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Chapter 1

Employment and Lack of Employment in Mexico, 1900-70

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1. Introduction

In Mexico as in many developing countries there is now much public concern about the so-called employment problem. It is widely asserted that Mexico suffers from substantial rates of unemployment together with underemployment (or disguised unemployment) on an enormous scale. These assertions are often linked to suggestions that the problem worsens with time.

This study examines available evidence on the employment problem in Mexico up to 1970. Historical and recent data are explored in search of a clearer understanding of the nature and dimensions of the problem, underlying causes, and long-term trends, not only in employment and unemployment but also in participation rates, labor displacement and other related phenomena. Alternative interpretations of the same data, and questions of how to utilize the available evidence, raise a rich variety of methodological as well as substantive issues.

The principal data sources are the Mexican population censuses taken at roughly ten-year intervals from 1900 to 1970. Attention is also given to a statistical series on average monthly employment and unemployment from 1931 to 1940. Apart from this one series, relying on the population censuses is mandatory. The censuses are practically the only other source of data on employment and the labor force prior to the 1960s. And for lack of other sources of information, the 1970 population census is the main source of statistical data on the employment problem in Mexico in recent years.[1] There is no unemployment compensation or registration scheme; no regular data have been collected on unemployment or underemployment since 1940; and new sample surveys aimed at shedding light on the employment problem were still in the planning and pilot-study stage when this study was completed.[2]

The population census evidence is far from ideal. Census figures on the census labor force are not always reliable, and until 1970 the censuses did not place much emphasis on unemployment. Data collected, concepts, categories, and statistics actually published have varied widely from one census

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[1] A small number of nationwide sample surveys have been made in Mexico since the late 1950s, focused on special subjects such as consumption patterns. Some of these surveys contain auxiliary evidence on such matters as participation rates and labor-force occupations, but none touches employment more than superficially. Labor force data in censuses other than the population census, such as the regular censuses of agriculture, industry, commerce, and services, appear extremely unreliable, largely as a result of the difficulties of sampling small establishments. By way of example, for the year 1960 the industrial census showed about half as many workers in manufacturing as the population census, while the censuses of agriculture and related activities showed two million more workers than the population census. Such biases are not consistent; the immediately preceding industrial and agricultural censuses erred in precisely opposite directions.

[2] These surveys were undertaken in the Dirección General de Estadística (then headed by Rubén Gleason Galicia) by a team initially under the direction of Clara Júsidman de Bialostozky. In 1975 and 1976 the first results, limited to the three largest cities, showed unemployment rates in the order of 6.5 to 7 percent with no clear time trend, according to information received verbally just before this study went to press. These rates appear to have been similar to those for Monterrey in 1963 and 1964 according to Universidad de Nuevo León (1964), which is discussed later below.

to the next. In consequence, the evidence must be pieced together in the manner of a detective solving a puzzle.

Increased concern over employment in Mexico in recent years reflects a sharp rise in worldwide concern over employment in developing countries. A chorus of alarm has been raised over this problem by international agencies such as the World Bank, International Labour Office, and Organization for Economic Cooperation and Development, major foundations including the Ford and Rockefeller Foundations, and scholarly conferences.

The evidence from Mexico is of interest not only to students of Mexico's economy and history but also to development specialists concerned with the worldwide problem. This study fills a gap since little research has been done to explore the historical origins of the employment problem in developing countries, and almost no information has been assembled on employment trends in these countries prior to World War II.

Mexico offers an illuminating case from the point of view of worldwide study of employment in developing countries for two special reasons. The first is that the country had until the 1970's a relatively undistorted price structure, compared with the highly distorted price incentives that may be contributing to unemployment in some other developing countries.[3] (To be sure, Mexico's prices have never been free of distortions caused by government intervention, but this is a relative matter.) The second reason is that Mexico has achieved a rather impressive growth record for several decades, and in the process has gone through major structural changes in employment so that by 1970 agriculture employed only about 40 percent of the labor force compared with nearly 70 percent in 1930. Both considerations could be taken to mean that Mexico's employment problem should not have been as severe as in some other developing countries.

This is not the place to discuss worldwide evidence on the employment problem in developing countries, which has been analyzed in detail elsewhere,[4] but in approaching the Mexican evidence it is important to point out that the evidence of a growing worldwide problem is not nearly as general or clearcut as the recent chorus of alarm might imply. True, one does find clear evidence of serious open unemployment in a considerable number of developing countries, especially in their urban centers; and in a number of places it can be shown that unemployment rates have climbed sharply over the last decade or two. But elsewhere, notably in East Asian countries, unemployment has unquestionably diminished. Meanwhile, in a majority of developing countries there is practically no direct evidence on the subject, and little indication that open unemployment has become a major problem.

There is strong reason, moreover, to suspect that throughout the developing countries the more fundamental problem is large masses of people with very low incomes. This is especially true since very poor people cannot afford to be unemployed in the absence of public assistance schemes. Foundations and international agencies prefer to regard the all-too-obvious problem of mass poverty as a challenge to create larger numbers of productive jobs, to limit population growth, and to increase food output. Such an approach sidesteps controversial issues surrounding the redistribution of income, wealth, property ownership, and social services.

In Mexico there has been a glaring problem of unequal income distribution for centuries; and this problem persists even after a succession of avowedly revolutionary governments. Mexicans and their governments have discussed for a long time the circumstance that masses of Mexicans still live in grinding poverty. Now that a new way of looking at these problems in terms of employment has become fashionable in influential circles abroad, it may become attractive to many people in Mexico to redefine the problem of persistent poverty in Mexico by discussing underemployment and low labor productivity in different sectors, thus drawing attention away from questions of ownership, income streams, and redistribution. Yet, anyone familiar with the vague and nearly circular definitions of "underemployment" that one finds in the literature of economics can readily imagine that much of the supposed employment problem in Mexico (and elsewhere) today is simply the old problem of low incomes and unequal income distribution dressed up in a new guise.

The present study concentrates on parts of the employment issue that are not simply the problems of poverty and income distribution in disguise. Only passing attention is given to evidence on "underemployment" or "disguised unemployment" based on income distribution and poverty; and the treatment emphasizes the ambiguity of this evidence. Attention is centered instead on evidence that jobs have been scarce, workers have been displaced in large numbers by technological change, and people have dropped out of the labor force in large numbers because they were unable to find acceptable jobs. At the same time, the limited evidence is scanned for clues as to the nature, causes and extent of open unemployment.

Clearly the problems of employment and income distribution overlap, even if low incomes are not considered an automatic sign of "underemployment." Unemployment affects income distribution directly. Perhaps even more important, superabundance of ordinary or unskilled labor in a market system leads to low wages and low incomes for large numbers of people. This shifts income toward the owners of

[3] For evidence on this point, see especially Little, Scitovsky and Scott (1970) and Balassa (1971): the point is discussed further in section 6 below.

[4] For surveys of the literature and evidence, see Turnham (1971), Morawetz (1974), Bruton (1974), and Edwards (1974). For a dissenting view on the problem in Latin America, see Ramos (1970), who argues that labor absorption there is proceeding as one would expect, and that rising real wages signal a healthy trend toward increasing labor scarcity. This interpretation is vulnerable, of course, to the extent that wage trends may be caused by changing power relationships or social *mores* rather than labor scarcity. For a more alarmist view on Latin America, see, for example, Prebisch (1970).

other, complementary factors or resources including property of various kinds. These common roots are explored here only in passing.

It is not expected that this study can yield a definitive history of the employment problem in Mexico. Some of the available evidence is ambiguous. Desirable information is missing, and some of the questions raised do not admit clear answers. But hopefully the findings give a reasonably objective picture of the true extent of the problem and the ambiguities of the evidence now available.

2. Direct Evidence on Open Unemployment

All Mexican figures on open unemployment, even those of the 1970 population census, must be taken with caution. Evidence from other countries — especially those in which censuses and employment surveys have been taken at times not far apart — suggests that national population censuses are not a reliable guide to the magnitude of open unemployment. Depending on the precise sequence of questions asked, a census may seriously underestimate unemployment that would stand revealed by alternative definitions and sequences of questions.[5] More generally, there may be no "true" rate of unemployment when people would work under some sets of conditions but not under others; the rate does literally depend on the questions asked.

Unemployment does not seem to have been perceived as a significant social problem in Mexico until the twentieth century, and there seems to be no statistical evidence of significant unemployment there before the 1930s. Yet if figures published several years later are reliable, one of the highest national unemployment rates ever recorded in Mexico — 5.5 percent — occurred during the Great Depression in 1931. This is the first year for which any unemployment figure is available. In light of this figure, one cannot reject the possibility that the country may have suffered significant unemployment in earlier years.

The population censuses contain little evidence on unemployment until 1940. Before 1921 there seems to be no evidence whatever. In the 1921 census the detailed occupational breakdown of the labor force includes a category, "persons temporarily without occupation," containing 10,886 people (.2 percent of the labor force), where the word "occupation" (*ocupación*) can as well be translated "employment"; but clearly this was merely unemployment that happened to be recorded as a byproduct of looking for people's regular occupations.[6]

The 1930 census included a residual category in the regular industry and occupational breakdown of the labor force, *personas sin ocupación*, "persons without occupation or employment," equal to 1.2 percent of the labor force, but it is doubtful that this category can be fully equated with open unemployment.[7]

Then during the Depression the Mexican statistical authorities constructed a series of estimates of unemployed workers relative to economically active population, which were published in the 1938 and 1940 statistical yearbooks. The precise derivation of the estimates is not wholly clear.[8] Pending research on this subject, the statistics must be regarded with reservations, especially since it is not uncommon in Mexico to publish misleading retrospective data that magnify recent accomplishments.

As Table 1-1 shows, unemployment is supposed to have peaked at 6.5 percent in 1932 and then fallen to between 3 and 4 percent a year from 1935 to 1940, during the administration of President Lázaro Cárdenas. This series seems consistent with the sharp decline in output that took place in the early 1930s, followed by a recovery in the mid-30s. It is not clear, however, whether the statistical authorities had the capability to derive such a series by fully legitimate means, and it should be noted that the 1940 figure for the monthly average of the economically active

Table 1-1

MEXICAN UNEMPLOYMENT IN THE YEARS 1931 TO 1940

Year	Unemployed (monthly average)	Economically active population	Percent unemployed
1931	287,462	5,188,245	5.5
1932	339,378	5,238,124	6.5
1933	275,774	5,307,090	5.2
1934	234,538	5,386,192	4.4
1935	191,371	5,428,121	3.5
1936	186,904	5,482,307	3.4
1937	180,128	5,573,809	3.2
1938	209,332	5,649,142	3.7
1939	198,593	5,787,109	3.4
1940	184,247	5,858,116	3.1

SOURCE: Wilkie (1971, Table 4), based in turn on Dirección General de Estadística (1939, p. 158; 1941, p. 431).

[5] See, for example, Turnham (1971).

[6] These people included 9,120 men and 1,766 women. Larger numbers, 55,471 men and 102,969 women, were reported "without occupation, industry or profession" without being classed as invalids or engaged in studies or domestic tasks. Presumably most of these people were voluntarily inactive. See Departamento de la Estadística Nacional (1928, p. 99 and passim).

[7] The category comes next to last in a 98-category breakdown of the labor force, after "occupations insufficiently determined" and "persons with unproductive occupations," and before "persons whose occupation is unknown." Those "without occupation or employment" included 39,750 men and 25,908 women, a high proportion of women compared with unemployment in other years. See ibid. (1934*b*, p. 76). It should be added that the 1940 census retroactively for 1930 showed 89,690 people, all of them male, in a category "inhabitants unemployed completely for one month at the time of the census," suggesting that 1.7 percent of the labor force fell in this category in 1930; but this sort of retroactive classification in new categories is not reliable in Mexican censuses. See ibid. (1934*b*, p. 17).

[8] James Wilkie called my attention to these statistics after the research reported here was largely complete; and I have not had a chance to search in the statistical literature of the 1930s for further references and possible explanations.

population is exactly equal to the labor force found by the population census taken on March 6.

The 1940 census, in any case, included the first clear-cut evidence on unemployment in any Mexican population census. It contained a special category, "inhabitants unemployed (*desocupados*) completely for one month or more at the date of the census," separate from the industrial classification of the labor force. This category contained 59,238 people – 55,238 men and 3,993 women – equivalent to 1.0 percent of the labor force.[9] Presumably this figure is consistent with the estimate of 184,247 or 3.1 percent shown in Table 1-1 if the latter were to include persons unemployed for less than one month.

From then on it is necessary to rely on the population censuses, of which only those of 1950 and 1970 appear reliable in regard to labor-force data. The 1950 census found 105,177 workers unemployed including 32,030 who had been looking for work for 12 weeks or less, and 73,147 who had been looking for work for 13 weeks or more.[10] The total was equivalent to 1.3 percent of the labor force, or .9 percent, counting only those who had been looking for work for at least 13 weeks. A comparison with the figures for 1940 suggests that there had been no reduction in long-term open unemployment, but there may have been a fall in overall unemployment.

In 1970, census questions and procedures shifted once again. This time open unemployment in the week prior to the census was recorded as 485,187 workers, or 3.7 percent of the labor force. Of these people, however, only 148,516 (1.1 percent of the labor force) had been looking for work for 5 weeks or more, and only 64,843 (.5 percent of the labor force) had been looking 13 weeks or more, a smaller proportion than in 1950.[11] A comparison with the 1950 time structure suggests that short-term unemployment must have been underenumerated in terms of 1970 concepts in the earlier years.

It is not possible to be sure about trends in employment from 1950 to 1960 compared with the decade after 1960, because serious computational errors seem to have crept into the 1960 labor force data, which showed unemployment equal to 1.6 percent of the labor force.[12]

The 1970 census found much higher rates of unemployment among women than among men. Fully 198,254 women or 7.5 percent of the female labor force were unemployed, compared with 2.8 percent of the males. Unemployment rates were highest among women who were married (10.9 percent) or living in "free union," a census term including common-law marriages (11.6 percent).[13] Women outnumbered men 34,935 to 29,110 among workers who had been unemployed and looking for work for periods of 13 weeks or more; of the people in this category, 16,585 women but only 3,663 men had never had a job before.[14] The incidence of economically active people out of work for over a month stood at 2.4 percent for women and .9 percent for men compared with .9 percent for women and 1.0 percent for men in the 1940 census.

A 1968 sample survey focused primarily on household incomes and expenditures casts some doubt on the finding that unemployment was highest among women. Researchers asked specifically about household members' main roles in March, 1968, the month before the survey. The responses showed unemployment rates of 4.2 percent overall including 4.7 percent among men but only 2.7 percent among women.[15]

The only sample surveys that seem to have been focused mainly on employment in Mexico from the 1940s up to the 1970s were made by university researchers in the city of Monterrey in October, 1963, and April, 1964. They found unemployment rates of 7.9 and 6.3 percent, respectively, but their questions were probably quite different from those in the census.[16] By comparison, in the 1970 census no territorial entity of Mexico reported rates higher than 6.6 percent or lower than 2.0 percent. The unemployment rate was 3.6 percent in the state of Nuevo León, where Monterrey is located, and close to 5 percent in the capital.

In other questions posed in the 1970 census, employed as well as unemployed persons were asked whether they had been looking for work. In response, fully 8.8 percent of the labor force including nearly 11 percent of all economically active women said that they had been looking for work, even though a majority of these people were already employed, at least in the census sense that they had worked at least one hour in the preceding week. Only one in ten of the work seekers said they had been looking for 13 weeks or more at the time of the census, while over three-fourths had been looking for less than four weeks.[17] The census also compiled considerable information on the characteristics of these work

[9] The census also showed the sectors in which these people normally worked: 24,241 in agriculture, 17,015 in other clearly identified sectors, 4,084 in insufficiently identified activities, and 13,798 classed as "persons with antisocial occupations; without occupation, trade or profession, with unproductive occupations, or whose occupation is not known." Most of the latter were probably new additions to the labor force, but some may have been economically inactive by today's definitions. See ibid.

[10] Most of these people (28,373 in the first category and 62,722 in the second) were men. Occupationally, 40,382 were normally in agricultural activities and 19,196 in manufacturing; 16,405 were in insufficiently specified activities. About one-quarter were 12 to 19 years old. See ibid, (1952, pp. 58 and 245).

[11] Ibid., (1972*b*, pp. 184 and 298).

[12] The total number of unemployed was put at 182,633, including 79,370 from the agricultural sector. Supposedly no more than 29,736 (.3 percent of the labor force) had been unemployed for 13 weeks or more). See ibid. (1962, pp. 363 and 560). This census is discussed further in section 4.

[13] Ibid., (1972*a*, p. 745). Only 861,903 women were economically active in these two categories combined, according to this table. The unemployment rate was 5.5 percent for single women and ranged from 6 to 8 percent for women who were widowed, divorced or separated.

[14] Ibid. pp. 745 and 927.

[15] See Banco de México (1974, Table VIII-1).

[16] See Universidad de Nuevo León (1964).

[17] Dirección General de Estadística (1972*a*, p. 921) and (1972*b*, p. 298). Of those looking for 13 weeks or more, in turn, more than half had been looking for 27 weeks or more. But even counting people who were employed, the proportion looking for work for 13 weeks or more was no higher than in 1950.

seekers. Their distribution by industries in which they had worked in 1969 was very similar to that of the employed labor force, with over two-fifths in agriculture; and their average educational attainments were slightly below those of the adult population as a whole, 10 percent of them having had at least some exposure to postprimary education compared with 12 percent for the entire population of 12 and over.[18]

In summary, if the available statistics are taken at face value, open unemployment in Mexico rose to an all-time peak of 6.5 percent in 1932, declined to 3.1 percent by 1940, fell to less than half of this figure by 1950 (though this may be due to an underenumeration) and then climbed to 3.7 percent in 1970. This is still a modest rate by international standards, perhaps reflecting the fact that in Mexico with no unemployment insurance there may be no ready alternative except to work at whatever wage and job are available, or else join in the family division of labor.

The available census data also suggest that in census years from 1940 through 1970 less than 1 percent of the labor force has been unemployed for any substantial period such as 13 weeks or more. Among men only about 1 percent seem to have been unemployed for as long as one month, in 1940, 1950, and 1970 alike.

There is room to wonder if the trends and magnitudes suggested by these data are at all reliable. Most or all of the individual figures are suspect in one way or another. There are striking contrasts, too, between the 1970 census figures of 3.7 percent actually unemployed and 8.8 percent "looking for work"; and since unemployment was nearly three times as prevalent among women as among men in 1970, one wonders whether unemployed women were fully recorded in earlier statistics. The many doubts and questions that surround these unemployment figures provide all the more reason to look deeper, at trends in participation rates and assorted other evidence that could shed further light on the employment situation.

3. An Overview of Findings on Labor Force Participation, Labor Displacement, and Underemployment

Mexico seems to have had no shortage of jobs in 1895 or 1900 – certainly not for males in the peak agricultural seasons. Almost every male over the age of ten was recorded in the censuses as having a job, at least in the sense of an occupation. Compared with men, very few women were reported employed, especially in rural areas where their job titles classed them as domestic workers of various kinds, or corn-grinders (not counted as employed here), rather than field hands; but that must have been more a reflection of traditional role conceptions than of any shortage of work for women. To be sure, labor productivity and earnings were low in most traditional activities, including agriculture; and complaints in the subsequent Mexican Revolution suggest that many workers may have been poorly paid and poorly treated; but Mexico in 1900 with less than one-quarter of its present population was hardly overpopulated, and there seems to have been work at least seasonally for everyone.

The evidence strongly suggests, however, that beginning in the decade from 1900 to 1910, the spread of new, labor-saving methods of production has led regularly to a displacement of labor and loss of jobs in nonagricultural sectors, especially manufacturing and handicrafts.[19] This process of labor displacement was slowed by the disruption of modern industrial production in the civil wars of the 1910s, but it resumed again after 1921. Until 1940, rises in labor productivity tended to occur faster than growth in the demand for industrial goods, so that manufacturing employment declined sharply relative to population.[20]

The shortage of jobs in urban areas of Mexico reached its height in the years 1930 to 1940. By 1940 the ratio of nonagricultural jobs to urban population had fallen to about five-eights (62.6 percent) of what it had been in 1900. Large numbers of workers were displaced from traditional activities such as handicrafts, so that the number of nonagricultural jobs fell relative to the total population. Many displaced workers had to join the agricultural labor force, which grew as a proportion of the total up to 1930. The burden of being displaced fell disporportionately on women. Their labor force participation rate (population divided by active labor force) was cut nearly in half compared with 1910. By 1940, even such roles as clerical office work were being performed mainly by men.

Admittedly, it is difficult in some census years to separate long-term trends in employment, as a result of modernization, from the shorter-run effects of worldwide economic fluctuations. From this perspective it is not entirely clear to what extent labor displacement from 1900 to 1910 should be attributed to the introduction of new technology or to slowdowns in industrial growth as a result of worldwide crises. The severe employment problem in 1930 partly reflected the Great Depression. But the trends just mentioned stand out clearly in relatively neutral comparisons, such as 1910 compared with 1940. From 1910 to 1940, for example, the overall labor force participation rate fell from 35.2 percent to 29.8 percent, and the labor force recorded in manufacturing, construction, mining, and utilities decreased by about 10 percent, while total population grew by nearly 30 percent.

World War II and the postwar boom period brought a huge increase in nonagricultural employment, not only because the demand for goods rose sharply, but also because the usual imports including new equipment became harder to get and the rise in industrial labor productivity slowed down temporarily. By the time of the 1950 census the employment situation had clearly eased, and the female participation rate had more than doubled compared with 1940.

From 1950 to 1970 the overall employment situation seems to have worsened once again. In these years the labor

[18] Ibid., pp. 415, 569, 933, 973.

[19] Evidence for this and other statements that are not supported by footnotes in this section may be found below in section 5 and the accompanying tables.

[20] See Keesing (1969) as well as the tables in section 5.

force participation rate fell from 32 percent to less than 27 percent, a low figure by international standards, suggesting that more people would have worked if jobs had been more numerous. By 1970, however, the number of students had grown so much as to fully explain the difference between the participation rates in 1940 (29.8 percent) and 1970 (26.9 percent). The participation rate for women expanded further from 1950 to 1970, but still remained less than one-quarter of the rate for men, a low rate compared with most other nations.

Another ominous trend in participation rates seems already to have begun in the years 1930 to 1940, when participation rates fell in rural areas. This trend was temporarily reversed from 1940 to 1950, but became pronounced in the two decades from 1950 to 1970. In these years there seems to have been a marked displacement of labor from agriculture, presumably as a result of mechanization and reorganization in commercial farming.The total agricultural labor force fell from the equivalent of 32.6 percent of the rural population in 1950 to only 25.5 percent in 1970.

A timing problem complicates the interpretation of these findings. The 1970 census was taken in January; and this feature may have biased downward the recorded participation rate compared with the 1950 census which was taken in early June, in a season of greater agricultural activity. The 1970 census did find 45,517 inactive in January who had been active the preceding year. Most of the labor force figures in the census (and in tables shown below) refer conceptually to 1969 to include these people; but in view of the sequence of questions the number 45,517 is probably an underestimate.[21] In turn, the agricultural labor force was probably underestimated within the total, to the extent that some workers in Mexico work in agriculture in seasons of peak farm activity, but switch into other sectors or go to school during the winter months.[22] There are also many workers who divide their time among two or more jobs; a sample survey in 1964-65 estimated their number at 1,276,969 or 12 percent of the labor force;[23] though the censuses have never investigated multiple economic roles.

In the 1970 census, besides the evidence already mentioned, it is possible to find further signs of seasonal and disguised unemployment. For example, the census reported that one economically active person in eight had worked less than six months in the previous year, and 19 percent less than ten months; while fully 846,167 people worked without pay in family enterprises.[24] Low incomes remained common, presumably in part because of disguised unemployment and because of excess labor supply depressing earnings in the less regulated parts of the labor market. One person in six who had any earnings reported monthly incomes below 200 pesos (U.S. $16).[25] Thus, many employed workers could reasonably be classed as "underemployed" by one definition or another, though there is no simple way to untangle underemployment from low productivity or low wages. After all, output per worker in Mexican agriculture as a whole averaged not much more than 200 pesos per month in 1970 prices until around 1950;[26] and the incidence of very low incomes had been even higher in censuses and surveys made in earlier years. In the 1950 census, among people working for pay (rather than unpaid or self-employed), 63.9 percent or nearly two-thirds earned less than 200 pesos per month, then worth about U.S. $23.16.[27]

An able team of Mexican economists has attempted to measure underemployment in Mexico by a consistent definition using data from the 1970 census. Their research findings, which are discussed below, suggest underemployment, and/or very low incomes, involving about 40 percent of the labor force.[28] Unfortunately, there are insurmountable problems in trying to apply a consistent definition from one census to another – such an attempt becomes a study of low incomes rather than of underemployment. But there are indications of underemployment in earlier censuses as well. For example, the 1950 census found that 7.5 percent of the labor force worked four days or less in the week before the census.[29] And it is quite clear that seasonal underemployment had regularly existed in Mexican agriculture, along with huge numbers of families with extremely low incomes.

Further evidence on seasonal unemployment has been uncovered in an agricultural linear programming model by a World Bank team, suggesting that the cultivation of annual and other short-cycle crops in Mexico calls for nearly three times as much labor in man-hours in the peak months of July and August as it does in the slackest months.[30] February and September have the lowest labor requirements whereas December, January, March, and April also have less than half of the peak requirement. Yet the peak requirement as estimated using the technical coefficients in the model seems roughly

[21] See Dirección General de Estadística (1972*b*, pp. 184, 190, and Anexo 3). The census asked people 12 years old or over, first, whether they were going to school; next, their economic activity in the week before the census; after that, whether they had been looking for work and if so, for how long; and only after that, whether they worked in 1969 and if so, for how many months. This last question was probably not always asked or answered carefully when the earlier questions showed people to be economically inactive.

[22] For evidence on switching of jobs, see, for example, Nutini and Murphy (1970) and O'Mara (1971). The census has never focused on students who work; but about two-fifths of the students in the national university work at least part time. See UNAM (1964, pp. 14 and 312).

[23] Dirección General de Muestreo (1965, p. 25).

[24] Dirección General de Estadística (1972*b* pp. 277 and 285).

[25] Ibid., p. 288.

[26] Output per worker in agriculture in 1950 averaged about 1,800 pesos in prices of that year and around 3,100 pesos in prices of 1960, based on GDP figures in Banco de México (1969).

[27] Dirección General de Estadística (1955, Table 37). For assorted comparisons and references on income distribution, see, for example, Navarrete (1970), Solís (1970), and Reynolds (1974).

[28] Grupo de Estudio del Problema del Empleo (1974): see also Isbister (1969) and Organization of American States (1969).

[29] Dirección General de Estadística (1952, p. 240), adding in workers unemployed 13 weeks or more at the time of the census.

[30] See Goreux and Manne (1973, Part IV) and especially Duloy and Norton (1973, p. 380).

equal to the total year-round labor force in this type of agriculture.[31] These estimates come from applying the model to 1968 crop data, and do not take into account subsidiary rural production and investment activities. Like other programming models of Mexico in the same volume, which give a wide range of estimates of disguised unemployment from zero up, this one builds in its employment results through its underlying assumptions which should not be taken as a dependable reflection of reality. But it seems reasonable to suspect that in the past, seasonal fluctuations in labor requirements may have been even wider because there was less machinery available to reduce peak-season requirements, and less double cropping.

In summary, relatively low unemployment rates seem to have been achieved in Mexico at the cost of low participation rates for women, widespread seasonal underemployment, and low incomes for large numbers of workers. One finds indications that substantial numbers of workers have been displaced by mechanization. In addition to people searching for steadier and better jobs, there are probably many other people (most of them women) who would enter the labor force if more jobs were available.

Yet as in the case of open unemployment, these symptoms do not seem to be new. There is ample reason to believe that the situation in 1970 was no worse and was possibly significantly better than in the years 1930 through 1940. As in the case of open unemployment, there may have been a significant deterioration since 1950, but if so, the timing of the shift is far from clear.

4. Limitations of the Census Data

Mexico's first national population census took place in 1895, and the second in 1900. After that, censuses were undertaken at ten-year intervals, except that the census that would ordinarily have been taken in 1920 was delayed until 1921 by wars of the Mexican Revolution.

Census methods, classification, and questions relating to people's economic activities have changed sharply from one census to the next. The first three censuses (1895, 1900, and 1910) showed the most continuity in methods, but after that the people in charge of collecting statistics changed from census to census and so did the procedures. The last three censuses (1950, 1960, and 1970) show some continuities, having followed modified versions of approaches recommended by the United Nations; but the three censuses in between (1921, 1930, and 1940) each differed sharply from all the rest in occupational and/or industrial classifications; and practically every census has involved experimental and unique features compared with the others. The extent to which results have been published and the format of the tables also varies greatly.

The reliability and accuracy of the census data have evidently varied as well, as one might expect in a developing country that started out backward, went through major political upheavals, and changed officials in charge of the census with practically every change in administration. The least-reliable censuses appear to be those of 1921 and 1960, the first because of disruptions of the countryside and administration by civil war, and the latter because computers were used but not mastered, so that the labor force data became distorted through computational errors. The 1921 census is believed to have missed many people; and the detailed census results which finally appeared in 1928 are suspect.

The problem in 1960 appears so serious that, in the tables included here, the findings of a sample from that census, made by the Centro de Estudios Económicos y Demográficos of El Colegio de México, are inflated and used instead of or along with the census, even though the sample was not designed for this purpose and some of its procedures, eliminating hard-to-read and clearly erroneous computer cards, probably bias the results for this purpose.[32] This careful census sample, using over half a million computer cards chosen at random from nearly 35 million made in the census, found a labor force participation rate of only 27.7 percent compared with 32.3 percent shown in the published census results. An unadjusted expansion or blow-up of these sample findings places the total labor force at less than 9.7 million in 1960, compared with more than 11.3 million reported in the census itself. This correction may be too large, especially since hard-to-read and erroneous cards eliminated in the sample may have included a disproportionate number of employed people; but there are numerous indications that the labor force figures in the original census are exaggerated. A recent study by Oscar Altimir of the United Nations estimates the 1960 labor force at 10,212,900 after comparing several different extrapolations from the El Colegio findings.[33]

Few labor force data were computed or published for 1960, but some that did appear proved an embarrassment. In several age groups, reported numbers of economically active males exceeded the total male population, a contradiction subsequently overcome by a census supplement that revised the age distribution of the labor force without changing the total.[34] The end result is that no reliable labor force data are available for 1960.

[31] The precise balance between supply and demand of agricultural labor in the model depends on a number of assumptions. Thus, for example, demand varies with the "reservation wage" assumed for farmers in each region. Supply in the original model should be reduced retroactively in light of the 1970 census showing fewer workers in agriculture than expected. Duloy and Norton's table on p. 380 shows that peak seasonal employment in a principal version of the model for 1968 was well over 4 million workers, rising in August to close to 4.2 million. By comparison, the 1970 population census found 4,641,593 people active in agriculture (narrowly defined) in 1969, of whom a few hundred thousand must have been primarily involved in permanent or long-cycle crops rather than the short-cycle crops included in the model.

[32] For details on methods and findings of this sample, see Bialostozky (1970).

[33] This estimate would place the participation rate at 29.2 percent, where other available estimates range from 27.4 to 30.4 percent. See Altimir (1974), pp. 62-71).

[34] Dirección General de Estadística (1964).

This lack is somewhat compensated by the availability of a few sample surveys that shed direct or indirect evidence on employment in the 1960s. One sample survey in 1963 implicitly found a labor force participation rate of 27.0 percent, and another in 1964-65 estimated a participation rate of 26.9 percent, the same as the rate found in the 1970 census; but a 1968 survey found a participation rate as high as 30.1 percent.[35] This survey found 39.3 percent of the employed labor force in agriculture, nearly the same proportion as the 1970 census. In 1969-70 another sample survey of family income and expenditures yielded, as a byproduct, estimates of sectoral employment that accord fairly well with the findings of the census itself: out of an estimated labor force of 12,970,808 (compared with 12,955,058 in the census itself), only 4,871,599 were in agriculture.[36]

Apart from the aberrations in 1921 and 1960, the other seven censuses seem to have followed a pattern of gradual improvement over time. At least, the 1970 census seems to have been the best yet, followed by 1950. The quality of the 1940 census appears uncertain; it may be reasonably good, except that the industry classification of the labor force is so unusual that major sectors that are now regularly distinguished from manufacturing overlap with it in several "industries." The 1930 census seems well done compared with its predecessors; and there may have been gains from learning in the first three censuses.

Here and there, I have seen scraps of evidence that cast serious doubt on the reliability of these earlier censuses. For example, glaring inconsistencies at the regional level between census data on numbers of students and official school statistics raise added questions about the accuracy of the 1895 and 1900 censuses;[37] while a special census of government functionaries in 1930 found far more of these workers than the regular census.[38] More generally, all the censuses have encountered large numbers of workers whose job titles were too vague to allow them to be classified; and concepts and procedures were so different in early censuses that the results of retrospectively trying to align the findings into more modern categories are inherently suspect. This is certainly true in regard to the participation of women and children in the labor force. Many young children were counted as employed in early censuses, while the 1950 and 1970 censuses, in some contrast, did not record anyone under twelve as economically active.

Even the 1970 census contains at least one significant internal contradiction. The tables show 2,466,257 women active in the labor force at any time in 1969, but 2,654,292 active the week before the census, which took place in January. Correspondingly, fewer men were active in January.[39]

Another example of a case in which bias may be present is the smallness of the agricultural labor force recorded in the 1940 census, relative to the rural population (i.e., in communities of less than 2,500 inhabitants). An underenumeration would help to account for the low overall participation rate in Mexico that year. One possibility is that following land reforms of the 1930s, census takers did not record many unpaid family workers as economically active; this in turn may be partly because the census took place in early March, a slack season. Out of 3,830,871 workers in agriculture, forestry, and fishing, all but 39,864 were males, not unlike earlier censuses in which most workers in these sectors were males. (In 1930 all but 25,633 were males.[40]) The workers in these sectors in 1940 included just 191,853 unpaid family workers, along with 1,726,262 persons operating their own enterprises and 1,907,199 manual wage workers.[41] In 1950, by comparison, the original census reported 857,154 unpaid family workers, though a later census supplement reduced this to 339,821.[42]

As already noted, census concepts and questions relating to open unemployment have shifted with each census. This is also true of other labor force categories. Prior to 1930, census questions focused on occupations more than on industries in which people were employed. Only in recent censuses have questions become sharply explicit — and census takers well trained — in asking about people's current economic activities rather than their habitual or expected economic roles.

In any case, people's answers to census questions on economic roles may not be reliable, and may depend on the exact wording, manner, and sequence in which questions are asked.

A sample survey could probably have found more unemployment, in 1970 or any earlier census year, by asking more probing questions on the subject, including "would you work if work were available?" A built-in problem here, however, is that the definition of unemployment is inherently unclear where people would work in some conditions but not in others.

Timing of the census has varied, as already noted, in terms of the calendar and consequently the rhythm of agricultural employment. The early censuses were taken in the fall (October or November). Subsequent censuses took place on May 15, 1930; March 6, 1940; June 6, 1950; June 8, 1960; and January 28, 1970.

In a slack agricultural season such as January, once people answered census takers that they had not worked the preceding week and were not looking for work, there may have been insufficient attempts to ascertain whether they were economically active the preceding year. This circum-

[35] See Banco de México (1963) and (1974), Dirección General de Muestreo (1965), and Altimir (1974, p. 63).

[36] Dirección General de Muestreo (n.d., Table 1.2); see also McFarland (1973, Table 2.3).

[37] The data can be found in El Colegio de México (1965) and in Dirección General de Estadística (1956).

[38] Ibid., (1934*a*) and (1934*b*, pp. 72 and 76).

[39] To be precise, 10,255,248 men were active in January compared with 10,488,800 in 1969, a change that would be easier to believe. See ibid. (1972*a*, pp. 569-973). Unemployment rates and all other percentages for women have been computed in the present study on the basis of the lower (1969) figures.

[40] The highest number of females recorded in agriculture before 1950 was 62,600 in 1910.

[41] Ibid., (1943*b*, pp. 19-20).

[42] See ibid., (1952, pp. 59 and 66) and (1955, Table 35).

stance together with seasonal changes in people's economic roles may help to account for the smallness of the agricultural labor force relative to the rural population in the 1970 census.

As a result of these data limitations, it would not be wise to take literally or view as reliable the detailed statistics presented here. As we have seen, the 1960 data are particularly dubious because of the computer-card and computational problems associated with that census, and the unreliability of blowing up results from a sample that was not designed for this procedure. For other years, the census statistics are offered in the spirit that, for all their likely deficiencies, they are the best figures available.

5. Detailed Evidence on Participation and Related Issues

Table 1-2 is a useful point of departure for examining statistics that support the generalizations already made. The table includes for each of eight census years from 1900 to 1970 the absolute magnitudes (to the nearest thousand) of total population; urban population in towns of 2,500 or more; total labor force; and nonagricultural labor force, defined here to include workers in insufficiently specified activities. In addition, six key percentage relationships are shown: the percent of the population in urban areas; the overall labor force participation rate; the nonagricultural labor force as a percent of the *total* population; the nonagricultural labor force as a percent of the *urban* population; the proportion of the labor force outside agriculture; and the agricultural labor force as a percent of the rural population.[43] The results of a blow-up of the El Colegio de México census sample are used in place of the published 1960 figures as estimates of the 1960 labor force, although this procedure may contain a downward bias.

Table 1-2 helps to illustrate the declining incidence of nonagricultural employment, and the falling participation rates up to 1930 and 1940 that have already been discussed. In looking at trends in the nonagricultural labor force from 1900 to 1930, it should be kept in mind that much of the nonagricultural employment in 1900 involved traditional activities – such as hand industries, mule transportation and domestic services – that were carried on in rural as well as urban areas, so that much of the labor displacement must have taken place in the countryside. Even in more recent decades, substantial numbers of nonagricultural workers have lived in rural areas and substantial numbers of agricultural workers have lived in urban areas, so that the apparent participation rates in categories 8 and 10 must be interpreted with caution. The figure in the table on rural participation in agriculture in 1921 should be viewed skeptically along with the rest of the data for that year and for 1960, in view of the unreliability of the two censuses.

In addition to falling nonagricultural and urban employment up to 1940, the statistics in Table 1-2 help to illustrate a number of the other trends discussed above: the apparent decline in rural participation from 1930 to 1940, and again more sharply from 1950 to 1970; the rapid expansion in the nonagricultural labor force since 1940; the overall jump in employment from 1940 to 1950; and the general worsening of the employment situation since 1950.

Concerning displacement of labor from agriculture, some further figures may be useful. Mexico's gross domestic

[43] Underlying magnitudes for this last computation can be derived from the data in the table by subtracting the nonagricultural labor force from the total labor force and the urban population from the total population.

Table 1-2

SOME KEY MAGNITUDE AND PERCENTAGE RELATIONSHIPS FOR MEXICAN POPULATION AND LABOR FORCE IN SUCCESSIVE CENSUSES

Category	1900	1910	1921	1930	1940	1950	1960	1970
(1) Total population (thousands)	13,607	15,160	14,335	16,553	19,654	25,791	34,923	48,225
(2) Urban population (thousands), over 2,500	3,849	4,348	4,461	5,541	6,897	10,983	17,705	28,309
(3) (2) as percent of (1)	28.3	28.7	31.1	33.5	35.1	42.6	50.7	58.7
(4) Total labor force (thousands)	4,985	5,404	5,111	5,352	5,858	8,272	9,691[b]	12,955
(5) (4) as percent of (1)	35.5	35.2	35.6	32.3	29.8	32.1	27.7[b]	26.9
(6) Nonagricultural labor force[a] (thousands)	1,807	1,820	1,621	1,679	2,027	3,448	4,641[b]	7,852
(7) (6) as percent of (1)	13.3	12.0	11.3	10.1	10.3	13.4	13.3[b]	16.2
(8) (6) as percent of (2)	46.9	41.9	36.3	30.3	29.4	31.4	26.2[b]	27.7
(9) (6) as percent of (4)	36.2	33.7	31.7	31.4	34.6	41.7	47.9[b]	60.6
(10) Agricultural labor force as percent of Rural Population	32.6	33.1	35.4	33.3	30.0	32.6	29.3[b]	25.5

a. Includes workers in insufficiently specified activities as well as those in particular nonagricultural sectors.

b. Based on a blow-up of the El Colegio de México census sample, a procedure that probably introduces a slight downward bias, except in category 9.

SOURCE: Underlying data are from Table 1-5, below; El Colegio de México (1965); Departamento de la Estadística Nacional (1928); and Dirección General de Estadística (1943*a*), (1952), (1962), (1972*a*), and (1973).

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product in constant 1960 prices grew from 1950 to 1970 at an average annual rate of 6.3 percent, whereas agricultural output grew at 4.9 percent per year – both reasonably good performances by international standards.[44] In the same years, the nonagricultural labor force more than doubled, from 3.45 million to 7.85 million (when people in insufficiently specified activities are included); but the agricultural labor force only expanded from 4.82 million to 5.1 million. As a result, the agricultural labor force fell, as the table shows, from 32.6 percent of the rural population in 1950 to only 25.5 percent in 1970. (This is a slightly deceptive comparison under Mexican conditions, however, since the 1970 census showed that only 76 percent of the labor force in agriculture, forestry, and fishing lived in "rural" communities of less than 2,500 people, while 23 percent of the labor force in these communities worked in other or insufficiently specified activities.[45] The actual rural participation rate, however, was 25.4 percent, significantly below the national average.)

In contrast with most earlier periods when there was little growth in labor productivity in agriculture, from 1950 to 1970, labor productivity in the sense of output (value added) per worker in agriculture rose at a rate of nearly 4 percent per year, compared with about 2.5 percent in manufacturing and a little over 2 percent in the tertiary sectors (services, commerce, transport, and communications).[46] Thus, agricultural labor seems to have been displaced by technical progress not unlike the way nonagricultural labor had been displaced in an earlier era.

Table 1-3 shows total participation rates, and separate participation rates for males and females, in all nine censuses from 1895 to 1970, including the published results for 1960 (believed to be too high) as well as the rates in the El Colegio de México census sample for that year. The decline in the female participation rate from 1900 to 1940 and the jump in this rate from 1940 to 1950 are particularly striking.

The rates shown in Table 1-3 are not corrected for the changing age structure of the population, which became somewhat younger as population growth accelerated. Table 1-4 contains revealing further information, where the total male labor force of all ages is compared with the total male population 15 years old and over, while the female labor force is compared with the female population 15 and over. Up to 1930, the male labor force was considerably larger than the male population 15 and over, meaning that economically active boys under 15 years old significantly outnumbered economically inactive males above that age. Here again the 1921 figure is suspect. Tables 1-3 and 1-4 both show the low proportion of women working in Mexico compared with men throughout the twentieth century, as well as a very sharp decline in female participation from 1910 to 1930.

[44] See Grupo de Estudio del Problema del Empleo (1974, Table 12).

[45] These figures are based on Dirección General de Estadística (1972*a*, pp. 83 and 657).

[46] See Table 7 below. The precise rates depend on the sectoral assignment of workers in activities such as repair services, finance, and insufficiently specified activities, and the handling of the timing, since the 1970 labor force data refer conceptually to 1969.

Table 1-3
PARTICIPATION RATES IN THE MEXICAN CENSUSES FROM 1895 TO 1970
(Percent)

Census year	Rate for total population	Rate for male population	Rate for female population
1895	35.1	62.8	7.9
1900	35.5	63.0	8.4
1910	35.2	62.6	8.3
1921	35.6	65.2	7.3
1930	32.3	61.3	4.4
1940	29.8	56.0	4.3
1950	32.1	56.3	8.6
1960[a]	27.7[a]	47.3[a]	8.2[a]
1960[b]	32.4[b]	53.4[b]	11.6[b]
1970	26.9	43.6	10.2

a. Based on census sample by El Colegio de México.
b. Based on the 1960 census, which is believed to have exaggerated the labor force in that year.

SOURCE: Computed from data in the population censuses, Bialostozky (1970) and El Colegio de México (1965).

Evidently women served as a marginal category in the labor force. They tended to lose jobs and had to drop out of the labor force, as jobs became scarce, but were drawn once again into active roles as jobs became more plentiful. In 1900 and 1910, women constituted nearly one-third of the nonagricultural labor force, but by 1930 this proportion had fallen below one-fifth.

Even in traditional roles such as domestic service and the making of women's clothing, there seems to have been a substantial reduction in the number of jobs, cutting back employment for women.[47] This trend was more glaring in other activities. Thus, a contemporary classification scheme from the 1930 census showed 526,813 women under the heading "industries" in 1910, when they outnumbered male workers under this heading, but only 177,614 in 1921 and 104,641 (compared with 587,520 men) in 1930.[48] This category included not only craft and factory industries, but also laundry services and tortilla making, jobs that were largely displaced by electrification and new techniques.

By 1940, men outnumbered women workers in textiles by 71,891 to 13,660 and in food products by 61,543 to 5,448. Women were also displaced to a considerable extent in commerce and services. Out of 163,307 salaried clerical, sales and administrative workers (*empleados y dependientes*) in sectors other than public administration in 1940, only 34,069 or 21 percent were women. Men constituted 70 to 99 percent of these workers in every industry. Among 160,645 public employees and schoolteachers, only one-quarter (40,147) were women.[49]

[47] Total workers in domestic services fell from 324,748 in 1910 to 186,359 in 1930, of whom 54,389 were men and 131,970 were women; workers in clothing industries fell from 135,138 in 1910 to 69,438 in 1930, of whom 46,277 were women. See Thompson (1921, pp. 338-341) and Dirección General de Estadística (1934*b*, pp. 74-76).

[48] Ibid., p. 72.

[49] All the figures in this paragraph are computed or taken directly from ibid., pp. 19-29).

Table 1-4

MALES AND FEMALES IN THE MEXICAN LABOR FORCE COMPARED WITH THE MALE AND FEMALE POPULATION 15 YEARS AND OVER IN CENSUSES FROM 1895 TO 1970

Census year	Male labor force	Male population 15 years and over	(2) as percent of (3)	Female labor force	Female population 15 years and over	(5) as percent of (6)
(1)	(2)	(3)	(4)	(5)	(16)	(7)
1895	3,946,074	3,732,946	105.7	499,857	3,929,156	12.7
1910	4,699,726	4,404,167	106.7	638.113	4,697,109	13.6
1921	4,567,030	4,182,607	109.2	531,747	4,577,414	11.6
1930	4,979,520	4,796,192	103.8	372,242	5,263,587	7.1
1940	5,425,659	5,466,740	99.2	432,457	5,995,933	7.2
1950	7,207,594	7,210,935	99.9	1,137,646	7,779,274	14.6
1960	8,267,347[a]	9,473,863	87.3[a]	1,423,162[a]	9,883,606	14.4[a]
1970	10,488,800[b]	12,708,253	82.5[b]	2,466,257[b]	13,230,305	18.6[b]

a. Based on a blow-up of the El Colegio de México census sample.

b. Data on total size of the labor force actually relate to the previous year; 45,517 of these people were economically inactive in January when the census was taken.

SOURCE: Computed from data in the population censuses, El Colegio de México (1965, pp. 29-60) and Bialostozky (1970).

Conversely, when employment jumped from 1940 to 1950 as a result of the war and postwar booms, the number of women workers grew rapidly. Unfortunately, the 1950 census gives no sectoral breakdown of employment by sex, but by 1969 there were nearly 2.5 million women active in the labor force including 266,654 in agriculture, forestry, and fishing; from 447,526 to 454,770 in manufacturing, depending on the lines drawn around the sector;[50] and 488,344 in domestic service, about 20 percent of the total compared with around 35 percent in 1930 and 1940. Most of the rest were in services or commerce.

The fall in the male participation rates, shown in Tables 1-2 and 1-3, may reflect some displacement of very young males, another marginal employment category; but a larger influence has been a growth in the proportion of the population in school. The 1970 census, for example, found 2,075,414 students of both sexes above the primary level compared with 157,924 reported by the 1940 census.[51]

Table 1-5 compares the economic status of the population 12 years old and over in 1950 and 1970 based on data in the two censuses. This comparison shows that almost all of the decline in the participation rate can be explained by a rise in the number of students. In a comparison of 1940 and 1970, the growing number of students may be more than sufficient to explain the decline in the overall participation rate from 29.8 to 26.9 percent.[52]

Long-term trends in employment can be illustrated further by Table 1-6, showing the approximate breakdown of the labor force into eight major sectors in census results from 1900 to 1969. (Data from the 1970 census refer, in this regard to 1969.) Data for 1921 have been omitted because of their problematical quality. The sectoral classification scheme is based on that for 1950 and 1960, with repair activities assigned to manufacturing.[53] Assignment of occupations to particular sectors in 1900 and 1910 represents a modification of well-known El Colegio de México calculations.[54] The number of workers in insufficiently specified activities in 1900 has been modified from their calculation by assuming that only one-fifth of the women in this category were really economically active.[55]

[50] The smaller figures is based on the census definition; the larger one is based on the 1950 definition used in Table 1-5. Data are from ibid. (1972, p. 205).

[51] Ibid. (1943*b*, pp. 17-19) and (1972, pp. 108-121).

[52] Information is not available on the ages of the students of 1940; but presumably students 12 years old and over constituted no more than 3 percent of the population in that age group compared with 12 percent in 1970. If three-fourths of the students in the latter year (i.e., 9 percent of the population 12 and over) had been freed from school to work, and three-fifths of these people had actually done so, this would have added more than 1.6 million workers to the labor force, raising the participation rate to about 30.2 percent.

[53] Compared with the census classifications for 1969, petroleum has been split between mining and manufacturing; finance, communications, and repair activities have been switched into commerce, transport, and manufacturing, respectively; and government has been assigned to services. The alignment is still far from perfect, however. For example, "electric power" includes gas and water utilities in some years (such as 1950 and 1960) but not in others (including 1970). The 1970 definition of agriculture, forestry, and fishing seems to have included a number of workers in forestry, beekeeping, and weaving of straw products who were not always classed in this sector; but in 1970 ejidatarios were not automatically assigned to agriculture as they were in most earlier censuses. Warehousing and storage have been classified sometimes in transport and communications (as in 1950), sometimes in services, or insufficiently specified.

[54] El Colegio de México (1965). Compared with the original scheme, architects and engineers have been reassigned from mining to services; smelter workers have been reassigned from mining to manufacturing; coal-men or colliers (*carboneros*) and electricians have been switched from electric power to insufficiently specified; private retainers are assigned to services; and three-fifths of all carpenters have been reassigned from manufacturing to construction, leaving the remainder in manufacturing. Data for 1900 used to modify the El Colegio figures were supplied to the author by Clara Júsidman de Bialostozky from her unpublished research on that census. Detailed occupational breakdowns for 1910 were taken from Thompson (1921) and Cleland (1922).

[55] According to El Colegio de México (1965) computations, this category contained 128,975 men and 182,849 women. Over half of these people were from the small state of Querétaro, suggesting that

Table 1-5

ECONOMIC STATUS OF THE MEXICAN POPULATION 12 YEARS OLD AND OVER IN 1970 COMPARED WITH 1950

Category	1950 Number	1950 Percent	1970 Number	1970 Percent
Economically active	8,329,240[a]	49.3	12,909,540[b]	43.5
Working for pay	3,831,143	22.7	8,054.822	27.1
Students	1,100,509	6.5	3,550,773	12.0
Other economically inactive	7,450,869	44.1	13,236,990	44.6
Doing housework	7,003,735	41.5	10,917,237	36.8
Total	16,896,618	100.0	29,697,303	100.0

a. This number is larger than in other tables because it includes persons unemployed 13 weeks or more.
b. This was the figure for the week before the census.

SOURCE: Based on Dirección General de Estadística (1952, pp.59 and 66), (1972*a*, pp. 569 and 637).

Table 1-6

MEXICAN LABOR FORCE BY SECTOR BASED ON CENSUS DATA AT INTERVALS FROM 1900 TO 1969

Sector	1900[a]	1910[a]	1930	1940[b]	1950	1960[c]	1969[d]
Agriculture, forestry, fishing	3,177,840	3,584,191	3,671,278	3,830,871	4,823,901	(5,049,219)	5,103,519
Mining	97,887	83,374	51,246	85,151	97,143	(123,865)	146,133
Manufacturing	593,666	582,998	503,651	530,106	972,542	(1,390,789)	2,439,242
Construction	99,634	115,111	93,515	95,168	224,512	(358,674)	571,006
Electric power	e	e	16,580	9,255	24,966	(34,040)	53,285
Transport, communications	59,666	55,091	107,052	149,470	210,592	(320,674)	390,911
Commerce, finance	261,455	293,753	267,558	509,836	684,092	(907,556)	1,302,549
Services including government	520,167	536,543	432,094	484,601	879,309	(1,313,469)	2,200,892
Insufficiently specified	174,455	82,828	209,188	163,658	354,966	(192,223)	747,525
Total	4,984,770	5,403,736	5,351,762	5,858,116	8,272,093	(9,690,509)	12,955,057

a. For an explanation of the adjustments to earlier computations by El Colegio de México researchers, see the text and textual footnotes, above.
b. Workers in four subindustries have been divided between manufacturing and other activities on the basis of proportions half way between those of 1930 and 1950.
c. Based on a blow up of the results of the El Colegio de México sample of the 1960 census.
d. Petroleum workers in 1969 have been assigned three fifths to mining and two fifths to manufacturing.
e. Included in insufficiently specified category.

SOURCE: Computation by the author based on data in the population census and related sources, including El Colegio de México (1965), Thompson (1921), and Bialostozky (1970).

In Table 1-6 the treatment of unemployed workers varies somewhat from one census year to the next; for example, in 1970 they are included, but in 1950 those out of work for 13 weeks or more (73,147 persons) are omitted. Workers in insufficiently specified activites were probably predominantly engaged in services and commerce, at least from 1930 on.[56]

Table 1-6 shows what seems to have been an absolute decline in employment in manufacturing after 1900. In the years from 1900 to 1910, workers in mining and transportation also declined absolutely, presumably as a result of labor-saving technological change. Specific examples of this process could be cited in other sectors as well; for examples, employment in laundry and dry-cleaning services fell from 64,737 in 1910 to 33,172 in 1921 and 12,711 in 1930.[57]

After 1930 or 1940, numerous nonagricultural activities began to expand their employment quite rapidly around a more modern technology. This is just as true in tertiary sectors as in manufacturing. Medical services, for example, expanded their employment from 14,696 in 1930 to 47,810 in 1950, to 168,252 in 1969. Employment in finance grew from 769 in 1930 to 21,246 in 1950, and to 105,671 in

authorities there did not complete this aspect of the census, so that a large majority of the women were really economically inactive.

[56] Many of these workers were recorded by nonspecific job titles, such as *empleado,* or worked in sectors that could not easily be classified, implying in almost all cases that they were not in agriculture. McFarland (1973) points out in regard to this category that 1969-70 labor force estimates, made in connection with a sample survey by Dirección General de Muestreo (n.d.), show fully 2,877,240 workers in services and 1,619,083 in commerce, as well as 514,442 in transport and communications, all significantly higher than the census figures shown in Table 1-5. In this survey only 42,058 out of 12.97 million workers were classified as engaged in insufficiently specified activities.

[57] Thompson (1921, p. 341), Departamento de la Estadística Nacional (1928, p. 89), Dirección General de Estadística (1934*b*, p. 75).

1969.[58] Thus, a large proportion of the growth in employment seems to have been propelled by structural changes caused by processes of economic development. Conversely, seemingly stationary or declining employment in particular sectors has often coincided with profound changes in the composition and technology of the activities involved.

Rapid growth in output per worker has occurred in one sector after another, with labor displacing effects. Usually the growth of labor productivity has then slowed, meaning that (other things being equal) employment growth has accelerated.

Table 1-7 shows average annual growth rates of output per worker for several sectors in four time periods, 1900 to 1910, 1910 to 1940, 1940 to 1950, and 1950 to 1969. In computing the growth rates shown in this table, the numbers in Table 1-6 have been used together with standard series on gross domestic product, which are probably less reliable for early years such as 1900 and 1910 than for later years.

The table helps to show that in manufacturing, and in a broad, residual nonagricultural sector including commerce, services, construction, and electric power, average labor productivity has tended to grow at rates in the order of 2 to 3 percent over long periods, except for a slowdown of productivity growth in manufacturing from 1940 to 1950. Other sectors have gone through periods in which output per worker has spurted forward, and other periods in which little increase has been made.

Table 1-7

AVERAGE ANNUAL GROWTH RATES OF MEXICAN OUTPUT PER WORKER BY SECTOR IN FOUR PERIODS

(In Percent based on Constant Prices)[a]

Sector	1900-10	1910-40	1940-50	1950-69
Agriculture, forestry, fishing	2.1	.5	1.1	3.8
Other sectors combined	3.5	2.4	1.3	2.2
Manufacturing	2.9	3.3	.8	2.3
Mining and petroleum	8.6	1.7	.6	4.1
Transport and communications	3.0	–.1	5.0	2.6
Other nonagricultural	3.6	2.5	2.8	2.2

a. In 1950 prices, except last column in 1960 prices.

SOURCE: Computed from labor force data in Table 1-5 and output data in Solís (1970, pp. 90-91); and Banco de México (1969, Table 87), and (1973, Table 3).

6. Interpretation and Apparent Causes of the Problem

A number of influences can be suggested as contributing to Mexico's employment problem, in light of both the evidence reviewed here and the growing economic literature on employment in developing countries.[59] Listed briefly, the chief contributing influences are probably the following:

1. Most important has been the spread to Mexico of mechanization, new equipment, and labor-saving techniques originating in advanced industrial countries, and designed for factor-supply conditions in which unskilled labor is relatively expensive.

2. Another influence has been the rapid growth of the potential labor force, especially since the 1940s, as a result of accelerating population growth.

3. Discrimination against women almost certainly plays a major role in making women the marginal category in the labor force and the group that suffers most from open unemployment.

4. Commercial, capitalist enterprises that hire wage labor in pursuit of profits have tended to displace family enterprises and preindustrial systems of mutual obligations that provided greater employment.

5. The shift in the structure of employment from primarily agricultural to primarily nonagricultural has led to a growth in frictional unemployment, since in an urban setting with its complex division of labor, long job searches and hiring searches are more often rational, in the sense that they repay the costs to the individuals and firms involved.

6. Inappropriate choices of technique have almost certainly been caused in some activities by price-distorting policies making imported equipment cheap and unskilled labor artificially expensive, so that less labor is used in particular tasks than would otherwise be so. This effect appears milder in Mexico, however, than in many other developing countries because price distortions have been somewhat smaller in Mexico.

7. There is excessive migration of labor to the cities, caused by the lure of high wages paid for ordinary labor in many urban jobs (though here again, Mexican wage and price distortions are mild in comparison with many other developing countries) and by greater public attention to the needs of the cities than of the countryside. As a result, some of the migrants end up unemployed.

8. The growth of real income, particularly in urban areas, allows more people – especially in families in which some members are already employed – to afford to search for really good jobs and to bear the costs of being unemployed, rather than settle for unattractive jobs.

9. In the period under study, Mexico's economic policies, while promoting output growth, generally avoided creating excess aggregate demand in an effort to avoid inflation, financial crises, exchange rate depreciation, shortages, and associated ill effects such as deteriorating product quality and efficiency. Instead, economic policies generally take advantage of the abundance and low supply price of unskilled labor and prevented any artificial growth of labor shortages.

10. Changes have almost certainly taken place in cultural values and attitudes in relation to unemployment, so

[58] Ibid. (1934*b*, p. 76), (1955, Table 36), and (1972, p. 205).

[59] For guides to the literature, see the surveys by Morawetz (1974), Bruton (1974), Edwards (1974), and Turnham (1971).

that governments are now ready to investigate the problem, and people may be more willing to be seen as unemployed and looking for work.

11. Last but not least, Mexico has a factor proportion problem in the sense that by standards of industrial countries, unskilled labor has been abundant all along compared to skilled and educated manpower, technical knowledge, savings, man-made means of production, foreign exchange, well-watered land, and other resources needed in development. By 1970, more of Mexico's unskilled labor pool had been absorbed into the technically advanced sectors of the economy than in earlier years, but not enough had been absorbed to alter the fundamental relationship.

This last problem may have meant that the country has had practically no alternative but low incomes, disguised unemployment, or open unemployment for the bulk of the labor force.

Most of the influences need not be elaborated in the present context, but more must be said about (1) population growth, (2) the relative influence of distorted prices as against labor displacement inherent in borrowed techniques, (3) the labor-displacing nature of capitalist as against family enterprises, (4) Mexican attitudes toward acceptance of manual and low-paid work, and (5) the evidence provided by the incidence of unemployment among different age groups and regions in 1970.

Labor force growth as a delayed effect of population growth can hardly be blamed for Mexico's employment problem until after 1950. Mexico's population expanded at a rather moderate rate from 13.6 million in 1900 to nearly 20 million in 1940 (a growth rate no faster than in the last half of the nineteenth century), then grew rapidly from 25 million in 1950 to over 48 million in early 1970.[60] During much of the latter period the growth rate of population exceeded 3 percent a year, and as a result, the potential labor force will now grow rapidly for years to come. But it is worth recalling that Mexico began to show signs of serious job shortages in 1930 and 1940, even before labor-force growth accelerated, despite the face that the Mexican Revolution caused significant losses in the working-age male population.[61]

It is also important that from 1940 to 1970, Mexico's gross domestic product per capita expanded at average rates around 3 percent per year.[62] This means that added employment would have been created, relative to population, if labor productivity had grown at annual rates any lower than 3 percent. Thus, even in recent years of more rapid labor force growth, the employment problem must be attributed in large part to efficiency gains and new techniques that have raised labor productivity.

In regard to the spread of new techniques and new equipment, the evidence from Mexico suggests that this has been a major cause of jobs being eliminated and labor being displaced, starting at an early stage in development when techniques were first modernized on a large scale. The spread of labor-saving techniques centered initially in industry and transportation, but more recently is has spread to other sectors, most importantly to agriculture.

In Mexico this spread of labor-saving techniques can be attributed mainly to realistic economic calculations, given the limited range of relevant techniques available. Only secondarily can labor displacement be attributed to employment-reducing choices caused by distorted price signals. After all, until the mid-1970s, Mexico's prices were not severely distorted. The currency remained convertible and no black market exchange rate existed through most of this seventy-year period; and although protection favored import substitution in manufacturing throughout this period, and most imported capital equipment has paid low duties, there have never been high rates of effective protection. Price distortions attributable to government policies were generally smaller throughout the twentieth century, in fact, than in the previous century. To illustrate this point, Mexico's tariff revenues from import duties, expressed as a percentage of the officially recorded value of imports, equaled 52 percent as early as the fiscal year 1826-27, 56 percent in fiscal 1873-74, 59 percent in 1884-85, and 53 percent in 1895-96, compared with 18 percent in 1901-02, 24 percent in 1910-11, and 23 percent in 1967.[63] In 1960 rates of *effective* protection in Mexican manufacturing industries are estimated to have averaged about 27 percent, based on comparisons of Mexican and U.S. prices — a low figure compared with other developing countries where rates of over 100 percent are common.[64] Meanwhile, wages of ordinary workers have been raised in the larger industrial enterprises by social security measures, after payroll taxes, and collective bargaining, especially since 1930; but realistically low wages have continued to be paid in agriculture and in small urban enterprises. In 1968-69, official minimum wages, which were little enforced, varied in agriculture from the equivalent of US$.94 per day in the lowest-wage areas of Mexico to US$2.72 per day in the highest-wage areas, while minimum wages in urban jobs started as low as US$1.10.[65]

On balance, then, the evidence from Mexico confirms that mechnization and reorganization, using labor-saving

[60] For a summary table of past population figures see Dirección General de Estadística (1973, p. 29). See also Table 1-1. One other demographic influence deserves attention: increasing temporary migration (including illegal migration) to work in the United States. This presumably serves to ease the employment situation in Mexico, but it probably reduces the labor participation rate there since most migrants would otherwise be in the active labor force.

[61] These losses are discussed, for example, in Reynolds (1970).

[62] Time series in constant prices can be found, for example, in Solís (1970, pp. 90-91 and 104-105) and Banco de México (1969) and (1973).

[63] This computation is based on data from Butterfield (1860), Romero (1898), El Colegio de México (1965), and Dirección General de Estadística (1969).

[64] See Bueno (1971), Balassa (1971), and Little, Scitovsky, and Scott (1970).i,

[65] Dirección General de Estadística (1969, pp. 338-340). These wages are so little enforced that, as King (1970, p. 114) points out (citing a sample survey by J. Puente Leyva in 1964), almost 40 percent of the people employed in Monterrey were receiving less than the legal minimum wage.

techniques, have afforded a strong impetus toward unemployment in developing countries.

At the same time, there is nothing in Mexico's experience to contradict a view that distorted price signals greatly aggravate the employment problem in many developing countries, both by distorting techniques of production and by causing excessive migration to urban areas. After all, by international comparative standards, the rate of open unemployment has not been high in Mexico, perhaps because price distortions have been relatively mild.

It may also be significant that employment in Mexico's manufacturing sector reached its historical low point relative to population in the 1940 census, at a time when social policies made industrial labor artificially expensive. Conversely, manufacturing employment expanded rapidly in the following decade while real industrial wage rates were allowed to fall to more realistic levels.

The third subject to be discussed further is the labor-displacing effect of a spread of capitalist, wage-labor organization in place of family enterprises and other older institutions such as haciendas based on traditional mutual obligations.

In an organization that hires labor in pursuit of profits, it only makes economic sense to hire labor up to the point where the marginal revenue product of labor is at least equal to the wage. Further application of labor would be unprofitable. In a family enterprise, by contrast, family members know ahead of time that they will receive fair shares of the average product, and they feel obliged to contribute in return. As a result, they tend to lavish labor on tasks within the family up to the point where there is still some net addition to the well-being and total output of the family. Thus, the application of labor is pushed further and more employment is generated than under a capitalist, wage-profit system of organization.[66]

The contrast is not so clear-cut between capitalist enterprises and institutions such as haciendas that combined capitalist and "feudal" features. After all, acting as a local monopsonist and/or monopolist, many old rural estates in Mexico may have offered not only lower wages but also less work than a competitive market would have offered. (Of course, modern commercial farmers and other enterprises in Mexico may also act as exploitative monopsonists in the market for labor, when they have sufficient market power.) But rural estate owners and other bosses before 1910 held their labor forces not only by unsavory means such as debt-servitude and local law-enforcing powers, but also in many areas by undertaking mutual obligations that helped to provide a measure of security to their workers, including giving them land to cultivate within the estate.

As these older forms of tenure disappeared during and after the Revolution, they were largely replaced by the ejido (communal land-ownership) created by land reforms. The ejidos presumably became an influence keeping Mexican peasants employed, albeit at low living standards, since communal ownership rights would be lost if villagers moved away. In more recent years, however, even ejido holdings seem to have been transformed to a large extent into capitalistically operated enterprises (many are illegally leased and farmed for profit), and concentration of farm ownership has made a comeback through the growth of irrigated commercial farms in new agricultural zones.

To illustrate this trend, from 1950 to 1970 the number of self-employed workers in agriculture declined by nearly three-quarters of a million while wage workers in agriculture increased by about one million.[67] Meanwhile, increasing labor mobility and the cumulative effects of economic and cultural change have broken down paternalistic and family relationships in other sectors of the economy as well. Thus, persons working for wages composed 63 percent of the total labor force in 1970 compared to 46 percent in 1950.[68]

Turning to attitudes toward acceptance of manual and low-paid jobs, I share a widespread impression that prejudices against accepting manual jobs are not so great in Mexico as in many other developing countries, and that people with relatively advanced education are fairly flexible in accepting low-paid jobs, especially since there is an enormous variance in wages and salaries paid to people in professional, technical, and other skilled occupations. (In this respect as in many others, the price system appears to have been flexible and realistic.) Moreover, up to 1970 the market for educated people was so strong in Mexico — where as late as 1960, only 122,901 people had university-level education[69] — that there cannot have been much educated unemployment. No such problem was ever mentioned to me when I was doing research on education in Mexico beginning in 1967-1968.[70]

A final source of evidence on the causes of open unemployment is the age and regional patterns of this unemployment. In 1970 the highest unemployment rate was found, as is usually the case, among people 15 to 19 years of age; but that rate was only 6.1 percent — 5.2 percent for males and 8.0 percent for females.[71] Thus, it is hardly possible to attribute more than a fraction of the observed

[66] For a rigorous exposition see Sen (1966).

[67] The original census showed within agriculture, forestry, and fishing fully 2,535,852 people working in their own enterprises or ejido holdings, and another 857,154 who were unpaid family workers, compared with 1,430,895 wage workers. See Dirección General de Estadística (1952, pp. 59 and 66). These figures were later modified in a census supplement, which showed 339,821 "persons who helped their families without remuneration in agricultural activities of a nonmanagerial character"; 1,566,741 "laborers, *peones* and other wage workers in agriculture and stockraising"; and 2,855,869 "proprietors, ejidatarios, administrators, foremen, and others in occupations of a managerial character in agriculture," plus small numbers in forestry and fishing. See Dirección General de Estadística (1955, Table 35). By comparison, the 1970 census found 2,075,872 working in their own enterprises or ejido holdings; 528,193 unpaid family workers; and 2,499,454 wage workers. See ibid. (1972, p. 285).

[68] See Table 1-4.

[69] Dirección General de Estadística (1962, p. 3).

[70] Urquidi (1974), however, argues plausibly that inadequacies of the educational system, by reducing the quality of training and aggravating shortages of skilled manpower, effectively contribute to unemployment and underemployment.

[71] Computed from Dirección General de Estadística (1972*a*, p. 569).

unemployment to either excessive job expectations based on education or prolonged job searches by young dependents. Unemployment rates of slightly over 3 percent characterize older age groups such as 25-29, 30-34, 35-39, 40-44, and 45-49; and over one-quarter of the unemployed were over 40 years old.[72] The fact that three-fourths of the unemployed had been looking for work for 4 weeks or less confirms that few people engage in long job searches, and suggests that much of the observed open unemployment is frictional.

The relatively even geographical pattern of open unemployment, ranging regionally from 2.4 to 4.8 percent when the country is divided into nine regions,[73] would seem to support a view that there has been technological displacement throughout Mexico in agriculture as well as in industry. The relative evenness of unemployment by ages and regions makes it unlikely that much of it is a luxury associated with dependent status and higher incomes. Yet the fact that unemployment rates are higher in the more urbanized and wealthy regions means that this could be a contributing factor, along with frictional unemployment in a complex division of labor and the lure of the cities with their chance for relatively high incomes for people fortunate enough to find steady jobs.

To sum up, the principal cause of Mexico's employment problem over the last 50 years seems to be the displacement of labor and loss of jobs through technological change, in combination with the ever-present factor proportion problem, causing unskilled labor to become redundant as techniques have been modernized. The low incidence of prolonged open unemployment in the face of these influences may be a credit to the flexibility of the price system and the social and family system. But something has had to give under these conditions; and the results have been low incomes, underemployment, and job shortages for women.

A number of other causes are also apparently at work in causing unemployment. Perhaps most notably, much of the open unemployment that surfaced in the 1970 census may have been frictional as a result of an increasingly complex economy, in which aggregate economic policy avoided serious shortages in order to give buyers with money, including people hiring labor, the usual advantages (at least for them) of a successfully growing market economy.

7. Evidence on "Underemployment"

One final subject that deserves attention is evidence on "underemployment." Recently a team of Mexican economists attempted a careful study of the 1970 census data as part of an examination of the employment problem. These researchers estimate, based on the census data, that in 1969 from 4.8 million to 5.8 million people, or from 37.6 to 44.8 percent of the labor force, were "underemployed" in addition to those who were unemployed.[74] The study group's definition of underemployment is complex, but essentially it includes almost all unpaid family workers, others with incomes below official minimum wage guidelines which vary from one region to another, and people working much less than the full year.

Clearly there are pitfalls in all three dimensions of this definition, so that these estimates are suspect and vulnerable to criticism. This is also true of the accompanying estimate that total underemployment was equivalent, in full-time unemployment, to as much as 23 percent of the economically active population. Note that these numbers do not include people such as housewives who were economically inactive but would have worked if more and better-paying jobs had been available.

Perhaps the chief inherent shortcoming in this estimate is that the numbers probably include many people who were physically productive and working hard in socially necessary tasks, but received low wages (and thus produced low output measured at factor costs) because there was so much unskilled labor hanging over the less regulated parts of the labor market. This is probably the chief explanation of low incomes and low output per worker in many small-scale and service industries (for example, laundries and dry cleaning, repair services, barber and beauty shops, cafes and restaurants, and small-scale industrial establishments making clothing or processing foods) and probably also in agricultural tasks on modern commercial farms (casual empiricism suggests that in most of the activities named, equipment, organization, and physical performance are really the same in Mexico as in leading industrial countries). It is hardly reasonable to call such Mexican workers underemployed, especially when in many of these activities one finds fewer workers relative to population in Mexico than in richer countries. The low-opportunity costs of people's time, due to low wages in sectors such as these, in turn help to hold down costs, profit margins, and selling prices (and consequently output as it is usually measured) in activities such as agriculture and retail trade, whether or not small-scale and old-fashioned techniques are used. Thus, it is somewhat circular to say that these people are underemployed because their marginal productivity is low — a labor shortage would create a different price structure, changing the whole picture. It is also worth noting that low productivity in many of these activities would simply represent lags, such as farmers who in 1970 still settled for incomes that a generation before were above the rural average.

From these remarks it is evident that abundance of unskilled labor has had a profound effect on the entire structure of the Mexican economy, through prices and wages, through income and substitution effects on the structure of demand, and through choices of technique. Under these conditions it is practically impossible to separate employment effects in any reliable way from these other effects, especially in regard to what are usually called "underemployment" or "disguised unemployment." It is fairly clear, however, that in recent decades, despite the labor-displacing effects of technical progress, a growing proportion of the

[72] Computed from data in ibid. (1972*b*, p. 184).
[73] Grupo de Estudio del Problema del Empleo (1974, Table 2).
[74] Ibid.

labor force is being drawn into activities producing modern-style goods and services using reasonably up-to-date techniques and equipment. If it went far enough this process could hardly fail to raise the earnings of unskilled labor relative to skilled labor. There is much room for concern, however, because this process is moving slowly and has a long way to go. Whether this process of job creation can get ahead and stay ahead of the growth of the potential labor force will of course depend on special policies that are devised to meet the employment problem, as well as trends in population, advances (and falling costs) of automation, and the country's economic growth performance.

8. Concluding Comments

Major conclusions of this study regarding the causes and character of the employment problem have already been summarized in section 3 and toward the end of sections 2, 6, and 7. Only brief further remarks need be made here.

The employment problem in Mexico does not seem to be quite so serious as has often been alleged. Massive underemployment can only be identified by redefining the problem of low incomes as an employment problem in a manner that does not appear fully legitimate.[75]

Mexico does seem to have a chronic problem in the area of employment and job shortages, as distinct from low incomes. Abundant indications can be found of workers searching for steadier or better jobs, seasonal and frictional unemployment, and women who would like to work but cannot find jobs.

A particularly striking feature of the employment situation — and a point scarcely mentioned in Mexico — is that open and hidden unemployment are both concentrated among women. In 1970 the open unemployment rate among women was more than double the rate for both sexes combined and was nearly three times the rate for men. More generally, it may be only a mild exaggeration to suggest that nearly full employment of the male labor force has been achieved by encouraging men to take any job that is available; by allowing wages and incomes to stay low in many activities so that more people become employed; and by discriminating against women who would like jobs. Almost certainly a further contributing factor has been continuing cultural pressures for women to stay out of the labor force. Despite these pressures, increasing numbers of women have joined the labor force since 1940.

Comparisons of successive censuses yield strong indications that Mexico's overall employment or job shortage problem made its appearance in the years from 1900 to 1930, starting in urban areas where workers (especially women workers) were displaced in large numbers by technical progress. More recently the technological displacement process has spread to agriculture.

Perhaps the most tantalizing finding is that Mexico's employment problem seems to have been in many ways at least as serious by the 1930s as it was in 1970. The problem seems to have been alleviated somewhat from 1940 to 1950, and then worsened somewhat from 1950 to 1970.

Of course, it is not easy to compare the situation in years thirty or forty years apart, not only for lack of sufficient data, but also because so many changes had taken place in between. For example, by 1970 Mexico's labor force had practically doubled, compared with the 1930s, and contained a larger proportion of women; employment included a much larger proportion of paid jobs relative to self- and family-employment; relatively fewer jobs were in agriculture, and more involved complex "modern" activities; a larger percentage of young people were in school; people's job expectations may have changed; and so on. Deficiencies in the data raise great uncertainties regarding employment trends over shorter periods such as 1960-70. Indeed, one might conceivably argue that any seeming deterioration in the employment situation from 1950 to 1970 is illusory, reflecting structural changes that have reduced hidden and seasonal unemployment, without significantly increasing open unemployment. Then again, one might argue in a contrary vein that people's residential locations and expectations have shifted so that today's underemployment is more serious, or at least qualitatively different.

This study is not definitive partly for lack of better data. The methodology has been in places experimental, in others eclectic. Perhaps inevitably, the research has raised many unresolved questions; some of these involve facts and others conceptual issues. By their nature, some of these questions may never be resolved. But hopefully, the overall result is to shed considerable light on an employment situation that turns out to be neither as bad as it is often painted, nor as reassuring as it looks from a quick summary of the figures on open unemployment.

[75] Among other shortcomings, such a redefinition would disguise the possibility of overcoming low incomes through direct redistributive measures, by implying that the problem must be overcome by creating more jobs.

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