1992	55.5	75.1	37.7
1993	56.3	75.5	38.4

Note that the figures for 1973 are understated because they exclude unpaid family members working less than 15 hours per week. The inclusion of these workers would add about 1 percentage point to the participation rates, based on data from later surveys. Thus, there was clearly a drop in urban participation rates for both men and women between 1973 and 1983. The economic crisis in 1982-83 probably caused a falling off in participation rates initially. By 1993, the rates in the three largest cities were much higher.

Higher levels of education and a greater concentration of population in urban areas increased employment opportunities, particularly for women. Furthermore, the need for supplementary income to augment shrinking real wages from 1983 through 1988 has propelled women into the labor market in order to provide further support for their families.²² Even though real wages have increased since 1989, they were still well below their 1983 level in 1993.

II. Employment

The economic crisis and subsequent stabilization period brought significant changes for the Mexican work force. In the short run, overall

employment opportunities eroded, but then quickly stabilized. Although paid employment fell, a large decrease in real wages in the formal

sector stemmed unemployment in that sector. The decline in wage employment was more than compensated for by an expansion in other types of employment. The industrial sector declined in its capacity to create jobs, while the service sector expanded. These trends represented a break with the past few decades, which had seen increases in wage and salary work and in the employment share of the industrial sector.

Fueled by a relatively young population flowing into working ages and the need for work by more family members to sustain their families' income, Mexico's labor force increased its numbers very rapidly during the 1980's. The country's economy absorbed the growing labor force mostly into employment status, rather than open unemployment status, during the recessionary years of the 1980's. Jobs were created mainly in the informal sector of a dual labor market.

The dual labor market

The dual market concept of a formal and an informal sector is not simple to define or measure.²³ A concept of the informal sector was first proposed by experts from the International Labor Organization (ILO) in the early 1970's, after completing several missions to evaluate the employment situation in developing countries.²⁴ There was general dissatisfaction with existing concepts of unemployment and underemployment to explain the situation that characterized Third World labor markets. The authors of the ILO study proposed the use of the term *informal* to define those activities carried out by the urban working poor. There was no precise definition; rather, informal activities were defined by the way things were done and characterized by such elements as ease of entry into the marketplace, small size, scarcity of capital, and family ownership of businesses. Thus, the concept of the informal sector is imprecise, and it involves overlapping categories, making it difficult to measure.

Although the term *informal sector* is useful in describing conditions of establishments, it does not describe employment conditions. Ambiguities often occur between the use of the term *informal sector*, as just described, and the use of the term *informal worker*, describing those whose conditions of employment are not covered by labor laws. Informal workers experience conditions of employment that are precarious and unstable. On the one hand, the business of a shoemaker who employs five or fewer workers would be considered an informal sector business because of its small size and lack of technology. However, if the shoemaker abides by labor laws and pays payroll taxes and the minimum wage, the workers would not be considered informal

workers. On the other hand, a large-scale formal sector enterprise may hire pieceworkers to assemble goods—for example, toys, radio transmitters, or batteries—in their homes. Such workers are often hired “off the books,”²⁵ and when they are, they should be categorized as informal workers because they do not receive the employment protections characteristic of workers in the formal sector.

Mexico has extensive labor legislation (laws pertaining to minimum wages, limits on hours worked, pay for overtime, and so on) that is applicable to all types of workers, including domestic service workers, home workers, and part-time workers. In addition, the local and central governments place health and safety requirements on enterprises.²⁶ However, a high proportion of informal enterprises operate outside these boundaries, and a significant amount of informal employment occurs in large-scale formal enterprises. Trade unions and social security protection are rarely found in the informal sector. Recent research shows that the bulk of informal sector enterprises lie in an intermediate zone between the extremes of complete legality and illegality, selectively fulfilling some legal requirements while avoiding others.²⁷

Size of the informal sector. There have been a number of surveys in Mexico designed to measure aspects of the informal sector. Historical comparison of available estimates of informal employment is very difficult because of methodological and definitional differences in the various surveys, but indications are that the sector is large and that it grew during the 1980's.

One study uses the results of the 1988 National Employment Survey to illustrate a range of estimates that can be made of the proportion of total nonagricultural employment in the informal sector, depending on the definition of informality chosen.²⁸ The study cites the following figures:

- 26.1 percent: the sum of those employed in domestic services, the self-employed, and unpaid workers, but not those engaged in activities considered formal, such as professionals who are self-employed, and not double counting domestics who are also self-employed;
- 33.6 percent: based on those workers with no reported earnings (unpaid workers) and those with earnings under the legal minimum wage;
- 38.5 percent: based on those working in enterprises with five or fewer workers;
- 37.9 percent: based on a special definition that combines size of establishment with categories of employment. This definition incorporates the following groups: all domestics; employers, wage earners, and pieceworkers in

establishments with five or fewer workers, with the exception of certain branches defined as formal; and self-employed and unpaid workers, except professionals, as defined in the Mexican classification of occupations.

Each of the last two groupings yields about 38 percent of total nonagricultural employment. The reason for their similarity is that the third method uses establishment size as the basis for classification, while the fourth uses the same criterion (in addition to some other factors) to determine what portion of business owners, salaried workers, and pieceworkers participate informally. In absolute terms, the preceding four estimates yield 7.3 million to 10.7 million persons employed in informal activities.

Characteristics of the informal sector. Mexico's National Statistical Institute conducted surveys of small businesses in 1976, 1988-89, and 1992. Many small businesses operate in the informal sector, but some would not be classified as informal, such as those operated by self-employed professionals. The surveys used different definitions, methods, and questionnaires and covered different geographic areas.²⁹ Therefore, they cannot be used for a trend analysis. The 1976 survey covered only the three major metropolitan areas, while the 1988-89 survey expanded coverage to seven cities. The 1992 National Survey of Microenterprises improved upon the earlier surveys.³⁰ Covering 24 cities, it was much more representative of Mexican small business and captured more detail than the other surveys did. Questions were refined to correct problems encountered in the earlier surveys, and reinterviews of 20 percent of the original respondents were conducted to improve the quality of the data.

The sample for the 1992 survey was taken from the list of employers and self-employed reported in the Urban Employment Survey. By identifying small enterprises through the household survey, data can be collected on small businesses and other economic pursuits that are overlooked in the sample framework of establishment surveys. The sample was defined as businesses with a maximum of six workers, including the owners and both paid and unpaid workers, operated by an employer or self-employed person in construction, trade, transport, and the service industries; in manufacturing, the size cutoff was increased to 16 workers because such activities generally require more workers for a reasonable level of operations. The agricultural sector was excluded from the survey. All of the businesses surveyed were kept in the sample, without eliminating those small enterprises registered as operating in the formal sector.

About 2.8 million enterprises employing 4.8 million persons (including the owners) were included in the sample. Persons working on their own account (without paid employees) comprised almost half of the total reported employment. Employers amounted to another 10 percent, while wage and salary workers were 20 percent of the total. Unpaid family and nonfamily workers accounted for about 20 percent of total employment in the microenterprises. There were proportionally more own-account workers and unpaid workers and fewer paid workers in the microenterprises, compared with the overall distribution of employment for larger urban areas shown in table 1.

Slightly more than one-fifth of the microenterprises in the 1992 survey were included in the 1989 Economic Census. Another one-third of the businesses existed at the time of the Census, but were not included in it. The remaining 44 percent did not exist at the time of the Census.

The survey sheds light on the characteristics of informal businesses and the people who own them and work for them. The vast majority (81 percent) of the units reported in the survey were persons working on their own account. The average size of the business reported was between one and two workers, much below the upper limit fixed as the norm for inclusion in the survey. Only 3.5 percent of the manufacturing enterprises had more than six workers.

The predominant line of business was retail trade, accounting for about 40 percent of the microenterprises. This work involved such things as selling fruits and vegetables and selling new and used clothing and shoes. Another 40 percent were involved in providing services such as laundering; tailoring; and furniture, home product, and vehicle repair. Only 13 percent were engaged in manufacturing, in which the main industries represented were preparation of food and drink products and textiles and apparel. The remaining 7 percent of small businesses were in construction and transport services.

Information about the kind of business premises indicated that about 60 percent of the microenterprises did not have a fixed place of business outside the home. One-third of these units consisted of persons working in their own homes, while another third worked out of their clients' homes. About one-fifth of the enterprises with no fixed place of business pursued their activities on the street or door to door. When the itinerant businesspersons were asked why they did not have a fixed place of work, 45 percent said that their lack of a fixed location was required by their activity. One-fourth said that they were not able to rent or buy a location for their enterprise.

Data on the longevity of microenterprises indicate that they generally have a short life and

that those that survive are those that manage to grow. About one-fourth of the businesses had operated for more than 10 years, and only one in 10 existed for more than 20 years. One-fifth of the enterprises existed for barely 1 year. Of those, almost 90 percent consisted of an owner working alone or with only one employee. No enterprise operating for less than a year had more than 10 workers, while 70 percent of the enterprises with more than 10 workers had existed at least 6 years.

The physical characteristics of the workplace, the capitalization levels, and the amount of earnings of the businesses reported in the survey are clear indicators of the limited access to productive resources faced by most microentrepreneurs in Mexican cities. Of the enterprises that had earnings and a place of business, the average value of their locale was 9 times the annualized daily minimum wage for 1992. The average (per business) value of other assets such as tools, equipment, and machinery was the equivalent of only 2-1/2 times the annualized daily minimum wage. More than 80 percent of the microenterprises had not solicited credit for their ongoing operations. Some said that they did not seek credit because they did not know how or because the interest rates were too high, but half said that they did not need credit.

About 55 percent of the businesses had not registered with the Tax Bureau. The proportion that was registered increased with the size of the establishment. Two-thirds of the one-person enterprises were not registered, whereas only 5 percent of the firms with six or more workers were unregistered. More than 80 percent of the businesses with no fixed address were not registered, while only 14 percent of those with a fixed location were unregistered.

The survey revealed the precarious conditions under which those who were not owners worked in microenterprises. Only one-fifth were covered for social security, and only 18 percent of the paid workers had a written labor contract. Average monthly pay was 65 percent of average monthly direct pay of production workers in Mexico. More than one-fifth of the paid workers earned the minimum wage or less; this compares with only 8 percent of the urban population who were earning at this very low level of pay in 1992.

Trends. Table 3 shows data from the national surveys on the trends by status in employment from 1979 onward. The data on unpaid family workers have been adjusted for continuity, as discussed earlier. These data portray a trend away from wage and salary work and toward self-employment and unpaid work during the 1980's. The proportion of employed persons receiving a wage or salary declined from 63 percent to 58

percent of total employment from 1979 to 1988. A further decline to 56.7 percent occurred by 1991, and the proportion held at about that level in 1993. Meanwhile, unpaid family workers increased their share of total employment from 8.2 percent in 1979 to 11.9 percent in 1988, but declined slightly in share by 1991.

The proportion of self-employed persons declined between 1979 and 1988, while employers doubled in share. Both groups increased their share between 1988 and 1991. The definitions of the self-employed and employers changed in 1993, so that some agricultural employers were reclassified as self-employed. Thus, the two groups should be added together to consider the trend from 1991 to 1993. In 1993, their combined share slipped slightly. Part of the decline in wage and salary employment and the increase in self-employed and unpaid workers reflects better enumeration of the latter types of employment in the national surveys conducted from 1988 onward.

Other statistical sources also indicate that informal employment increased during the 1980's in Mexico. For example, the Economic Census of private businesses conducted in 1986 and 1989 found that employment in enterprises with five or fewer workers rose from 22 percent to 26 percent of those employed in urban areas.³¹ However, these censuses do not cover a substantial part of the informal sector, as indicated by the 1992 Survey of Microenterprises discussed above.

Another indicator of the growth of the informal sector, based on the Urban Employment Surveys, was that the share of persons who worked in businesses of between 1 and 5 people rose from 38.3 percent of total employment in 1987 to 40.3 percent in 1990, and further, to 43 percent in the first quarter of 1994. The shift of employment from large firms to microenterprises has been recorded not only in Mexico, but also in the rest of Latin America.³²

The low unemployment rates in Mexico during the 1980's suggest relative flexibility in real wages. A large, sustained fall in real wages occurred in manufacturing during the 1980's and was also sharp in commerce, hotels, and restaurants—typically informal sector activities. The real minimum wage fell relative to wages in manufacturing during the latter part of the 1980's, suggesting that the wage floor was relaxed. This allowed many relatively less productive individuals to find jobs.³³

In a decade characterized by economic stagnation and the loss of purchasing power of wages, the increase in non-wage-earning jobs and low-paying jobs reflects a strategy of survival. The results of Mexican income and expenditure surveys provide evidence that the number of work-

Table 3. Mexican employment by status, first-quarter 1979, and second-quarter 1988, 1991, and 1993

[Numbers in thousands]

Category	1979		1988		1991		1993	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Entire country:								
Total	19,177	100	28,128	—	30,534	—	32,833	—
Wage and salary workers	12,063	62.9	15,861	58.4	16,878	56.7	18,102	56.9
Self-employed ¹	4,871	25.4	6,371	23.5	7,283	24.5	8,817	27.5
Employers ¹	652	3.4	1,690	6.2	2,396	8.0	1,349	4.2
Unpaid family workers ²	1,572	8.2	4,057	—	3,969	—	4,560	—
Working less than 15 hours per week ²	0	—	832	—	741	—	1,003	—
Adjusted unpaid family workers ³	1,572	8.2	3,225	11.9	3,228	10.8	3,557	11.2
Not specified	0	.0	148	—	9	—	4	—
Employed, excluding "not specified" and unpaid family workers working less than 15 hours per week	19,177	100	27,148	100	29,784	100	31,826	100
Larger urban areas:⁴								
Total	(⁵)	(⁵)	12,848	—	14,354	—	15,214	—
Wage and salary workers	(⁵)	(⁵)	9,412	74.2	10,604	74.6	11,149	74.2
Self-employed ¹	(⁵)	(⁵)	2,145	16.9	2,398	16.9	2,552	17.0
Employers ¹	(⁵)	(⁵)	589	4.6	693	4.9	734	4.9
Unpaid family workers ²	(⁵)	(⁵)	697	—	655	—	780	—
Working less than 15 hours per week ²	(⁵)	(⁵)	165	—	141	—	181	—
Adjusted unpaid family workers ³	(⁵)	(⁵)	532	4.2	514	3.6	599	4.0
Not specified	(⁵)	(⁵)	4	—	4	—	0	—
Employed, excluding "not specified" and unpaid family workers working less than 15 hours per week	(⁵)	(⁵)	12,679	100	14,209	100	15,033	100
Smaller areas:⁶								
Total	(⁵)	(⁵)	15,280	—	16,180	—	17,618	—
Wage and salary workers	(⁵)	(⁵)	6,449	44.9	6,274	40.3	6,954	41.4
Self-employed ¹	(⁵)	(⁵)	4,226	29.4	4,886	31.4	6,266	37.3
Employers ¹	(⁵)	(⁵)	1,101	7.7	1,703	10.9	614	3.7
Unpaid family workers ²	(⁵)	(⁵)	3,360	—	3,313	—	3,780	—
Working less than 15 hours per week ²	(⁵)	(⁵)	767	—	599	—	823	—
Adjusted unpaid family workers ³	(⁵)	(⁵)	2,593	18.0	2,714	17.4	2,957	17.6
Not specified	(⁵)	(⁵)	144	—	5	—	4	—
Employed, excluding "not specified" and unpaid family members working less than 15 hours per week	(⁵)	(⁵)	14,369	100	15,576	100	16,791	100

¹ Persons employing intermittent agricultural workers were moved to the self-employed category in 1993. In 1991 and earlier years, they were included as employers. Persons employing permanent agricultural workers remain in the employer category.

² Predominantly unpaid family workers; however, a few nonfamily workers are included.

³ Reported unpaid family workers minus those working less than 15 hours in the survey week.

⁴ Areas with 100,000 or more inhabitants and State capitals.

⁵ Not available.

⁶ Areas with fewer than 100,000 inhabitants.

Note: Percentages for 1988, 1991, and 1993 calculated on the basis of employed, excluding "not specified" and family members working less than 15 hours per week. Dash indicates no proportion calculated; instead, proportions are calculated on adjusted data that follow.

SOURCES: Continuous Occupational Survey, 1979, and National Employment Surveys, 1988, 1991, and 1993.

ers per family increased from 1.49 to 1.59 between 1977 and 1984, and to 1.63 in 1989. Despite this increase, there was a decline in real family income between 1977 and 1984 due to the fall in purchasing power. During the next 5 years, families belonging to the first seven deciles of the income distribution saw their real incomes rise between 3 percent and 8 percent, but they did not recover the losses suffered since 1977.³⁴

With the slowing of inflation beginning in 1988, there has also been a slowing in the fall of the purchasing power of wages. In that year, almost 70 percent of all urban workers received incomes below twice the minimum wage, but it

took 4.78 times the minimum wage to cover the standard market basket of necessities, as defined by the general coordinator of the National Plan for Depressed Areas and Marginal Groups (COPLAMAR).³⁵ By 1992, the wages of workers employed in large manufacturing establishments covered an estimated 90 percent of the market basket's value, but wages in trade and in services are far lower than those of workers in large manufacturing establishments.³⁶ Thus, the task of creating well-compensated jobs in Mexico is a large one.

According to a study by the Regional Employment Program for Latin America and the Caribbean (PREALC),³⁷ the trend toward informal em-

ployment during the 1980's was widespread throughout Latin America. PREALC has made estimates of various measures pertaining to the informal sector based on household surveys conducted in Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, and Venezuela, which together account for 80 percent of the labor force in the region.³⁸ These estimates define informal employment as the sum of own-account workers (the self-employed), family workers, and persons engaged in domestic service. They indicate that urban informal employment grew from 26 percent to 31 percent of the working population in the preceding group of countries between 1980 and 1990. In addition, small enterprises in the private sector employed 22 percent of nonagricultural workers in 1990, up from 15 percent in 1980.

Sectoral employment shifts

Coinciding with the growth of the informal sector, the industrial sector (mining, manufacturing, and construction) declined as a percentage of total employment, while the share of employment in service industries grew. Within manufacturing, the *maquiladora* exporting industries gained in their share of both jobs and gross domestic product, but this sector still comprises a small portion of total urban employment, although it is significant in certain states and regions of the country.

The rise in informality was accompanied by, and indicative of, the shift from industry to services as a source of both national output and employment. Industry's share of gross domestic product fell in 1982 and 1983, and did not regain its level of 1981 until 1990. The following tabulation shows a drop in the share of employment in industry from 1979 to 1991 at the national level.³⁹ The trend continued in 1993, when Mexico's service sector attained a 50-percent share of employment. (The United States moved over the 50-percent mark in the 1950's, and other developed countries followed in the 1960's and 1970's.)⁴⁰

	1979	1991	1993
Agriculture	29.0	27.0	27.1
Industry	27.7	23.2	22.2
Services	43.3	49.8	50.6

The decline in the employment share of the industrial sector during the 1980's is a significant break with the previous historical trend. According to the 1950 and 1970 population censuses and the 1979 National Employment Survey, industry's share of employment rose from 1950 through 1979, mainly at the expense of the agricultural sector.⁴¹

In manufacturing, wage-earning jobs predominate, while in activities connected with services—especially retail trade—autonomous work (work on one's own account) has an important relative weight. Thus, the decline in manufacturing jobs and the increase in service sector jobs were trends behind the growth in nonpaid work in Mexico during the 1980's.

The Monthly Industrial Survey of manufacturing establishments excludes the *maquiladora* plants and most smaller enterprises. An indicator of formal sector employment trends, this survey has shown a declining trend in employment from 1982 through 1992 in every one of its nine major economic divisions, except chemicals and petroleum derivatives. By the latter year, the number of employed workers was 12 percent below the 1982 level. Losses were greatest in the basic metals industry, followed by the textile industry, the apparel and leather industry, and the metal products and equipment industry. According to Rendón and Salas,⁴² the most modern industries, as well as those most backward in technology, had a diminished capacity to create jobs. The more modern sectors lost jobs because of the introduction of new technologies, which was accelerated by international competition, while the remaining sectors lost jobs because of their inability to compete under conditions of crisis and open trade.

There were underlying forces at work in Mexico that are generally common to the course of economic development. Labor flows out of the agricultural sector and into industry and services, as workers move from rural to urban areas. Eventually, at a much later stage, the industrial sector begins to lose ground in its share of total employment. The United States entered the latter stage some years ago, and the service sector now employs about 70 percent of all workers. Mexico's development pattern appears to have been interrupted in the 1980's, with a premature fall in the industrial share of employment.

Maquiladoras

Mexico established the *maquiladora* program in 1965 to promote foreign investment and jobs in the country. The program allows duty-free imports of equipment and materials to Mexico for assembly and reexport. The majority of firms established under the *maquiladora* program are subsidiaries of U.S. parent companies. Almost all of the materials and components used in the production process at *maquiladoras* are provided by U.S. suppliers and are returned to the United States as finished goods. Auto parts plants employ about one-fourth of all *maquiladora* workers, and they constitute the fastest growing *maquiladora* industry.

While the relative importance of employment in manufacturing decreased, employment in the *maquiladora* industry surpassed the overall growth rate of the urban labor force in the past two decades. Table 4 shows data on employment in the *maquiladora* industries from 1975 to 1993. Employment growth accelerated during the 1980's, and by 1992, there were more than 500,000 workers in the *maquiladora* sector. Despite this expansion, *maquiladora* workers made up less than 2 percent of national employment in 1993. They accounted for about 10 percent of employment in the manufacturing sector.

Women production workers dominate the *maquiladora* industry, even though growth in employment among male production workers has outpaced that of women. (See table 4.) Rendón suggests that the rise in men's employment in the *maquiladora* industries is related to the reduction in employment opportunities for men in industry nationally.⁴³ This has forced them to choose less attractive occupations at relatively low wages. Men are also increasing their participation in activities related to trade and services in the *maquiladora* industries, areas in which their participation had previously been low. Furthermore, increased *maquiladora* activity in "heavier" industries such as transportation equipment helps to explain the growth in employment of men in the *maquiladora* sector.

Workers in *maquiladora* plants are young. A survey carried out in three northern cities revealed average ages of the workers between 22 and 24 years.⁴⁴

Four cities that border the United States—Tijuana, Ciudad Juárez, Matamoros, and Nuevo Laredo—have been included in the Urban Employment Survey since 1987. *Maquiladora* in-

Table 4. Number of persons employed in *maquiladora* industries in Mexico, 1975 and 1980–93

Year	All workers	Production workers		
		Total	Percent	
			Men	Women
1975	67,214	57,850	21.7	78.2
1980	119,546	102,020	22.9	77.3
1981	130,973	110,020	22.6	77.4
1982	127,048	105,383	22.8	77.4
1983	150,867	125,278	25.5	74.4
1984	199,684	165,505	29.1	70.9
1985	211,968	173,874	31.0	69.0
1986	249,833	203,894	31.8	68.0
1987	305,253	248,638	34.0	66.0
1988	369,489	301,379	36.8	63.2
1989	429,638	349,602	38.6	61.4
1990	447,606	361,275	38.9	61.1
1991	467,352	374,827	39.7	60.3
1992	505,053	406,313	39.8	60.2
1993	540,927	440,242	40.5	59.5

SOURCE: Mexican Statistical Institute, *Estadística de la industria de exportación: 1975–85*, table 2; 1979–89, table 2; *Cuaderno de información oportuna*, June 1992, table 2.22; *Avance de información económica: industria maquiladora de exportación*, July and December 1993, table 3.

dustrial activity is concentrated in these cities, and they have been included in the survey so that the Mexican government can evaluate the effect of the *maquiladora* program on employment creation. Except for Matamoros, these border cities have lower unemployment, higher labor force participation, and a higher percentage of wage and salary workers than the national average.

Although the *maquiladora* plants have been a major generator of manufacturing employment since 1980, their growth was not large enough to offset the overall decline in employment in the industrial sector that occurred in the 1980's.

III. Unemployment and underemployment

Mexico has maintained low open unemployment rates—below 5 percent—through most of the 1980's and into the 1990's. Table 5 presents urban unemployment rates for most years from 1970 to early 1994 from the various Mexican household surveys, as well as from the 1970 population census. Changes in coverage and definitions affect the historical comparability of these data. Broader definitions of unemployment were used prior to 1985.

The highest urban unemployment rate recorded in Mexico since 1973 was 8.0 percent in 1977. In the early 1980's, Mexico's urban unemployment rates declined. Then, in 1983, the

rate jumped to 6.9 percent, still a low rate for most of the world at that time. Rates fell continuously for the rest of the 1980's and have remained below 4 percent in the 1990's.

These low rates have provoked a certain degree of skepticism among labor market analysts. Therefore, this section begins by looking at the concepts and definitions used by the Mexican Statistical Institute in conducting the Urban Employment Surveys. (See the appendix for more detailed information about the survey questionnaire.) An adjustment to U.S. concepts is made for three recent years, characteristics of Mexico's open unemployment are investigated, and

Table 5. Unemployment rates in urban areas of Mexico, by survey, 1970-94
[In percent]

Year	Annual unemployment rate	Cities covered	Name of survey
1970 ¹	7.0	Mexico City, Guadalajara, Monterrey	Decennial Census
1973	7.3	Mexico City, average for 1973-75	Continuous Labor Force Survey
1975	7.2	Mexico City, Guadalajara, Monterrey	Continuous Labor Force Survey
1976	6.7	Mexico City, Guadalajara, Monterrey	Continuous Labor Force Survey
1977	8.0	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1978	6.9	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1979	5.7	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1980	4.5	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1981	4.2	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1982	4.2	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey
1983	6.9	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey and National Urban Employment Survey combined
1984	6.0	Mexico City, Guadalajara, Monterrey	Continuous Occupational Survey and National Urban Employment Survey combined
1985 ²	4.4	16 urban areas	National Urban Employment Survey
1986	4.3	16 urban areas	National Urban Employment Survey
1987	3.9	16 urban areas	National Urban Employment Survey
1988	3.6	16 urban areas	National Urban Employment Survey
1989	3.0	16 urban areas	National Urban Employment Survey
1990	2.8	16 urban areas	National Urban Employment Survey
1991	2.6	16 urban areas	National Urban Employment Survey
1992	2.8	32-34 urban areas ³	National Urban Employment Survey
1993	3.4	34-37 urban areas ⁴	National Urban Employment Survey
1994:			
First quarter	3.7	37 urban areas	National Urban Employment Survey
Second quarter	3.5	37 urban areas	National Urban Employment Survey

¹ Census taken January 18, 1970. The unemployment rate for the entire country was 3.8 percent.

² Concepts used from 1985 onward are different from those used prior to that year. The definition of unemployment was narrowed somewhat in 1985.

³ First and second quarters cover 32 cities; third and fourth quarters cover 34 cities.

⁴ First quarter covers 34 cities, second 35, third 36, and fourth 37.

NOTE: All figures are average annual unemployment rates based on quarterly rates, except where otherwise indicated.

SOURCES: Compiled by BLS from the surveys listed. Data for 1983 and 1984 provided by the Mexican Statistical Institute.

the 10 complementary measures of unemployment are presented, together with the official open unemployment rate.

Concepts and definitions

The conceptual framework of the National Urban Employment Survey generally follows the guidelines recommended by the ILO. However, there are some exceptions, as well as some differences between Mexican and U.S. concepts.

Employed persons are defined (since 1985) as those who are 12 years or older and, in the reference week, (a) worked at least 1 hour for barter or money or were self-employed; or (b) did any work at all as an unpaid family or nonfamily worker; or (c) were temporarily absent from work due to illness, vacation, travel, personal reasons, or studies and were *paid* while on leave (no time limit was placed on their absence, as long as they were paid); or (d) did not work or receive pay,

but expected either to begin a new job or to return to work within the next 4 weeks.

The unemployed are defined as persons 12 years and older who, in the reference week, did not work for 1 or more hours and (1) were available for work; and (2) actively sought work in the previous 4 weeks or (3) had sought work in the past 1-2 months and were waiting (a) for the next season to begin; (b) for a reply to a job application; (c) for a job recall within the next 3 months; or (d) for the end of a strike or work stoppage. Note that although availability is specified in this definition, no question tests the current availability of unemployed persons.

In sum, those who expect either to start or to return to work within 4 weeks are counted as employed, regardless of the reason (layoff, strike, seasonal nature of job, arranged for a new job, and so on). If they do not expect to begin or return to work in 4 weeks, but have sought work in the past 2 months, they are classified as unemployed.

The major differences between Mexican and U.S. concepts are as follows:

Job search period. In the Mexican survey, a 2-month job search period is allowed under certain conditions, whereas the U.S. labor force survey specifies that a job search must have occurred in the past 4 weeks for an individual to be classified as unemployed, except for persons on temporary layoff and persons waiting to begin a new job, who are classified as unemployed without the necessity of having undertaken a recent job search. (In January 1994, the U.S. definition was changed so that persons waiting to begin a new job are also required to have searched for work in the past 4 weeks to be classified as unemployed.)

Layoffs. Persons on layoff who are expecting to be recalled to work in 4 weeks have been classified as employed in Mexico since 1985. Such persons are enumerated as unemployed in the U.S. survey.⁴⁵ Persons on layoff in Mexico who do not expect to be recalled to work in the next 30 days are not counted as unemployed, unless they have actively sought work in the past 2 months. In contrast, persons on longer layoffs in the United States are still counted as unemployed, with no job search requirement applicable to them.⁴⁶ Few Mexicans would be able to afford to be on layoff for an extended period of time. Therefore, this difference does not help to explain the low Mexican unemployment rate, compared with that of the United States.

Waiting to start a new job. Mexico classifies some persons as employed who would be counted as unemployed under ILO concepts and in most developed countries: persons waiting to start a new job within a month. The Mexican surveys report a significant number of persons in this category. In the United States, until January 1994, such persons were counted as unemployed and did not have a job search requirement. Now they are counted as unemployed only if they also actively sought work in the previous 4 weeks. Because the former U.S. definition was used during the period covered by the data in this article, that definition will be applied here in the U.S.-Mexico comparisons.⁴⁷

Unpaid family workers. Unpaid family members who work less than 15 hours in the reference week (or who do not work at all) have been classified as employed in the Urban Employment Survey since its inception in 1983. This treatment does not completely follow the ILO recommendation, which was amended in 1982 to count as employed all "unpaid family workers at work . . . irrespective of the number of hours worked

during the reference period." Because it states "at work," the ILO recommendation appears to include only unpaid family members who did *some* work in the reference period, but Mexican statisticians have chosen to include those who did not work at all, if they expected to return to work in 1 month. Mexican surveys report a significant number of unpaid family members working either a marginal number of hours or no hours at all during the reference week. In the United States, unpaid family members who worked less than 15 hours in the reference week are not counted in the labor force, unless they are seeking work. In the latter case, they would be unemployed. This follows the ILO recommendation prior to the 1982 revision.

Persons on strike. In Mexico, persons on strike are classified as employed if they expect to return to work in 4 weeks. If they do not expect to return to work in 4 weeks and have sought work in the past 2 months, they are classified as unemployed. In the United States, persons on strike are counted as employed regardless of the duration of the strike. Because in Mexico most strikes are not expected to last more than 4 weeks, this seems to be a marginal difference between the Mexican and U.S. surveys.

Age limits. Another difference between the U.S. and Mexican surveys is in the age limits they recognize. The U.S. CPS covers persons aged 16 years and older, while the Mexican survey uses a much lower age limit of 12 years. The reason for the latter is that in Mexico young persons are often expected to contribute to their family's welfare at an early age.

Adjustment to U.S. concepts. Mexico collects a great deal of detailed information from the National Employment Survey, and this makes it possible to adjust the data closer to U.S. concepts. In this article, adjustment is made to U.S. concepts operational prior to the CPS revisions in January 1994. Only the "more urbanized" components of the 1988, 1991, and 1993 surveys are used in the following analysis because their labor markets are more comparable with labor markets in developed countries.

No adjustment could be made for the 2-month extension of the job search period in Mexico under certain circumstances. However, the effect of this difference is likely to be small, and in one respect (treating those under lengthy layoffs), Mexico's method is less inclusive than the U.S. method, which does not require a job search on the part of this group.

Table 6 shows the effect of (1) including as unemployed persons waiting to begin a new job

Table 6. Adjustment of Mexican unemployment rates to U.S. concepts, larger urban areas,¹ second-quarter 1988, 1991, and 1993

Category	1988			1991			1993		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Reported unemployed	494,316	266,862	227,454	352,114	209,144	142,970	490,941	306,703	184,238
Plus:									
Persons on temporary layoff	121,553	80,929	40,624	142,141	93,359	48,782	190,966	126,286	64,680
Persons waiting to start a new job in 30 days	108,069	65,379	42,690	92,311	58,347	33,964	94,197	61,238	32,959
Adjusted unemployed	723,938	413,170	310,768	586,566	360,850	225,716	776,104	494,227	281,877
Reported labor force	13,342,433	8,834,563	4,507,870	14,706,007	9,617,006	5,089,001	15,705,194	10,220,312	5,484,882
Minus unpaid family workers working less than 15 hours per week ²	161,092	70,949	90,143	140,798	57,898	82,900	180,419	77,940	102,479
Adjusted labor force	13,181,341	8,763,614	4,417,727	14,565,209	9,559,108	5,006,101	15,524,775	10,142,372	5,382,403
Unemployment rates:									
Reported	3.7	3.0	5.0	2.4	2.2	2.8	3.1	3.0	3.4
Adjusted	5.5	4.7	7.0	4.0	3.8	4.5	5.0	4.9	5.2
Ratio of adjusted to reported unemployment rate	1.5	1.6	1.4	1.7	1.7	1.6	1.6	1.6	1.6

¹ Areas with 100,000 or more inhabitants and State capitals.

² Predominantly unpaid family workers; however, a few nonfamily workers are included.

SOURCE: National Employment Surveys, 1988, 1991, and 1993.

and persons on temporary layoff who expect to return to work in 4 or less weeks and (2) omitting from the labor force unpaid family members working less than 15 hours or not at work during the reference week. Because the former category of unpaid family workers represents only those who are *potentially* unemployed under U.S. concepts, they have not been added to the unemployment adjustment, but the effect of including them can be calculated.⁴⁸

In the second quarter of 1993, the reported urban unemployment rate of 3.1 percent is raised to 5.0 percent when adjusted to U.S. concepts. This is still well below the U.S. rate of 6.8 percent that year. In the 3 years for which adjustments are shown, the Mexican rate is adjusted upward by 50 percent to 70 percent when U.S. concepts are applied.

It is impossible to say what the Mexican unemployment rate would be using the current U.S. definition, which requires a job search on the part of persons waiting to start a new job. Persons in this situation are not asked the question on job search; therefore, there is no information on this point. In the United States, most persons waiting to start a new job have engaged in a job search in the previous 4 weeks; hence, most are included among the unemployed. It is likely that Mexicans in the same situation also engaged in a job search in the previous 4 weeks.

Concerning the difference in age limits between the Mexican and U.S. surveys, in Mexico, persons 12 to 14 years had a higher than average

unemployment rate in 1991 (4.7 percent), but a rate about the same as the overall rate in 1993. Their numbers are small, so that their exclusion from the ranks of the unemployed would not change the adjusted unemployment rates.

Although the adjustment to U.S. concepts increases the Mexican unemployment rate, it remains low in comparison with the rates of most developed countries, with the exception of Japan. However, concepts applicable to the developed countries are inadequate for measuring conditions in a labor market like Mexico's. The complementary indicators discussed later are more appropriate for measuring the underutilization of labor in Mexico.

Composition of open unemployment

The most common reason given for low unemployment rates in Mexico is the lack of unemployment insurance or any other Government safety net for the unemployed.⁴⁹ Labor law in Mexico requires employers to pay dismissed employees a lump sum equal to 3 months' pay plus 20 days' pay for each year of service. But this law is applicable only in the formal sector of the economy. There is no national or state system of unemployment insurance.⁵⁰

In the United States, typically about one-third of unemployed persons are receiving unemployment benefits at any given time, although this proportion rose in 1991–92 to one-half because of the State and Federal extended benefit pro-

grams. An unemployed person may also have savings to fall back on for a time. Thus, most unemployed individuals in the United States are not under as much immediate pressure as Mexicans to obtain income from a job. Most persons in Mexico literally cannot afford to be unemployed for very long. As people attempt to subsist, they are counted as employed in Mexico's labor force surveys. Many Mexicans enter the vast informal economy, as vendors or repairpersons in their homes, in market stalls, at street corners, and in door-to-door sales; as unpaid workers for their family's business; or as poorly paid workers for microenterprises.

Open unemployment in Mexico is a phenomenon that affects the more educated rather than the less educated, youth more than adults, and women more than men. The more educated may well have resources to fall back on while they are looking for work. Further, it is easier to be unemployed when one is a child or wife in a household, rather than the principal earner or head of the household. (Widowed, divorced, and separated women have lower unemployment rates than married women have.) Because married women and youth living in families are usually not primary wage earners, they have more flexibility in pursuing a job search and can more easily "afford" to be unemployed. Unemployment is also of relatively short duration in Mexico.

Educational attainment. In developed countries, more highly educated workers tend to have lower unemployment rates than those with less education. However, the same cannot be said for Mexico. Table 7 indicates that almost 70 percent of all unemployed persons have more than a primary school education. Unemployment was highest and most prevalent among persons who attended or completed high school, but had no further education. These persons comprised 44 percent of the unemployed, but less than one-third of the labor force. The second largest concentration of unemployment was among the group with more than a high school education, which experienced the same unemployment rate as the general population. This group accounted for about a quarter of both the unemployed and the labor force. The uneducated made up 5 percent of the labor force, but only 3 percent of the unemployed.

Age. Similar to the situation in developed countries, unemployment in Mexico is relatively high among young persons. Table 8 shows that Mexicans under 25 years of age experienced higher unemployment rates than the rest of the labor force did.

Mexico's practice of counting labor force participation from age 12 slightly minimizes the

difference between youth and adult unemployment rates. In 1993, the 12- to 14-year-old group experienced a lower unemployment rate than the 15- to 19-year-old group did. Even with the mitigating effect of the former group, however, the teenage population experienced higher jobless rates than did the older age groups.

Sex. In the English-speaking developed countries, women tend to have lower unemployment rates than men; however, women's rates tend to be considerably higher than men's in non-English-speaking Western European countries. The situation in Mexico is similar to the Western European pattern. All of the Mexican labor force surveys indicate that women have higher unemployment rates than men, both in rural and in urban areas. However, the male-female differential has narrowed considerably since 1988, as shown in table 8. In particular, the rate for teenage girls converged to that for teenage boys in 1993. That year, the higher overall rate for women was attributable solely to their considerably higher rate in the 20- to 24-year-old age group.

Duration. Unemployment tends to be of short duration in Mexico. The quarterly Urban Unemployment Surveys for 1993 reveal that 44 percent of the unemployed were without work for 4 or less weeks; another 23 percent were unemployed 4 weeks to 8 weeks, while the remaining 33 percent were unemployed more than 8 weeks. These are very short durations, compared with those of European countries, where typically more than half of the unemployed are jobless for 6 months or longer. Even in the United States, the duration of unemployment is higher than in Mexico: in 1993, 36 percent of the U.S. unemployed were jobless for 5 or less weeks, and 35 percent were unemployed for 15 weeks or longer.

Table 7. Unemployment in Mexico, by education, larger urban areas,¹ second-quarter 1988

[In percent]

Education	Unemployment rate	Proportion	
		In labor force	Unemployed
Total	3.7	100	100
No education	2.1	5.0	2.8
Incomplete primary	2.4	15.2	10.0
Complete primary	2.9	23.2	18.1
Complete and incomplete high school	5.2	31.4	44.1
More than high school	3.7	25.2	25.1

¹ Areas with 100,000 or more inhabitants and State capitals.

SOURCE: National Employment Survey, 1988, table 21.

Ana Revenga and Michelle Riboud undertook a special analysis of spells of unemployment in Mexico based upon the 1990 and 1991 Urban Employment Surveys.⁵¹ They constructed a data set consisting of cohorts that were followed over the course of three to four quarters. They found that the typical spell of unemployment in Mexico lasted 5.7 months for men and 7.2 months for women. This helps to explain the higher average unemployment rate for women.

The mean duration of unemployment was longer for workers over the age of 30 than for younger workers, but it did not vary substantially according to educational attainment. Heads of households and individuals with household responsibilities tended to leave the ranks of the unemployed faster than others. Fifteen to 20 percent of Mexicans experienced at least one spell of unemployment over the year. About one-quarter of the spells of males and half of those of females ended in withdrawal from the labor force, but a large fraction of those who withdrew reentered the work force within 3 months. Although Mexico does not have unemployment insurance, severance payments may help subsidize part of a spell of unemployment. Of course, these benefits apply only to workers in the formal sector.

Ten complementary measures

Because of the inadequacy of the open unemployment rate to realistically reflect the degree of underutilization of labor and the demand for jobs in Mexico, the Mexican Statistical Institute decided to analyze underutilization using a variety of complementary rates of unemployment, underemployment, and employment to income. These rates are based on a combination of information on job searches, hours worked, and income from employment. Only one of the rates is truly an alternative rate of open unemployment; the others include different groups of the em-

ployed labor force whose work could be regarded as unsatisfactory in terms of hours or earnings. Mexican authorities use these rates to identify the number of potential beneficiaries of employment policies developed by the Federal Government.⁵² The rates are available from 1987 onward, and they have been published by the Mexican Statistical Institute since 1991.

Table 9 shows the annual figures for each of the 10 complementary rates, as well as the official open unemployment rate, from 1987 through the second quarter of 1994. Averages for 16 urban areas are shown for 1987 through 1993; in addition, 1992 data covering 32–34 cities are shown. In 1993, the data cover 34 to 37 cities, and in 1994, 37 cities are covered. Based on 1992 and 1993 data on both 16 cities and more than 30 cities, the increase in coverage makes only a slight difference in the rates.

The definitions of the rates are shown in the box on page 24. For ease of discussion, these rates will be referred to as R–1 through R–11. R–1 is the official open unemployment rate. R–2 adds persons waiting to begin new jobs (a group added in the adjustment to U.S. concepts) and the hidden unemployed, defined as persons who are available for work, but are not seeking it. R–3 through R–5 are underutilization rates that use job search as a proxy to define the pressure of labor supply on the job market. R–6 through R–8 use the number of hours worked to determine different degrees of underutilization. R–9 and R–10 are employment-income indicators that consider wages relative to the minimum wage, along with hours worked. R–10 is the only one of the rates that does not incorporate the open unemployment rate into its calculation, and it is also the only rate that uses employment rather than the labor force as the denominator. R–11 is a composite rate. Note that all references to past or future time in the following analysis, without any mention of a specific period from which that time is calculated, are *from the reference week*.

Table 8. Unemployment rates in Mexico, by age and sex, larger urban areas,¹ second-quarter 1988, 1991, and 1993

[In percent]

Age, years	1988			1991			1993		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
15 and older	3.7	3.0	5.1	2.4	2.1	2.8	3.1	3.0	3.4
12 and older	3.7	3.0	5.0	2.4	2.2	2.8	3.1	3.1	3.4
12 to 19	7.8	6.7	9.9	6.2	6.1	6.6	6.5	6.5	6.5
12 to 14	2.3	2.2	2.5	4.7	5.6	2.9	3.2	3.2	3.1
15 to 19	8.6	7.4	10.9	6.4	6.1	7.0	6.9	7.0	6.7
20 to 24	6.4	5.2	8.2	3.7	3.7	3.7	5.6	4.9	6.8
25 to 54	2.1	1.8	2.8	1.5	1.3	1.9	2.0	2.0	2.0
55 and older	2.6	2.1	3.8	.6	.5	.9	1.3	1.7	.2

¹ Areas with 100,000 or more inhabitants and State capitals.

Source: National Employment Survey, 1989, 1991, and 1993.

Table 9. Unemployment rates and underutilization rates in Mexico, urban areas, 1987-94

[In percent]

Geographic coverage, year and quarter	R-1	R-2	R-3	R-4	R-5	R-6	R-7	R-8	R-9	R-10	R-11
	Open unemployment rate	Alternative unemployment rate	Real economic pressure rate	Real preference pressure rate	General pressure rate	Part-time <15 hours and unemployment rate	Part-time for economic reasons and unemployment rate	Part-time < 35 hours and unemployment rate	Insufficient income and unemployment rate	Critical conditions of the employed rate	General rate of employment needs
16 urban areas:											
1987	3.9	6.0	5.1	6.1	7.4	7.9	6.6	23.3	30.8	30.5	13.5
1988	3.6	5.3	4.9	5.8	7.1	7.5	6.1	23.1	21.8	22.9	12.7
1989	3.0	4.4	4.1	4.8	5.8	6.8	5.3	21.0	18.3	20.1	11.0
1990	2.8	4.4	3.6	4.2	5.1	6.1	4.9	20.5	14.6	16.8	10.0
1991	2.6	4.2	3.5	4.0	4.8	6.1	4.8	20.8	11.7	14.3	9.9
1992	2.9	4.6	4.0	4.3	5.4	6.6	5.2	21.6	10.6	13.8	10.8
1993	3.6	5.6	4.9	5.5	6.8	7.9	6.3	23.2	12.3	14.0	13.2
32-37 urban areas:											
1992 ¹	2.8	4.8	4.0	4.4	5.5	6.5	5.3	21.6	10.9	14.1	11.2
1993 ²	3.4	5.6	4.8	5.3	6.6	7.7	6.3	23.0	12.4	14.2	13.1
Quarters:											
I	3.5	5.8	4.7	5.3	6.5	7.6	6.3	23.5	13.0	14.8	12.9
II	3.2	5.3	4.5	4.8	6.1	7.4	6.1	23.5	12.4	14.3	12.4
III	3.7	6.0	5.3	5.7	7.2	7.8	6.6	21.4	12.3	14.1	13.6
IV	3.3	5.4	4.7	5.4	6.7	8.0	6.2	23.7	11.8	13.7	13.5
1994 ³											
Quarters:											
I	3.7	5.8	4.8	5.5	6.6	8.1	6.3	22.4	11.4	13.3	13.1
II	3.5	6.1	4.4	5.3	6.3	7.9	6.1	23.9	11.5	14.1	13.3

¹ Average calculated from first two quarters covering 32 cities and last two quarters covering 34 cities.

² Covers 34 cities in first quarter, 35 in second, 36 in third, and 37 in fourth.

³ Covers 37 cities.

NOTE: See box on page 24 for full definitions of the rates.

SOURCE: Mexican Statistical Institute, *Encuesta Nacional de Empleo Urbano, indicadores complementarios*, June 1994. The complementary indicators are also published by the Statistical Institute in table 2.16 of the monthly *Cuaderno de información oportuna*.

R-1. The first of the 11 rates listed in table 9 is the *conventional unemployment rate*, or open unemployment rate. This rate includes only those individuals who have actively searched for work in the past 4 weeks (or in the past 2 months under certain circumstances). As noted earlier, persons beginning a new job or returning to a job within 1 month are not counted as unemployed; rather, they are included among the employed. Also, persons on long-term layoff who have not participated in any job search are not included in the open unemployment rate. R-1 fell from 3.9 percent in 1987 to 2.6 percent in 1991. It then rose to more than 3 percent in 1993 and early 1994.

R-2. R-2 is the *alternative unemployment rate*, comprising the sum of the openly unemployed, individuals waiting to begin a new job or business in the next month, and the hidden unemployed, as a proportion of the total labor force plus the hidden unemployed. The hidden unemployed include two groups: (1) persons who looked for work in the past 2 months, but did not seek work in the past month because they thought

they could not find work; and (2) persons who did not seek work in the past 2 months because they thought they could not find work or because they were waiting for (a) the end of a strike or suspension of work, (b) the next season to begin, (c) a response to a job application, or (d) a call to work from an employer in the next 3 months. Thus, R-2 incorporates an element of the adjustment to U.S. concepts presented earlier, by including persons waiting to begin a new job; however, it goes beyond the adjustment by including the hidden unemployed, a group akin to discouraged workers in the United States.⁵³ In 1991, the hidden unemployed in Mexico accounted for only about 1 percent of the labor force, and their rates for other years were probably in the 1-percent to 2-percent range. In Mexico, few people can afford to be "discouraged" and neither work nor seek a job.

It should be noted that the category of "persons waiting to begin a new job" does not include persons not at work and without pay, but who are going to return to work in at most 4 weeks. Therefore, excluded from R-2 are persons on temporary layoff (part of the earlier ad-

Complementary employment and unemployment indicators

- R-1** *Open unemployment rate*: Open unemployed as a percent of the labor force. Defined as persons 12 years of age and older who in the reference week did not work for 1 or more hours and were available for work, actively seeking work in the past 4 weeks, or seeking work in the past 1 to 2 months while on strike, while awaiting the next season or reply to a job application, or while awaiting job recall within the next 3 months.
- R-2** *Alternative unemployment rate*: Open unemployed, plus persons waiting to begin work in the next 4 weeks, plus persons not in the labor force, but who are available for work and who looked for work at some time in the past (the hidden unemployed), as a percent of the labor force plus the hidden unemployed.
- R-3** *Real economic pressure rate*: Open unemployed and employed seeking a second job, as a percent of the labor force.
- R-4** *Real preference pressure rate*: Open unemployed and employed seeking a new job, as a percent of the labor force.
- R-5** *General pressure rate*: Open unemployed and employed seeking either a new job or a second job, as a percent of the labor force.
- R-6** *Part time less than 15 hours and unemployment rate*: Open unemployed and persons working 1, but less than 15 hours a week, as a percent of the labor force.
- R-7** *Part time for economic reasons and unemployment rate*: Open unemployed and persons working 1, but less than 35, hours a week for economic reasons, as a percent of the labor force.
- R-8** *Part time less than 35 hours and unemployment rate*: Open unemployed and persons working 1, but less than 35, hours a week, as a percent of the labor force.
- R-9** *Insufficient income and unemployment rate*: Open unemployed and persons who work, but who earn less than the minimum wage, as a percent of the labor force.
- R-10** *Critical conditions of the employed rate*: Persons working 1, but less than 35, hours a week for economic reasons, working more than 35 hours a week while earning less than the minimum wage, and working more than 48 hours a week while earning between 1 and 2 times the minimum wage, as a percent of total employment.
- R-11** *General rate of employment needs*: A composite of the open unemployed, the hidden unemployed (see R-2), persons waiting to start a new job, persons looking for a second job or a new job, and persons working 1, but less than 15, hours a week, as a percent of the labor force plus the hidden unemployed.

justment to U.S. concepts), as well as persons who responded that they were not working due to lack of money, scarcity of materials, or disrepair of a vehicle or machinery. Their addition would have raised the 1991 R-2 rate of 4.2 percent by an estimated 1-1/2 percentage points.

R-2 was about 50 percent higher than the open unemployment rate from 1987 to 1989, but the gap has widened since then. R-2 has fluctuated between 4.2 percent and 6.0 percent in the past 7 years.

R-3. R-3 is the *real economic pressure rate*. It is composed of the openly unemployed, plus employed persons looking for a second job, as a percent of the labor force. All employed persons are asked the question, "In the past 2 months, have you tried to find another job as a worker, a self-employed person, or something else?" Respondents who answer in the affirmative are then asked, "Did you look for other work to a) have more than one job or b) change jobs?" Those who

respond that they want more than one job are included in R-3. The reason for the job search is not asked; therefore, it is not known whether the person desires more money, wants more training, wishes to change jobs eventually, or something else. R-3 measures the availability of the respondent to work more jobs, but no question is asked concerning the number of extra hours the respondent would be available for work. Therefore, the number of people who are underutilized is quantified, but the degree of underutilization is not. R-3 increases the open unemployment rate by about 30 percent to 40 percent.

R-4. The *real preference pressure rate* is the percent of the labor force that is openly unemployed, plus those employed but looking for a new job. This is different from R-3, which captures persons looking for a *second* job. Like R-3, R-4 can measure the availability of that segment of the the work force which seeks new

employment, but it, too, fails to request the reason why the respondent desires a new job. R-4 is higher than R-3 and tends to be 50 percent to 60 percent higher than the open unemployment rate.

R-5. The *general pressure rate* is the percent of the labor force that is openly unemployed, plus all employed persons who actively looked for work in the past 2 months, for whatever motive. Thus, R-5 combines R-3 and R-4. Like those rates, it does not probe into the reasons why persons are looking for a new job or second job. R-5 tends to be almost double the open unemployment rate.

R-6. R-6 is the *part-time less than 15 hours and unemployment rate*. This is the percent of the labor force that is openly unemployed, plus those who are employed but who worked at least 1, but less than 15, hours in the reference week, for whatever reason. Thus, it includes persons working shorter hours due to vacation or illness, as well as those working shorter hours for lack of employment opportunities. The Mexican definitions of employment and unemployment include as employed all persons who worked at least 1 hour in the reference week, even if they were also looking for work. This is in accord with ILO definitions, which incorporate all economic activities within the employment concept, no matter the length of time they are performed. This definition results in the inclusion among the employed of persons working in very marginal jobs.

It should be noted that R-6 does not encompass persons who did not work at all in the reference week. This point was made in the discussion of R-2 with regard to unpaid persons who were waiting to return to their jobs within 4 weeks. It seems that such persons should be included somewhere in the array of complementary indicators, either in R-2 or in R-6. If R-6 included all persons classified as employed who did no work at all in the reference week, it would be increased substantially in 1993, raising it from nearly 8 percent into the 11-percent to 12-percent range.

R-6 tends to be more than double the open unemployment rate. It indicates that a substantial number of Mexicans are working only a marginal number of hours per week. (Adding in all the persons who did not work at all during the reference week would result in R-6 being triple the open unemployment rate.) There is no indication in R-6, however, as to whether these persons *want* to work more hours or are looking for another job. Such persons would be enumerated under R-3 through R-5.

R-7. The *part-time for economic reasons and unemployment rate* includes employed persons

who are working 1, but less than 35, hours a week for economic reasons, plus the openly unemployed, as a proportion of the labor force. Persons working part time for economic reasons are defined as those who work less than 35 hours a week due to a reduction in production, lack of materials, or breakdown of equipment. Not included in R-7 are other groups that are encompassed in this definition in the United States—that is, persons who could find only part-time work and persons losing hours due to the start or end of a job. These concepts of involuntary part-time work are not developed in the Urban Employment Survey.

R-7 tends to be 70 percent to 90 percent higher than the open unemployment rate. As with R-2 and R-6, R-7 excludes persons who did not work any hours at all for economic reasons.

R-8. R-8, the last of the “hours worked” rates, is the *part-time less than 35 hours and unemployment rate*. It is the percent of the labor force that is openly unemployed, plus all persons who worked 1, but less than 35, hours, either voluntarily or involuntarily. R-8 includes all employed persons who worked less than 35 hours for economic reasons, personal reasons, or the nature of their job. Between one-quarter and one-fifth of the Mexican labor force is in this group. R-8 is 5 times to 7 times the open unemployment rate, and since 1988, it has been the highest rate in the array.

R-9. The *insufficient income and unemployment rate* is the portion of the labor force that is

Table 10. Official daily minimum wage in Mexico, in current and constant terms, 1980-94

Year	Average daily minimum wage in current pesos ¹	National consumer price index (1987 = 100)	Average daily minimum wage in constant 1987 pesos
1980	141	2.3	6,130
1981	183	2.8	6,536
1982	257	4.4	5,841
1983	432	8.9	4,854
1984	666	14.7	4,531
1985	1,036	23.2	4,466
1986	1,769	43.1	4,104
1987	3,855	100.0	3,855
1988	7,218	214.2	3,370
1989	8,133	257.0	3,165
1990	9,414	325.5	2,892
1991	11,017	399.3	2,759
1992	12,084	461.2	2,620
1993	13,060	506.2	2,580
1994	13,970	(²)	(²)

¹ National average minimum wage for three geographic areas combined. The minimum wage is for a day's work; however, workers are paid each week for 7 days (6 days of work and 1 day of rest).

² Not available.

SOURCE: Mexican National Statistical Institute, *Cuaderno de información oportuna*, various issues.

openly unemployed, plus employed persons, other than unpaid family workers, who earned less than the monthly minimum wage in current prices.⁵⁴ Income below the monthly minimum wage (or a specific multiple thereof) is used as a proxy for insufficient income in Mexican labor policy. R-9 combines all full-time and part-time workers who earned less than the monthly minimum wage, even though a major reason that part-time workers receive low monthly incomes is that they worked reduced hours. Also, the rate excludes unpaid workers. R-9 has declined from about 8 times the open unemployment rate in 1987 to about 4 times that rate in 1992 and 3-1/2 times the rate in 1993-94.

R-9 fell by more than half from 1987 to 1993. However, part of the reason for the decline is that the current (nominal) minimum wage is used in the calculation, rather than an inflation-adjusted (real) minimum wage, and minimum wages have not kept pace with inflation. Further information on this point, including an adjustment of R-9 for inflation, is given after the discussion of R-10, which also uses a minimum-wage criterion.

R-10. The *critical conditions of the employed rate* combines the measure of reduced hours for economic reasons with a measure of economic hardship in work. It uses total employment as the denominator, whereas the previous indicators used the labor force (except for R-2, which added the hidden unemployed to the labor force). Unlike the previous nine indicators, R-10 does not include the open unemployment rate in the numerator. The numerator comprises three groups: (1) employed persons who worked 1, but less than 35, hours a week for economic reasons; (2) those who worked more than 48 hours a week while earning between 1 and 2 times the minimum wage; and (3) persons who worked more

than 35 hours a week while earning less than the minimum wage. Unpaid workers are not included in the calculations. This rate has decreased considerably over the years, for the same reasons that R-9 fell, but it remains much higher than the open unemployment rate. R-10 dropped from almost 7 times the open unemployment rate in 1987 to between 3 and 4 times the open rate in 1992-94.

R-9 and R-10 define a relationship between employment and income. Both rates are more like measures of economic hardship than of job market efficiency. They share one major problem: the use of the current, rather than the inflation-adjusted, minimum wage.

During the 1980's, inflation led Mexican labor unions to call for increases in the minimum wage to keep up with the rising cost of living. The amount of pesos paid for the minimum wage rose, but increases lagged well behind the inflation rate, as labor demands were moderated by "Solidarity Pacts."⁵⁵ When inflation is taken into account, the minimum wage in 1993 was only 40 percent of the 1980 level and two-thirds of the 1987 level. (See table 10.)

The minimum wage is not a consistent benchmark for a "sufficient" wage. Fewer people every year are paid less than the current minimum wage. Table 11 shows that the percent of employed persons earning less than the minimum wage in early 1994 was about 30 percent of its 1987 level. This does not reflect the bettering of a worker's well-being, however. To keep up with inflation, a person earning the minimum wage in 1987 would have needed 1.5 times the minimum wage in 1993.

In response to this problem, the Mexican Statistical Institute has furnished tabulations of R-9 and R-10 adjusted for inflation—that is, using an income cutoff based on what the minimum wage would need to have been in 1988-94

Table 11. Percentage distribution of the employed population in Mexico, by multiple of minimum wage earned in previous month, 1987-94, urban areas¹

[In percent]

Year	Received no income ²	Less than minimum wage	Between 1 and 2 times minimum wage	Greater than twice minimum wage	Unspecified
1987	4.9	28.1	48.0	17.1	1.8
1988	5.1	19.0	51.1	22.2	2.6
1989	4.9	15.8	48.1	28.6	2.6
1990	4.6	12.2	45.5	34.8	2.9
1991	4.5	9.4	43.6	38.7	3.9
1992	4.9	8.3	39.3	44.7	2.9
1993	5.3	9.4	33.2	48.8	3.4
1994 (first quarter)	5.4	8.2	33.3	49.2	3.9

¹ Covers 16 urban areas in 1987-91, 32-34 in 1992, 34-37 in 1993, and 37 in 1994.

² Nonenumerated family and nonfamily workers.

SOURCES: Mexican National Statistical Institute, *Avance de información económica, empleo*, May 1992, December 1992, and June 1993, table 9; *Cuaderno de información oportuna*, January 1991, November 1993, and May 1994, table 2.13.

to equal its purchasing power in 1987. Table 12 shows these adjusted rates, along with the unadjusted rates. The fall in R-9 and R-10 is significantly moderated by the adjustment. Instead of falling from about 31 percent in 1987 to 12 percent and 14 percent, respectively, in 1993, these rates decline to 22 percent and 23 percent, respectively.

R-11. The *general rate of employment needs* is a composite rate developed by the Mexican Statistical Institute. It was recently added to the framework of complementary rates. Combining elements of R-1, R-2, R-5, and R-6, it sums the open unemployed, the hidden unemployed, persons waiting to start a new job, persons looking for a new job or a second job, and persons working 1, but less than 15, hours a week. This sum is then divided by the labor force plus the hidden unemployed. Note that the same person could be included in two or more of these component groups. However, the Mexican Statistical Institute has made calculations which indicate that double counting is insignificant.

R-11 has been 3 to 4 times higher than the open unemployment rate in Mexico. It excludes the R-7 component of persons working part time for economic reasons. The Mexican Statistical Institute calculates that if these individuals were added in (without double counting), R-11 for the second quarter of 1991 would increase from 8.8 percent to 12.2 percent. (Without adjusting for double counting, the rate would be 12.6 percent.) Similarly, the annual average R-11 for 1993 would increase from 13.2 percent to between 15 percent and 16 percent, adjusted for duplication. This most comprehensive non-income-related measure is nearly 5 times the open unemployment rate for Mexico.

From 1987 through the second quarter of 1994, the complementary unemployment rates reflected movements in the open unemployment rate, but were consistently higher, because they incorporated broader definitions of underemployment. After declining from 1987 through 1991, all of the rates except R-9 and R-10, the two income-related measures, rose in 1992 and 1993. The increases in the complementary measures may be signs of a continued adjustment to heightened international competition, as well as to the lack of formal sector jobs for an increasingly educated population. Dramatic drops in the complementary rates associated with the minimum wage were indicative of the fact that the minimum wage did not keep pace with inflation. Adjustment of these indicators for inflation moderated these trends.

Limitations. R-1 through R-11 clearly constitute a useful array of indicators that allows for a

Table 12. Income-related complementary indicators (R-9 and R-10) for 16 urban areas in Mexico, adjusted for inflation, 1987-94

[In percent]

Year	Insufficient income and unemployment rate (R-9)		Critical conditions of the employed rate (R-10)	
	Unadjusted	Adjusted ¹	Unadjusted	Adjusted ¹
1987	30.8	30.8	30.5	30.5
1988	21.8	22.1	22.9	21.8
1989	18.3	24.1	20.1	24.6
1990	14.6	24.6	16.8	24.9
1991	11.7	25.1	14.3	26.2
1992	10.7	21.9	13.9	23.1
1993	12.3	21.8	14.0	23.0
1994 (first quarter) ...	11.1	20.0	12.8	20.6

¹ Minimum wage component of indicator adjusted to equal the purchasing power of the 1987 minimum wage.

NOTE: See box on page 24 for full definitions of the rates.

SOURCE: Table 9 for unadjusted data. Adjusted data tabulated for BLS by the Mexican Statistical Institute.

more complete analysis of underutilization of labor in Mexico. However, there are some major limitations to the measures, the most important being R-9's and R-10's use of a minimum wage unadjusted for inflation as a cutoff for "insufficient" income from employment. An inflation-adjusted minimum wage should be used in these indicators; otherwise, the trends they reflect will be misleading. The Mexican Statistical Institute is aware of the desirability of adjusting the two indicators for inflation, and statisticians there have provided the adjusted data shown in table 12, but they do not plan to publish these data as part of the complementary indicator framework.

Another limitation is the failure to include persons classified as employed who worked no hours at all in the reference week due to temporary layoffs, lack of money, scarcity of materials, or disrepair of a vehicle or machinery. (The Mexican Statistical Institute does not include these persons in any of its unemployment indicators, because they have a job to return to within 4 weeks; thus, they are not regarded as needing a job.) Logically, such persons could be encompassed by R-2, or R-6 through R-8, which use the number of hours worked to determine degrees of underutilization, but only consider persons who worked at least 1 hour.

R-6 and R-8 include persons working shorter hours without regard to the reason; those working such hours due to vacation or a holiday should not be included in an underutilization measure. Finally, although double counting is not large, an adjustment for duplication in the composite indicator R-11 would improve this measure.

MEXICO'S LOW OPEN UNEMPLOYMENT RATE partially reflects the more restrictive concepts used in the Mexican labor force surveys. Adjustment

of the rate to include persons who would be counted as unemployed under U.S. concepts raises the rate, but it still remains relatively low. Concepts applicable to developed countries are inadequate for explaining the conditions in a labor market with a sustained oversupply of labor, with limited public employment services and no safety net of unemployment insurance, and with a conventional labor market only in the formal

sector of the economy. Mexico's 10 complementary rates of unemployment represent an attempt to measure the forms of underemployment not encompassed in the concept of open unemployment. They indicate a high level of underemployment in Mexico, which is higher still when adjustments are incorporated into the income sufficiency indicators to reflect the inflation-adjusted minimum wage. □

Footnotes

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¹ The original member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Subsequently, the following countries became members: Japan (1964), Finland (1969), Australia (1971), and New Zealand (1973).

² It should be noted that, from 1982 until the late 1980's, Mexico made sharp cuts in social expenditures (for example, on education, health, and the alleviation of poverty) due to fiscal constraints. Furthermore, only slightly more than half of the population has coverage for health services, old age pensions, and disability and widowhood benefits through the public social security system.

³ For a detailed account of Mexico's economic crisis and the policy adjustments made during the 1980's and early 1990's, see *Economic Survey of Mexico, 1991/1992* (Paris, Organization for Economic Cooperation and Development, 1992). This section is based mainly on the OECD's *Survey*.

⁴ *Economic Survey of Mexico*, p. 89.

⁵ For further information, see *Economic Survey of Mexico*, p. 138.

⁶ The monthly industrial survey is oriented toward supplying inputs for the National Accounts of Mexico; therefore, its focus is on collecting data on the value of production rather than employment. In 1992, the Mexican Statistical Institute developed a new survey, the National Survey of Employment, Wages, Technology, Plant and Equipment, which provides more detailed data about employment characteristics from the perspective of establishments. We have not yet reviewed this survey.

⁷ The *Atlántida* documents from the U.S. Bureau of the Census were developed as a technical assistance package to Latin American countries in 1965. They include all aspects of planning and implementing household surveys in a series of case studies.

⁸ The former Mexican Bureau of Statistics was reorganized into the *Instituto Nacional de Estadística, Geografía e Informática* and relocated to the city of Aguascalientes in

1983. The former agency, in operation since 1882, had been dispersed in many different buildings throughout Mexico City.

⁹ Mexico City, Guadalajara, Monterrey, Chihuahua, León, Mérida, Orizaba, Puebla, San Luis Potosí, Tampico, Torreón, and Veracruz.

¹⁰ Ciudad Juárez, Matamoros, Nuevo Laredo, and Tijuana.

¹¹ Cities added were Acapulco, Aguascalientes, Campeche, Celaya, Coahuila, Colima, Cuernavaca, Culiacán, Durango, Hermosillo, Manzanillo, Monclova, Morelia, Oaxaca, Queretaro, Saltillo, Tepic, Toluca, Tuxtla Gutiérrez, Villahermosa, and Zacatecas.

¹² The Mexican concept of "unpaid family worker" includes a small number of unpaid nonfamily workers. A non-family member may work for no pay in an "apprenticeship" relation to a skilled craftworker in order to gain skills or in order to prove his or her worth for the purpose of eventually attaining gainful employment.

¹³ Linda S. Peterson, *Labor Force and Informal Employment in Mexico: Recent Characteristics and Trends*, Staff Paper No. 50 (U.S. Bureau of the Census, Center for International Research, October 1989), p. 2.

¹⁴ Teresa Rendón and Carlos Salas, "La población económicamente activa en el censo de 1980: comentarios críticos y una propuesta de ajuste," *Estudios demográficos y urbanos* (publication of the Center for Demographic Studies and Urban Developments at the College of Mexico), Vol. 1, No. 2, May-August 1986, pp. 291-309.

¹⁵ Some levels for recent years have been released on data diskettes.

¹⁶ Peterson, *Informal Employment in Mexico*, p. 2.

¹⁷ *A Report on Child Labor in Mexico and the United States*, jointly prepared by the U.S. Department of Labor and the Mexican Secretariat of Labor and Social Welfare, under the terms of the Memorandum of Understanding signed by the Secretaries of Labor of the United States and Mexico in May 1991. The report is undated. A Spanish version of this report was also published: *Estudio conjunto sobre el trabajo de menores en México y Estados Unidos* (Mexico City, Secretaría del Trabajo y Previsión Social, Subsecretaría "B," April 1993).

¹⁸ Carmelo Mesa-Lago, "Social Security and the Informal Sector in Latin America: The Case of Mexico," in *Work without Protections: Case Studies of the Informal Sector in Developing Countries* (Bureau of International Labor Affairs, 1993), p. 55.

¹⁹ Both men's and women's unemployment were understated in the old cps, but the degree of understatement was greater for women. The old cps procedures involved a gender bias because of the wording of the initial question on labor force status. For further information, see "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings* (Bureau of Labor Statistics, February 1994), pp. 17-22.

²⁰ See the analysis of several Latin American countries in *Employment Outlook* (Organization for Economic Cooperation and Development, July 1994), pp. 33–48; and Ricardo Infante and Emilio Klein, “The Latin American Labour Market, 1950–1990,” in *CEPAL Review*, December 1991, pp. 121–35. *CEPAL Review* is a publication of the United Nations Economic Commission for Latin America and the Caribbean based in Santiago, Chile.

²¹ *Economically Active Population: Estimates and Projections, 1985–2025* (Geneva, International Labor Organization, 1986), pp. 7, 67–69.

²² Bryan R. Roberts, “The Dynamics of Informal Employment in Mexico,” in *Work without Protections*, pp. 119–21.

²³ Discussions of the various definitions of the informal sector may be found in Clara Jusidman, *The Informal Sector in Mexico*, Occasional Paper Number 1, prepared for the U.S. Department of Labor and Secretariat of Labor and Social Welfare of Mexico, September 1992. A Spanish version of this report was also published: *El sector informal en México* (Mexico City, Secretaría del Trabajo y Previsión Social, Subsecretaría “B,” 1993); Edgar Feige, “Defining Underground and Informal Economies,” *World Development*, July 1990, pp. 989–1002; *The Dilemma of the Informal Sector, Report of the Director-General, Part I* (Geneva, International Labor Organization, 1991); Harold Lubell, *The Informal Sector in the 1980's and 1990's* (Paris, Organization for Economic Cooperation and Development, 1991); and Alejandro Portes, Manuel Castells, and Lauren A. Benton, eds., *The Informal Economy: Studies in Advanced and Less Developed Countries* (Baltimore, The Johns Hopkins University Press, 1989).

²⁴ For a discussion of the origins of the concept of the informal sector, see Lisa Peattie, “An Idea in Good Currency and How It Grew: The Informal Sector,” *World Development*, Vol. 15, No. 7, 1987, pp. 851–60.

²⁵ Roberts, “Informal Employment in Mexico,” p. 102.

²⁶ For a description of Mexican labor law, see Nestor de Buen Lozano and Carlos E. Buen Unna, *A Primer on Mexican Labor Law* (Bureau of International Labor Affairs, 1991). This is an edited English version of a paper titled “Régimen jurídico de protección de los trabajadores en México.” See also U.S. Department of Labor and Secretariat of Labor and Social Welfare of Mexico, *A Comparison of Labor Law in the United States and Mexico: An Overview* (U.S. Department of Labor, 1992).

²⁷ Mesa-Lago, “The case of Mexico,” p. 43.

²⁸ Jusidman, *Informal Sector in Mexico*, p. 53.

²⁹ For a discussion of the concepts and results of these earlier surveys, see Jusidman, *Informal Sector in Mexico*, pp. 14–20. See also the discussion of the 1992 survey in Teresa Rendón and Carlos Salas, “Necesidades de información sobre las actividades de pequeña escala en México,” unpublished report for the joint project of the Autonomous University of Mexico and the Secretariat of Labor and Social Welfare of Mexico, 1991; and Mesa-Lago, “The Case of Mexico,” pp. 67–75.

³⁰ Mexican National Statistical Institute and Secretariat of Labor and Social Welfare, *Encuesta nacional de micronegocios 1992* (Aguascalientes, Mexico, Instituto Nacional de Estadística, Geografía e Informática, 1994).

³¹ Jusidman, *Informal Sector in Mexico*, pp. 17–18.

³² L. Mertens and J. Richards, “Recession and Employment in Mexico,” *International Labour Review*, Vol. 126, No. 2, March–April 1987, p. 237; Victor E. Tokman, “The Employment Crisis in Latin America,” *International Labour Review*, Vol. 123, No. 5, September–October 1984, p. 589.

³³ *Employment Outlook*, p. 37.

³⁴ Teresa Rendón and Carlos Salas, “El empleo en México a partir de los ochenta: tendencias y cambios,” *Comercio exterior*, Vol. 43, No. 8, August 1993, p. 729.

³⁵ COPLAMAR is a decentralized agency created to provide social protection (health, nutrition, housing, and education) to people in marginal rural zones. Its actions are coordinated with those of the Mexican Social Security Institute. The COPLAMAR market basket estimates the essential needs for a family of five comprising two adults and three children.

³⁶ Rendón and Salas, “El empleo en México,” p. 730.

³⁷ Based in Chile, PREALC is one of four regional ILO centers in Latin America that conduct technical cooperation projects. The main objective of PREALC is to collaborate with governments and employers’ and workers’ organizations in the development of policies and measures to help improve employment and incomes and to reduce unemployment, underemployment, and poverty.

³⁸ International Labor Office, *Report of the Director-General*, 13th Conference of American States, Members of the International Labor Organization, Caracas, September–October 1992, pp. 12–14. See also Infante and Klein, “Latin American Labour Market.”

³⁹ Part of this drop may reflect better enumeration of more marginal workers in commerce and other services in the later surveys.

⁴⁰ See Todd Godbout, “Employment change and sectoral distribution in 10 countries, 1970–90,” *Monthly Labor Review*, October 1993, pp. 3–20, especially pp. 7–12; for an analysis of trends from 1950 to 1970, see Constance Sorrentino, “Comparing employment shifts in 10 industrialized countries,” *Monthly Labor Review*, October 1971, pp. 3–11.

⁴¹ Jusidman, *Informal Sector in Mexico*, p. 4b.

⁴² Rendón and Salas, “El empleo en México,” p. 727.

⁴³ Teresa Rendón, “El trabajo femenino en México en el marco de la transformación productiva con equidad,” unpublished paper prepared for the Economic Commission for Latin America and the Caribbean, May 28, 1993.

⁴⁴ Rendón and Salas, “El empleo en México,” p. 727.

⁴⁵ The United States, in common with a number of other countries, including Australia and Canada, treats persons on layoff as unemployed. In most European countries and Japan, however, persons on layoff are classified as employed because they have a formal job attachment. These different treatments of layoffs are in accord with current ILO guidelines, which allow for different classifications of layoffs, depending on job attachment, with strong job attachment leading to classification as employed.

⁴⁶ In the redesigned U.S. Current Population Survey introduced in 1994, persons classified as unemployed because they are on layoff must either have a specific date of recall to work or expect to be recalled within the next 6 months.

⁴⁷ It should be noted that, unlike Mexico’s survey, there is no question in the U.S. survey that directly asks whether persons are waiting to begin a new job. The information emerges from a question on the reason for having a job but being absent from work, in both the new and the old Current Population Survey. (See the appendix for a description of the Mexican survey questionnaire procedure.)

⁴⁸ If all unpaid family members who worked less than 15 hours (including those who did not work at all) during the reference week had also searched for work, their addition to the count of the unemployed would raise the adjusted 1993 rate further, to 6.1 percent. By either measure, the Mexican unemployment rate was below the U.S. rate of 6.8 percent that year.

⁴⁹ *Dilemma of the Informal Sector*, p. 10.

⁵⁰ Although Mexico does not provide unemployment insurance, the social security system pays an "unemployment benefit" of 75 percent to 95 percent of the old-age pension for those between the ages of 60 and 64 who are unemployed. Pensions become payable at age 65. The country also has a National Employment Service, which was established under the Federal Labor Law and is coordinated with the State governments through State Labor Offices and centers in the Federal District of Mexico City. At present, there are 99 Employment Service offices located throughout the country, with a total staff of about 1,000 workers. The basic function of the Employment Service is to promote employment by facilitating contact between jobseekers and employers and by carrying out worker training programs. Between 1988 and 1993, 1.7 million jobseekers applied for assistance, and 1.3 million applicants were referred to employers. The annual average number of open unemployed in 1993 alone was more than 800,000.

⁵¹ Ana Revenga and Michelle Riboud, *Unemployment in Mexico: Its Characteristics and Determinants*, The World Bank, Policy Research Working Paper Number 1230, December 1993.

⁵² Ricardo Rodarte, "Un análisis del desempleo en México y otros indicadores complementarios," paper prepared for the Seminar on Analysis of Information on Employment and Unemployment (jointly conducted by BLS, the Mexican Secretariat of Labor and Social Welfare, and the National Statistical Institute), September 21–25, 1992, Aguascalientes, Mexico.

⁵³ In the U.S. survey, prior to 1994, discouraged workers were defined as persons who were without work and not seeking work because they believed that no work was available for them, for personal reasons or for reasons related to the status of the labor market. In January 1994, the definition was modified to include the requirement that a job search had to have been undertaken during the past year. In addition, discouraged workers were asked directly whether they were available for work.

⁵⁴ The minimum wage in Mexico is expressed as a daily figure, and it varies by region and by occupation. In the Mexican Urban Employment Survey, a monthly average regional figure is calculated and used to express the relationship of monthly earnings to the minimum wage. Respondents are asked how much they earned and are requested to specify the term in which they earned it—daily, weekly, monthly, and so on. If they do not know or refuse to give the information, they are then asked to express their income in terms of a monthly minimum wage. Respondents are queried as follows: "At present, the monthly minimum wage in this region is ___ pesos. The amount that you earned last month is [the enumerator reads the following answers and fills in the appropriate category]: (1) Same as this amount; (2) Less than this amount; (3) More than this amount; (4) Don't know." The next question, asked of those who respond with answer number 2 or 3, determines the fraction or multiple of the minimum wage received, by inquiring, "How much more or less is your income compared to the minimum wage?" Eight possible answers are listed, ranging from less than one-fourth of the minimum wage to more than 10 times the minimum wage.

⁵⁵ Beginning in late 1987, the Mexican Government made agreements with labor unions and the business sector known as "Solidarity Pacts" in order to control inflation. The earlier pacts, in force between December 1987 and the end of 1988, emphasized solidarity between the social partners. The later pacts gradually shifted their focus toward combating inflation, encouraging economic recovery, and controlling minimum wages through voluntary mechanisms established by the National Commission for Minimum Wages, while leaving the fixing of other wages to collective bargaining processes. As a result of the pacts, increases in the minimum wage have lagged well behind inflation. (See Roger Plant, *Labor Standards and Structural Adjustment* (Geneva, International Labor Organization, 1994), pp. 104–5.)

APPENDIX: The National Urban Employment Survey questionnaire

The National Urban Employment Survey is Mexico's official source of open unemployment rates, as well as of the complementary measures discussed in this article. The survey gets its information from a lengthy questionnaire applied through interviews in the homes of respondents and conducted by professional, full-time interviewers. The survey is conducted throughout the 52 weeks of each year. An aggregate sample of 4 weeks allows the generation of basic monthly indicators, and the accumulation of 13 weeks of data makes possible detailed quarterly statistics. There are 15 tables generated monthly and 56 quarterly. In all cases, the questionnaire applies to the week preceding the week of the interview. The following discussion relates to the version of the survey questionnaire instituted in 1985.¹

The series of questions that determine employment and unemployment classification in Mexico's Urban Employment Survey are designed to increase the likelihood of counting informal sector work and nonremunerated work. The first series of employment questions determines whether someone actually worked during the reference week or will begin work in the next 4 weeks. A second set of questions investigates

those persons who did not work during the reference week, and a third set establishes active job search conditions to define the unemployed. These three series of questions determine employment status, after which numerous other questions investigate both employment conditions and characteristics of the workplace.

In the *first series*, an initial question asks, "Last week, did you work to maintain the family or pay for some of your personal expenses, for at least 1 hour or 1 day?" A positive response results in classification of the individual as employed. The respondent who replies "no" to the initial question is then asked, "Although you have already told me that you did not work last week, do you have any sort of work or business that is your own from which you live?" A "yes" response requires asking the second series of questions to determine whether the respondent is employed. If the respondent says "no," he or she is then asked, "Will you begin new work or some new business?" A "yes" response results in classification of the person as employed if the new work begins within 4 weeks. A "no" response will lead to the last of the four questions, "Last week, did you help out without being paid in a

business or on the land of some family member or somebody else?" A "yes" response leads to classification of the respondent as employed (as a nonremunerated worker), while a "no" response is probed further in the second series of questions. Persons classified as employed under this first set of questions are not asked the second or third set of questions, but are moved on to the section of the questionnaire that asks further questions about their place of work, occupation, hours, and earnings.

The *second series* of questions determines whether the respondent is employed despite not having worked in the reference period. The employment status of those who did not work in the reference period is defined by the individual's connection to work either through receipt of benefits or through an expected return to work. The first question is "Why did you not work last week?" Response number 1 combines all excused absences with pay: "Vacation, leave, sickness, trip, personal matters, studies, with pay." Individuals in this category are classified as employed. Other responses capture persons who did not receive pay and are on sick leave or other leave, are "suspended" (laid off), are on strike or a work stoppage, or are not at work due to the end of a season, lack of capital or customers, or scarcity of materials. These persons are asked when they will return to work. They are classified as employed if they expect to return within 4 weeks.

If the respondent is not assured of returning to an old job or working at a new job within 4 weeks, he or she is then asked, "Why don't you work?" The possible responses are that the person is disabled, a student, a homemaker, or retired. All individuals, except the permanently disabled, are then asked how they support themselves, in a final effort to uncover informal activities.

In the *third series* of questions that determine a person's labor force status, the questions focus on activity related to a job search. These questions are asked of persons not previously classified as employed. The first of the questions is "Have you tried to get a job?" After asking this question, the enumerator lists the options of looking for work, trying to be self-employed, trying to sell something, or doing paperwork for self-employment. The question "When was the last time that you tried to find work?" determines the period of the job search, if there was one. If the respondent has looked in the past month, he or she is classed as unemployed. If the respondent looked more than 1 month previous to, but less than 2 months before, the reference period, a follow-up question is asked: "For what reason did you not look for work in the past 4 weeks?"

If the respondent says that he or she is waiting for a layoff or strike to end, waiting for the next season of work to begin, waiting for a reply from a job application, or expecting a call back to work within 3 months, then the respondent is classified as unemployed. By including the second month as a period of conditional search, the Mexican definition of unemployment expands upon the 4-week job search period used in the United States.

Although, by definition, the Mexican unemployed are assumed to be available to start work, there is no actual test of their current availability in the survey questionnaire. By contrast, in the U.S. survey, potentially unemployed persons are asked whether there is any reason they could not take a job last week. Those who are not currently available (except because of illness) are excluded from the unemployed.

Hidden unemployment. The category of the hidden unemployed is also enumerated with the same questions. According to the Mexican definition, persons who are hidden unemployed are those who were not classified as employed or unemployed, but are available for work. Two groups are added together to form the hidden unemployed, based on their responses to the third series of questions: (1) persons who respond that have been looking for work, but their last search took place more than 1 month, but not more than 2 months, ago, and that their reason for not searching in the past month was that they thought they could not find work or that no one would give them work; (2) persons who did not look for work in the past 2 months because they did not think they could find work or they were waiting for a period of layoff or strike to end, waiting for the next season of work to begin, waiting for a reply from a job application, or expecting a call back to work within 3 months. These responses result in a classification of the respondent as unemployed if a search took place in the past 2 months, but as one of the hidden unemployed if the search took place more than 2 months ago. Other responses to the question on the reason for not looking for work include "recuperating from illness," "does not need to work," and "does not have time to work." These responses do not result in classification of an individual as either unemployed or among the hidden unemployed. Such an individual is simply not in the labor force.

Footnote

¹ A translated version of the survey questionnaire is available from the authors.