

PRELIMINARY REPORT

PN - AA 1/2 - 708  
1318 2016

Evaluation of Employment and Unemployment Statistics  
for El Salvador

Peter Gregory

Estimates of Employment and Unemployment Currently Available

Up until 1980, estimates of employment and unemployment were based on household surveys carried out throughout the national territory. On the basis of these surveys, unemployment rates of 3.8, 6.7, and 16.1 percent were reported for the years 1978, 1979, and 1980 respectively. For the years since 1980, the estimates of unemployment have come from the Planning Ministry's (MIPLAN) Population Division (Dirección de Población). The unemployment rates for the subsequent years have been estimated as follows:

1981	25 percent	1983	33.23 percent
1982	31.25 percent	1984	33.34 percent
		1985	32.65 percent

If these recent unemployment rates are reliable, they would have to be considered truly alarming. Indeed, one might wonder how a society with a third of its labor force in a state of open unemployment could maintain any semblance of social and political stability. While there is no question that the people of El Salvador have suffered a significant decline in income, there are grounds for questioning whether the unemployment rates cited above are an accurate reflection of those that have actually held. In my opinion, these are more likely to represent a substantial overstatement of the true rates of open unemployment. This conclusion derives from a consideration of the manner in which the unemployment figures were developed.

Since 1980, all of the estimates of employment and unemployment represent projections that incorporate a number of assumptions about the growth of the labor force and the structure of the economy. As a base against which these projections are applied is the employment and unemployment data yielded by the last household survey undertaken during the early months of 1980, when agricultural activity and employment are at seasonally low levels. Subsequent changes in un-

ployment are estimated by reference to changes in sectoral output as these appear in the national income measures. The employment level so derived is then subtracted from the estimated labor force that is derived from the base population of the 1971 census and a rate of growth in population of between 2.5 and 3 per-  
 cent per year. / Several objections can be raised regarding this procedure.

First, consider the estimates <sup>of</sup> changes in output over time. The national income statistics are based on measures derived from the modern sector alone. The structure of the economy as between formal and informal sectors is assumed to have remained constant since the last economic census was taken in 1978. Thus, informal sector output is assumed to have increased at the same rate as that of the formal. In fact, it seems more likely that the informal sector has weathered the economic crisis better than the formal and has grown relative to the formal. Certainly it is universally acknowledged that employment has expanded in the informal sector as the formal sector suffered a decline and more recently a slow recovery. What remains in doubt is whether the output of the informal sector also stagnated or declined while employment increased, thus yielding a substantial drop in productivity and income of participants.

There are straws ~~that suggest~~ that support the hypothesis that output in the informal sector did not necessarily follow the trend of the formal. For example, the Ministry of Labor's survey of 1,029 firms in the industrial sector stratified by size of enterprise reported declines in employment that were inversely related to the size of the enterprise. Thus, between 1978 and 1982, establishments with more than 200 employees reported a 22 percent decline in employment while those with between 5 and 9 employees actually reported a 3.6 percent increase. It is quite possible that the declines in the larger enterprises reflect the declining fortunes of the Central American Common Market rather than the decline in domestic demand. To the extent that smaller enterprises, including those in the informal sector, are oriented toward satisfying domestic demand, output levels there need not follow those of the regional export sector.

	Proportion of Production Worker in Mfg. Enterprise by Size							
Year	5-9	10-19	20-49	50-99	100-199	≥ 200		
1978	4.3	5.5	11.6	11.7	17.4	49.5	100.0	
1984	10.6	4.2	8.6	30.3	10.6	35.7	100.0	

One may also speculate about changes in the pattern of demand for final goods during a period in which real incomes were falling. It is possible that consumers might substitute goods of lower quality and price produced in the informal sector for those of the formal. Such a shift in demand would imply an increase in output in the informal relative to the formal sector. Thus, the assumption of constancy in the structure of the economy would lead to an underestimate of the growth (or overestimate of the decline) in GDP and an underestimate of the productively engaged labor force. The other side of the coin, of course, is that for any assumed size of the labor force, the unemployment rate would be overstated.

Second, it is quite likely that estimates of the size of the labor force are exaggerated. As noted earlier, these were derived from the population base given by the 1971 census and a presumed rate of growth. It is now acknowledged by the Population Division of MIPLAN that the earlier forecasts overstated the growth of population as a result of a failure to take into account the rise in mortality rates stemming from the escalation of violence since 1979 and of the sharp increase in emigration. It is now estimated that a number approaching a half million have emigrated. Migration experience throughout the world gives rise to the expectation that the migrant stream is heavily weighted by young people of labor force age. Thus, labor force estimates that fail to take into consideration these two factors will have the effect of overstating its size as well as that of the rate of unemployment.

(The importance of the migration phenomenon became apparent during several of our formal interviews. For example, the president of construction contractors association reported that the industry was suffering a severe shortage of skilled labor in spite of a sharp decline in construction activity. Skilled labor has been migrating abroad in large numbers. This was confirmed by the president of one of the major trade unions of the industry in an interview reported in the local press in which he complained that the vacancies created by the migrating tradesmen were being filled by workers from among the displaced population

to the detriment of the established membership of the union. . Similarly, representatives of the manufacturers association noted that their members were reporting the departure of experienced employees for other countries, mainly the U.S. Informal conversations with Salvadorans reveals a widespread acquaintance with numerous cases of known departures of friends, relatives, or villagers.)

Third, the appropriateness of the results of the 1980 survey as a baseline for projections may also be open to question. As I noted above, that survey was undertaken during months of low agricultural activity with the result that the rate of unemployment reported for the agricultural labor force was at a high level of 26.3 percent. Since agricultural workers made up about 40 percent of the labor force, the overall rate of 16.1 percent is heavily weighted by that seasonal phenomenon. Thus, to treat the seasonal unemployment rate as representative of the annual average rate is to depart from a base that overstates the unemployment of 1980 (or, conversely, understates the employment level). Thus, all subsequent assigned values will also be distorted.

(I leave aside for the moment the whole question of how seasonal interruptions in employment in the rural setting should be treated. Can it be assumed that all time not occupied in agricultural production/<sup>in peak seasons</sup> is available for fruitful employment in other productive pursuits? If not, what proportion would be so available? If the objective is to evaluate the economic welfare of the rural population, factors other than employment may be equally significant, e.g., physical output levels and the internal terms of trade.)

In short, the estimation procedures employed would appear to yield overestimations of the supply of labor and an underestimation of the demand for labor, thus leading to an exaggerated notion of the open unemployment rate.

#### Empirical Straws in the Wind

In the absence of systematic household surveys, it is to be expected that estimates of employment and unemployment will be made on the basis of projections from some baseline. However, such projections should be evaluated by reference

to other sources of information that may make it possible to test the consistency of the projection with other known economic measures. In the brief time I have spent in El Salvador, it would be unreasonable to expect that I could unearth all of the data that might be useful in testing the validity of the "official" employment/unemployment estimates. However, the information I have uncovered supports the contention reported above that those estimates are unduly pessimistic. Let me review the information I have accumulated. In so doing, I can also illustrate the kinds of information that can be useful in assessing labor market tendencies in the absence of direct measures derived from surveys.

Let us consider first the agricultural sector. On the basis of comments made by a number of individuals, one should expect to find a very sharp increase in the degree of underutilization of the rural labor force. Several individuals pointed to the sharp decline in the area devoted to cotton production from a peak of approximately 150,000 manzanas (manzana = .699 hectares) to 30,000. Since cotton is a labor intensive crop, requiring approximately 89 mandays per manzana, the decline in labor requirements would presumably be very substantial. In addition, it is stated that coffee harvestings have fallen by half from their peak levels attained in the late 1970s. Since the labor requirements of harvesting are also very substantial, the fall in output has meant a sharp decline in the duration of the harvesting season. However, a review of published statistics for the agricultural sector suggest that these perceptions are not entirely accurate. What is relevant for the evaluation of the evolution of labor market conditions since 1980 is the acreage or production levels of that year, not of some peak year that preceded 1980.

much of  
In the case of cotton, the decline in area planted antedates 1980. In the 1980/81 crop year, 83.2 thousand manzanas were planted. This declined to 38.0 thousand manzanas in the 1985-86 crop year, a substantial decline, to be sure, but much smaller than that offered in support of calamitous declines in the demand for labor. In the case of coffee, the harvest of 1980-81 amounted to 3.85 million

quintales, a quantity below the peak of 4.2 millions realized in the late 1970s. However, since 1980, harvestings have declined only modestly from the 1980-81 level. In the two subsequent years, harvests were in the 3.6 to 3.8 million quintales range, dipping to only 2.5 million range in 1985-86, but largely to climatic factors that destroyed part of the <sup>crop</sup> crop. For the current/year, harvestings are estimated to amount to 3.6 million quintales. Thus, the low level of last year would appear to be an aberration that is not representative.

Furthermore, there is taking place a change in the structure of output. While output of these two labor intensive crops did decline, that of others expanded. The acreage devoted to sugar, another labor intensive crop, has expanded from 38 thousand in 1980-81 to 60 thousand manzanas in 1985-86. Other labor intensive crops are also expanding in acreage, e.g., melons and watermelons (though from a very low base), bananas, rice, while others are recovering from the lows experienced earlier in this decade. What the net change in agricultural labor requirements has been since 1980, I am not in a position to estimate. However, it does not seem likely that the decline has been so precipitous as to yield an average unemployment rate currently on the order of the 37 percent attributed to the sector. Furthermore, this value does not take into account the probable decline in the labor force of the sector associated with the displacement of approximately a half million rural population from areas affected by the insurgency.

Turning now to information relating to the non-agricultural sector, available data suggest that the estimated decline in employment is exaggerated. The Planning Ministry estimate for the absolute level of non-agricultural employment in 1985 is almost 150,000 short of the 1980 level. Yet, according to data supplied by the Social Security Institute, the number of persons covered by the retirement benefits of the system had recovered the 1980 level by the latter part of ~~1984~~ <sup>last</sup> year and now exceeds by 10-15 percent year-ago levels. Thus, even if the distribution of employment as between the formal and informal sector had remained constant, this would suggest that 1985 levels of employment approximated those of 1980 rather than lying so far below. And if a relatively greater rate of increase has character-

ized informal sector employment, then 1985 employment levels would be expected to have been greater than those of 1980.

Another source of information raises a question regarding the reasonableness of the estimated unemployment rate. One might have expected that the population displaced from combat areas would represent a disadvantaged group in the labor market because of its relatively low levels of human capital as well as of lack of contacts and information in the areas of resettlement. Yet, an extensive survey of the displaced population/undertaken in mid-1985 reports only a 9.3 percent rate of unemployment/among household heads as compared to a 5.5 percent rate prior to displacement. Most of this population has been resettled in proximity to urban centers and has been integrated largely into the urban labor market, although some 16 percent still reported agriculture as the sector of employment. Almost 30 percent reported holding permanent jobs, while/of the households with one member employed in non-regular employment 31 percent had more than one member so employed. The before- and after-displacement occupational distribution of the heads of household is as follows:

Occupation	Percentage distribution	
	Before	After
Unemployed	5.5	9.3
Farmer	50.5	16.2
Artisan	5.5	5.6
Skilled worker	2.6	6.6
Laborer	1.2	2.9
Day laborer	19.9	35.9
Domestic	6.1	7.8
Vendor	2.9	5.9
Other	5.6	9.9

Since the survey did not collect earnings information, we have no way of evaluating the quality of the employments held. However, the above distribution is hardly indicative of crowding into a narrow range of urban activities. In one sense, the high degree of employment among this group is remarkable in view of the fact that it receives a significant non-wage subsidy in the form of food and medical attention. (Contracting Corporation of America, Baseline Survey of the Displaced Population. )

Another straw in the wind that piques my curiosity is the reported changes in the consumption of electricity by class of consumer. Between 1980 and 1984, for example, a sharp decline in consumption of 16 percent is reported for the industrial sector. Over the same interval, increases of 19 and 16 percent are reported for residential and commercial consumers. In view of falling real incomes, one would not normally expect such a vigorous growth in these categories. One possible factor increasing such usage may be the expansion of informal sector productive activities that take place in the home or existing commercial establishments. These observations, in short, would give some support to my earlier comments about the probable expansion of informal sector productive activity relative to formal.

For purposes of assessing labor market trends, though not for assessing the reasonableness of any particular level of unemployment, is the change in listed with the volume of job vacancies/and placements effected by the Employment Service of the Ministry of Labor. Over the period of the early 1980s, these seem to chart rather accurately the direction of change. Vacancies and placements show a decline through 1982 and a subsequent recovery. (As in other countries, the direct number of job applicants appears to be a function of the number of posted vacancies.) While the quantitative importance of these listings is very small, their fluctuations may provide a mirror of changes taking place in the broader labor market. Similarly, the trends in the number of workers covered by the social security system are also suggestive. These are disaggregated by sector of employment. Caution must be exercised in interpreting month-to-month changes due to the treatment of arrearages in payments by employers, however. The number of covered workers is based on the month in which payment is received. Thus, the receipt of two months' levies would inflate the number of registered workers for that month. A moving average of covered workers over several months might prove to be a more reliable basis for charting employment changes in the formal sector.

Finally, there is a quarterly survey of industrial firms, undertaken by the Ministry of Planning, that seeks to establish the direction of change, as well as some magnitudes, in several variables, such as output, employment, inventories, etc. In addition, it seeks out an evaluation by firms of the outlook for many of the same variables for the coming quarter and year. For example, the results for the fourth quarter of 1985 indicate widespread and significant increases in output and employment over the preceding quarter, about 20 percent in each. In spite of the fact that this quarter represents a seasonal high, firms were very optimistic about the first quarter of 1986, forecasting a further increase in output (5 percent) and no change in employment. 1986 was expected to be better year than 1985. (Encuesta de Coyuntura, Evolucion y Expectativas Industriales)

How useful such surveys can be for assessing employment trends depends on several factors that I have not been able to evaluate. First of all, it depends on the representativeness of the sample and a large measure in stability in the identity of the reporting firms. According to the 1985, Q IV report, the sample numbers 210 manufacturing firms drawn from a universe of 1,149. Responses, however, were received from only 151 firms. Quarter to quarter variability in the response ratio and in the identity of responding firms could make it more difficult to interpret the findings. Second, the usefulness of such a survey would have to be tested by determining how accurate past responses have been, particularly the firms' forecasts for succeeding quarters. Since the survey does not yet have a long life, the basis for systematically testing its validity may not yet exist. As indicative of the possible problems, however, is the sharp differences between the Q I, 1986 expectations of the firms with respect to production and the preliminary indicators of industrial production for that quarter issued by the Central Bank. Of 11 industrial groups, 8 reported/substantial reductions in output during the first quarter/ from the level of Q I, 1985. Furthermore, industrial consumption of electric energy declined by 6 percent. Had expected output levels been achieved, one would have expected these to have exceeded year-ago levels. Of course, the economic indicators

may also prove to be preliminary in nature and subject to considerable revision. In short, this survey of manufacturing firms could prove to be a useful indicator of immediately past trends if its reliability can be established.

#### Short-Term Measures for Supplementing Existing Information

The most promising development for providing a reading of labor market conditions is the completion of a household employment survey during the final quarter of 1985. The tabulation of the results by MIPLAN is awaiting the delivery of a new computer with sufficient capacity to manage the information. It is expected that preliminary tabulations will be available in August. I have reviewed the questionnaire that was applied and find that it is quite well constructed and thorough. Apparently, the Ministry had the assistance of a consultant from PREALC (the ILO's Latin American office on employment) in preparing the questionnaire.

The one weakness that I detect is the absence of personnel skilled in labor market analysis to undertake an analysis of the data. It may be worthwhile to consider engaging a person with such skills to review the initial tabulations and to determine whether a more detailed analysis might be worthwhile. It should be noted, however, that this survey will be useful only for purposes of indicating relative distributions of the labor force over various categories. In the absence of a population census or an accurate estimate of the size and distribution of the population, the proper expansion factor for projecting the sample results to the universe is indeterminable.

However, the sampling division of MIPLAN believes that considerable improvement can be made in the sampling frame on which the survey is based. The division head, Sr. Mauricio Alens, believes that such a revision is possible and that it could contribute a substantial improvement in the reliability of the survey results. I am in no position to evaluate the extent of the improvement that can be made in the absence of a complete population census. I would suggest that

an expert in sample design, perhaps from the US Census Bureau, be asked to review the current sampling methodology and the possibilities for effecting a significant improvement. The cost of developing an improved sampling frame is estimated at between 1 and 1.5 million colones.

Obviously, the wisdom of undertaking such an expenditure depends on whether the Ministry will be able to continue to carry out periodic household surveys. Apparently, it is hoped that that will be possible on at least an annual if not a semi-annual basis (thus capturing the principal seasonal variations in labor market activity). The Sampling Division would like to maintain a permanent staff for purposes of effecting the survey, utilizing the same persons for interviewing and coding, thus providing continuous employment and maintaining the acquired skill in effecting the survey. This would clearly be optimal, since there is considerable amount of learning involved in properly applying the interview schedule and interpreting the responses for coding purposes. Thus, the reliability/<sup>and comparability</sup> of the results would depend on maintenance of a high degree of stability in a well trained staff.

The regular administration of such a survey would clearly represent the optimal way of maintaining a continuing monitoring of labor market conditions. The cost of each such survey appears to me to be quite modest, on the order of one million colones for data collection and processing. If MIPLAN is reluctant to commit the resources to a biennial survey, USAID might consider sharing the cost. Since many of the household surveys in the past have been multi-purpose in character, they could also be used to address other issues as well.

While I have discussed this measure as a short-term response, it should be obvious that it represents the optimal long-term approach as well. (I have considered it under "short-term" responses only because such a survey has been already completed and because the Ministry apparently is considering the feasibility of regularizing them.) While all of the other kinds of information that are available are useful and indicative of directions of change in employment condi-

tions, none are able to provide an accurate quantitative measure of change. In particular, they overlook activity in the informal sector. For purposes of this sector, a household survey is likely to be the only reliable way of determining employment conditions in that critical sector.

It should be mentioned that there is a program for the promotion of small enterprises (PROPEMI, a division of FUSADES). They undertook a survey of small and micro-enterprises with a view to determining what needs they had, eg. financing, technical assistance, skill enhancement, etc., and to undertake to response to those needs. These are all enterprises that would be considered "informal" sector producers and providers of services. Over time, this entity could become a valuable source of information leading to an improved understanding of the role of the informal sector in the economy. Alternatively, its universe of firms could serve as a basis of special surveys designed to illuminate various aspects of their operation. (The concept of "firm" is used loosely here, since PROPEMI considered any small unit, including itinerant vendors, as firms.) However, it is unlikely that such a survey would cast much more light on the employment conditions of the informal sector than would a well-executed and designed household survey.

W 1

A List of Persons Interviewed and their Institutional Affiliation

Mauricio Allens Umaña	Jefe de Unidad de Investigaciones Muestrales Ministerio de Planificación
Raymundo Alvarado	Dirección de Población Ministerio de Planificación
Guillermo Guandique	Cámara Salvadoreña de la Industria de la Construcción (CASALCO)
Edgar Soto	Jefe de Sección de Estadísticas Instituto Salvadoreño del Seguro Social (ISSS)
Mario Molina	FUSADES
Mercedes Llort	"
José Luis Avalos	PROPEMI (FUSADES)
Henry Quezada	Dirección General de Economía Agropecuaria (MAG)
Soto Gómez	Oficina de Planeación Agropecuaria (OSPA)
Lic. Alberto Padilla	Cámara de Comercio Salvadoreña
Lic. Rigoberto García Velado	Asociación Salvadoreña de Industriales (ASI)
Lic. Pastor Sanchez	Banco Central
Kenneth Ellis	USAID
Mike Wise	"
David Thompson	"