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Income Distribution in El Salvador

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## Income Distribution in El Salvador

### I. Introduction

This study undertakes a review of data that purport to measure the income of households and, thus, to establish how income is distributed among households in El Salvador. Sources of information are severely limited. An income and expenditures survey was undertaken in 1977 and provides a sort of benchmark against which subsequent surveys can be compared. In recent years, the periodic multiple purpose household survey of the Unidad de Investigaciones Muestrales in MIPLAN has attempted to secure from households measures of household income, and the Unidad does process the information to derive the distribution of income. Finally, in 1991-92, an income and expenditures survey, the Encuesta Nacional de Ingresos y Gastos Familiares (ENIGF), was conducted that provides the most recent comprehensive information about household finances.

It would be nice to be able to affirm that attempts to gain a faithful reproduction of household finances are blessed with a high degree of success. Lamentably, this is not the case, especially in the less developed countries of the world. In these countries, the principal instrument to establish income levels is income and expenditure studies. However, these usually evidence large margins of error, especially in the reporting of income. It is not unusual to find a substantial gap between the income reportedly received by households and income measurements originating with the national income accounts that are derived from the side of production. Generally, underreporting of income appears to be largest at the two extremes of the income distribution, precisely the points that are viewed as the most critical in discussions of the degree of equity evinced. (e.g., the top decile of

households received an income "x" times that of the bottom decile.) The difficult problem that students of income distribution thus face, is how to allocate over households the difference between the income flowing to households according to the national accounts and the income reported by the household surveys. Since any allocation is bound to have an element of arbitrariness, rather different scenarios can be produced by individuals using the same set of information.

The data for El Salvador prove not to be an exception to the rule. The data at hand suggest a very considerable understatement of income by all income groups. This, in spite of the fact that the survey data are drawn from only the urban population, one that might be expected to have a more easily measured income than the rural population that receives a substantial income in kind or in goods produced for household consumption. The problems posed by the Salvadoran data will become clear as we present and comment on the various survey results.

## II. A Comparison of Survey Results

We begin with an international comparison of the income distributions of 21 other countries with that of El Salvador. Table 1 presents the shares of income accruing to each quintile of households as well as to the ten percent of households with the highest incomes. According to this basis of comparison, the income distribution of urban El Salvador would hardly qualify as either among the most egalitarian nor among the most unequal. Of the twenty-one other countries 8 reported a smaller share of income flowing to the lowest 20 percent of households, but, on the other hand, over half of the others, 12 of 21 reported a larger share flowing to the top quintile. The same number, 12 reported a larger share accruing to the top ten percent of households.

**Table 1**  
**International Comparison of Percentage Shares of**  
**Household Income by Quintile Groupings of Households**

Country <sup>1</sup>	Year	Percentage Share of Household Income by Quintiles					
		Lowest 15%	2nd	3rd	4th	5th	Highest 10%
Bangladesh	1981-82	6.6	10.7	15.3	22.1	45.3	29.5
India	1975-76	7.0	9.2	13.9	20.5	49.4	33.6
Kenya	1976	2.6	6.3	11.5	19.2	60.4	45.8
Zambia	1976	3.4	7.4	11.2	16.9	61.1	46.4
Sri Lanka	1980-81	5.8	10.1	14.2	20.3	49.8	34.7
Indonesia	1976	6.6	7.8	12.6	23.6	49.4	34.0
Philippines	1985	5.2	8.9	13.2	20.2	52.5	37.0
Ivory Coast	1985-86	2.4	6.2	10.9	19.1	61.4	43.7
Thailand	1975-76	5.6	9.6	13.9	21.1	49.8	34.1
Guatemala	1979-81	5.5	8.6	12.2	18.7	55.0	40.8
El Salvador	1990-91	3.4	8.4	13.4	20.6	54.2	38.4
Peru	1972	1.9	5.1	11.0	21.0	61.0	42.9
Mauritius	1980-81	4.0	7.5	11.0	17.0	60.5	46.7
Botswana	1985-86	2.5	6.5	11.8	20.2	59.0	42.8
Costa Rica	1971	3.3	8.7	13.3	19.8	54.8	39.5
Brazil	1983	2.4	5.7	10.7	18.6	62.6	46.2
Malaysia	1973	3.5	7.7	12.4	20.3	56.1	39.8
Mexico	1977	2.9	7.0	12.0	20.4	57.7	40.6
Panama	1973	2.0	5.2	11.0	20.0	61.8	44.2
Argentina	1970	4.4	9.7	14.1	21.5	50.3	35.2
Korea Rep.	1976	5.7	11.2	15.4	22.4	45.3	27.5
Venezuela	1970	3.0	7.3	12.9	22.8	54.0	35.7

Notes: 1. Countries are listed in their approximate ranking with respect to per capita income.

Sources: The World Bank, World Development Report, 1988 and World Development Report, 1991.

However, it should be kept in mind that the distributions for the other countries presumably are national in scope and include a rural population. Whether the omission of the rural population of El Salvador significantly biases its distribution cannot be determined. However, we may observe that the income and expenditure study undertaken in El Salvador in 1977 reports insignificant differences between the income distribution for all urban areas and the country as a whole.<sup>1</sup> In short, it would appear from these data that the the income distribution in El Salvador does not depart widely from that observable in other developing societies.

We now consider a comparison of the two income and expenditures studies undertaken in El Salvador in 1977 and 1990-91. While the 1977 survey was national in scope, the recent one is limited to the urban areas. Fortunately, the published results of the earlier survey report the distribution for the urban sector separately and thus permit a comparison of the two surveys. Table 2 presents the distribution of monthly household income by deciles in the two years. On the face of it, it would appear that over this interval the distribution of income has become decidedly less egalitarian. In 1977, the bottom decile captured 2.1 percent of total household income while in the recent period, its share had declined to .98 percent. Conversely, the share of the top decile is shown to have increased from 31 to over 38 percent. Indeed, all of the deciles 1 through 8 lost ground relative to the top two, which, together, increased their share of income from 43.9 to 54.2 percent. In contrast, the lowest 40 percent of households ostensibly saw their share of income decline from 16.4 to 11.9 of the total. Since per capita income of the country suffered a substantial decline over this interval, on the order of 25 percent according to data attributed to the Central Bank and MIPLAN, the

**Table 2**  
**Distributions of Household Monthly Income by Deciles, 1977 and 1990-91**  
**(percent)**

Deciles	1977	1990-91
1	2.1	.98
2	3.4	2.45
3	5.2	3.62
4	5.7	4.80
5	7.3	6.06
6	9.1	7.35
7	10.6	9.08
8	12.7	11.51
9	13.8	15.81
10	<u>30.1</u>	<u>38.36</u>
Total	100.0	100.02

**Sources:**

Ministerio de Planificacion, Unidad de Investigaciones Muestrales, Encuesta Nacional de Presupuestos Familiares (agosto 1976 - julio 1977). Distribucion del ingreso por deciles de familias, April 1978

\_\_\_\_\_, Encuesta Nacional de Ingresos y Gastos Familiares 1980-91. Tabulations prepared by the Unidad.

decline in the share of income flowing to the lower deciles, if accurate, would not begin to provide a true measure of the deterioration of living standards among the country's poor.

In Table 3 we present a comparison of the distribution as yielded by the above 1990-91 ENIGF survey and that by the periodic multiple purpose household survey, the Encuesta de Hogares de Propósitos Múltiples (EHPM). The latter covers much of the same interval covered by the former. As can be seen, the proportional distribution of income appears to be more egalitarian than that of the income and expenditures study, though not as egalitarian as the 1977 survey. However, the multiple purpose survey failed to capture as much income as the more carefully targeted income and expenditures study. The latter reported 23.7 percent more income, in total, than the former. Only the first decile reported a larger income in the multiple purpose survey than in the income and expenditures study. The absolute and relative gaps between the incomes measured by the two surveys increase steadily as one moves from the lower to the highest deciles. In the highest decile, the gap is by far the largest, equal to 43 percent of the income captured by the multiple purpose survey.

The concept of household income applied in the surveys includes remittances received by households from abroad. The question, therefore, arises as to whether the effect of these is to significantly alter the distribution that arises out of domestic productive activity. In Table 4 we present the absolute value of remittances received and their relative importance in household income. As can be seen, their relative importance is greatest for the lowest income decile, at almost 10 percent of total income, and then declines as one moves to higher and higher income deciles. For urban

**Table 3**  
**Two Distributions of Household Monthly Income by Deciles, 1990-91**

Decile	Percent		Colones (thousands)		IyG + EHPM
	IyG	EHPM	IyG	EHPM	
1	.98	1.50	11,273	14,031	0.803
2	2.45	3.01	28,281	28,100	1.006
3	3.62	4.12	41,794	38,515	1.085
4	4.80	5.17	55,391	48,297	1.147
5	6.06	6.49	70,007	60,654	1.154
6	7.35	7.92	84,852	73,946	1.147
7	9.08	9.68	104,856	90,444	1.593
8	11.51	12.19	133,005	113,876	1.168
9	15.81	16.81	182,579	157,026	1.163
10	38.36	33.10	443,059	309,123	1.433
<b>Total</b>	<b>100.02</b>	<b>99.99</b>	<b>1,155,097</b>	<b>933,905</b>	<b>1.237</b>

**Sources:**

Encuesta de Ingresos y Gastos Familiares, 1990-91, *op.cit.*

MIPLAN, Unidad de Investigaciones Muestrales, Encuesta de Hogares de Propósitos Múltiples, 1991. Tabulation prepared by the Unidad.

**Table 4**  
**Monthly Income and Remittances by Decile, 1990-91**

Decile	Average Household Income (colones)	Total Household Income (colones)	Total Remittances (colones)	Percent of Household Income	Average Remittance per Household (colones)
1	210	11,273,182	1,094,490	9.7	20.40
2	527	28,281,303	2,020,105	7.1	37.64
3	779	41,793,729	3,180,799	7.6	59.27
4	1,032	55,391,466	4,253,437	7.7	79.26
5	1,305	70,006,698	4,615,702	6.6	86.01
6	1,581	84,852,286	4,370,724	5.2	81.45
7	1,954	104,856,282	5,589,246	5.3	104.15
8	2,479	133,004,714	7,807,287	5.9	145.49
9	3,402	182,578,578	10,229,616	5.6	190.63
10	8,256	443,058,746	20,108,145	4.5	374.71
Totals	2,153	1,155,096,985	63,269,550	5.5	117.90

Source:

Encuesta de Ingresos y Gastos Familiares 1990-91, *op.cit.*

households as a whole, remittances accounted for 5.5 percent of household receipts.

Does the flow of remittances significantly affect the distribution of income? Is income derived from domestic productive activity more or less evenly distributed than total income inclusive of remittances? The answer appears to be that the subtraction of remittances from total receipts has an imperceptible impact on the distribution. While the relative importance of remittances appears to be greatest for the lowest decile, their absolute value looms so insignificant relative to the aggregate income of households that it leaves the distribution of income unaffected.

One of the peculiarities of the household surveys is the treatment of live-in maids. They are recorded as members of the household. Consequently, their wages are included as part of the income of the household, resulting in the double counting of those wages, first as part of the income of the family employing the maid and then as an income of the maid. The maid is also counted as one of the employed members of the household. Apparently, this treatment of maids is in conformity with the practices recommended by the United Nations.

However, it does introduce a measure of distortion in the statistics on income distribution and its correlates. The income of households employing maids, those in the upper deciles, will be exaggerated as will the number of employed persons in a household. On the other hand, the inclusion of maids results in a reduction in the income per capita of households. Fortunately, the impact of the maids' inclusion is close to negligible in most cases. I have made an attempt to estimate the adjustments that would follow the exclusion of maids from some of the tabulations.<sup>2</sup> For example, the share of

income accruing to the top, or tenth, decile declines only marginally from 38.6 to 38.09 percent of the total while the share of the first decile rises by only one-one hundredth of a percentage point to .99 percent.

Most of the tables of this report will not reflect the omission of maids for two reasons. For purposes of comparison with the 1977 income and expenditure study, we leave maids in in order to provide the same basis of comparison of the two surveys. For purposes of some of the other tables, it has not been possible to introduce an adjustment due to the manner in which the data were tabulated. In those cases where maids have been excluded, a note to that effect is provided.

### III. The Correlates of Income Shares

In this section we explore some of the factors associated with the income shares received by households. The first observation concerns the sex of the principal income earner of the household. Households in which the principal income earner is a woman tend to fare less well than those in which that role is fulfilled by a male. For example, a household with a female principal bread winner is twice as likely to fall in the lowest decile than one headed by a male. Table 5 presents the distribution of households by sex of the principal earner. As can be seen, the female distribution departs most widely from that of the male at the two extremes of the distribution. 16 percent of the households with males as principal income recipients are in the bottom two deciles as compared with 27.1 percent of those with females. Conversely, 22.2 percent of the households with males and 16.1 percent of those with females as principal income recipients are found in the top two deciles.

A second factor associated with the place of a household in the income distribution is, as might be expected, the education of the principal income

**Table 5**  
**Distribution of Household by Sex of Principal Income Recipient**

Sex	Total	Decile of Households										
		1	2	3	4	5	6	7	8	9	10	
<b>Total</b>												
Number	53,663	53,663	53,663	53,663	53,663	53,663	53,663	53,663	53,663	53,663	53,663	53,663
Percent	100.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
<b>Male</b>												
Number	343,268	24,822	30,044	34,103	33,395	36,697	36,307	36,457	35,280	37,430	38,733	
percent	100.0	7.2	8.8	9.9	9.7	10.7	10.6	10.6	10.3	10.9	11.3	
<b>Female</b>												
Number	193,360	28,841	23,619	19,560	20,268	16,966	17,356	17,260	18,383	16,233	14,930	
Percent	100.0	14.9	12.2	10.1	10.5	8.9	9.0	8.9	9.5	8.4	7.7	

Source: Tabulations prepared by the Unidad de Investigaciones Muestrales.

recipient. Over two-thirds of the households in the first decile have as their principal income recipient a person who is likely to be functionally illiterate, that is, has had no formal schooling or reports three or fewer years of schooling. (See Table 6) As can be seen, females suffer from educational deprivation more widely than men, a factor that helps explain the higher incidence of very low household incomes when women constitute the principal income recipient.

A third factor is the size of household. There is a strong direct association between the number of persons in the household and its position in the distribution. Whereas fully 49 percent of the households in the bottom two deciles of the income distribution reported no more than two members, this proportion declines monotonically until, in the tenth decile, only 7 percent of the households are as small. Conversely, while only 14.6 percent of the households in the first decile have 6 or more members, fully 43.2 percent of those in the tenth decile do so. (See Table 7) However, it should be recalled that part of the large size of wealthier households is due to the employment of live-in maids. Unfortunately, we have no way to adjust Table 7 in order to exclude them. On the other hand, their exclusion would not appear to alter the general observation of a direct association of income with size of household. (See the discussion of Table 14 for estimates of the adjusted size of household in the top four deciles.)

The positive relation between size of household and income appears to be, in very large part, a function of the number of income recipients in the household. Only a quarter of the households were limited to only one income recipient. Another third boasted two recipients while almost 40 percent reported three or more. Unfortunately, the tabulations provided by the Unidad

**Table 6**  
**Income Distribution of Households by Years of Schooling Completed by the Principal Income Recipient**

Sex and Years of Schooling	Number of Households	Deciles of Households (percent)										
		1	2	3	4	5	6	7	8	9	10	
<b>All Households</b>	<b>536,628</b>	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
None	89,466	25.9	17.7	14.5	12.1	6.5	7.2	5.5	5.2	2.5	2.8	2.8
1-3	86,505	15.7	12.3	15.7	11.1	12.5	8.4	7.7	9.2	5.1	2.2	2.2
4-6	131,301	6.8	12.7	12.4	11.8	11.2	12.3	10.7	8.4	8.0	5.5	5.5
7-9	74,943	6.0	9.8	8.1	14.7	11.8	15.1	10.0	11.3	9.0	4.1	4.1
10-12	85,840	2.9	3.5	4.1	6.7	11.0	10.4	16.1	13.6	16.6	15.1	15.1
13 and over	68,573	1.3	-	1.7	1.4	5.9	5.0	9.9	14.3	22.6	37.8	37.8
<b>Male</b>	<b>343,268</b>	7.2	8.7	9.9	9.7	10.7	10.6	10.6	10.3	10.9	11.3	11.3
None	43,012	24.2	18.2	15.5	14.0	7.8	6.6	3.6	5.4	2.1	2.6	2.6
1-3	53,315	12.6	11.5	17.8	10.0	12.6	9.3	8.8	8.5	6.2	2.8	2.8
4-6	88,262	4.6	12.0	11.5	11.5	10.7	13.9	12.7	10.0	8.7	4.4	4.4
7-9	55,627	4.1	8.4	7.4	14.0	13.7	16.5	10.6	12.3	8.9	4.0	4.0
10-12	54,167	1.8	1.5	5.3	6.4	13.6	9.0	16.4	12.9	17.8	15.3	15.3
13 and over	48,887	0.8	-	1.7	1.2	4.5	4.5	8.6	11.9	22.3	44.4	44.4
<b>Female</b>	<b>193,076</b>	4.9	12.2	10.1	10.5	8.9	9.0	8.9	9.4	8.4	7.7	7.7
None	46,849	27.3	17.1	13.3	10.3	5.4	8.0	7.2	5.0	3.0	3.3	3.3
1-3	32,743	20.9	13.7	12.4	13.2	12.3	6.8	6.0	10.1	3.4	1.1	1.1
4-6	43,316	11.7	14.3	14.7	12.3	12.3	9.1	6.6	5.3	6.4	7.4	7.4
7-9	19,669	11.2	13.6	9.1	17.3	6.8	11.1	8.4	7.9	8.8	5.8	5.8
10-12	30,937	4.5	6.9	2.1	6.6	6.2	13.3	15.8	15.2	14.8	14.4	14.4
13 and over	19,562	2.7	0.3	1.8	1.7	9.3	6.0	12.6	20.5	23.5	21.5	21.5

Source:

Tabulation prepared by the Unidad de Investigaciones Muestrales

**Table 7**  
**Distribution of Households**  
**by Number of Household Members and Deciles**

Decile	Number of Households	Number of Household Members						
		1	2	3	4	5	6	7 or more
1	53,663	23.4	25.6	14.0	12.7	9.7	6.3	8.3
2	53,663	12.6	21.4	18.4	15.7	13.4	8.6	9.9
3	53,663	12.5	11.8	14.4	16.6	19.2	11.7	13.7
4	53,663	6.6	15.2	14.4	21.1	18.7	9.4	14.7
5	53,663	5.7	13.1	15.1	18.1	22.3	7.3	18.4
6	53,663	3.3	8.7	13.5	22.2	19.0	14.1	19.2
7	53,663	0.8	8.0	17.0	20.9	22.9	14.4	15.9
8	53,663	2.1	6.3	14.7	20.4	19.5	15.5	21.5
9	53,663	0.2	8.2	11.2	22.5	22.1	17.2	18.6
10	53,663	1.7	5.4	9.4	15.0	25.4	19.5	23.7
<b>Total</b>	<b>53,663</b>	<b>6.9</b>	<b>12.4</b>	<b>14.2</b>	<b>18.5</b>	<b>19.2</b>	<b>12.4</b>	<b>16.4</b>
<b>Average Household Income (colones)</b>	<b>2,153</b>	<b>855</b>	<b>1,333</b>	<b>1,823</b>	<b>2,336</b>	<b>2,432</b>	<b>2,796</b>	<b>2,583</b>

Source:

Tabulations prepared by the Unidad de Investigaciones Muestrales.

did not relate the number of income recipients to the decile of the income distribution in which the household fell. Instead they related the number of income recipients to the level of monthly expenditures. However, since income and expenditures are closely related, the latter can serve as a satisfactory proxy for the former. The findings are recorded in Table 8. Fully two-thirds of the households reporting monthly expenditures under 500 colones had no more than a single income recipient while of households with expenditures at 4,500 colones and over, only 6.6. percent were so limited. Conversely, of the latter households, almost a quarter reported the presence of 5 or more income recipients. However, as before, this latter observation is distorted by the inclusion of live-in maids as household income recipients. Again, though, their omission would not alter significantly the general conclusion derived from Table 8 that high incomes are not a function solely of high salaries or property incomes but also of the larger number of individual members contributing to the income of the household.

To what extent does the distribution of household incomes provide a full and faithful indicator of differences in economic welfare within the population? It is to this question that we now turn.

### III. Income Distribution and Economic Welfare

While crude household income data may provide a preliminary view of the relative welfare of different population groups, they cannot be construed to provide an adequate basis for evaluating the differences in economic welfare of these groups. In the first place, household incomes in most less developed countries tend to be underreported with underreporting being greatest at the two extremes of the income distribution. The gap between national income as estimated by the national income accounts and that derived from household

**Table 8**  
**Household Monthly Expenditures by Number of Income Recipient**

Expenditure s (colones)	Households by Number of Income Recipients per Household						
	Total Number	0	1	2	3	4	5 or more
		percent					
less than 500	29,984	6.1	60.9	22.9	8.8	1.4	0
500 - 999	83,036	2.4	46.4	35.4	11.3	2.5	2.0
1,000 - 1,599	120,393	1.5	34.2	36.2	17.1	6.9	4.0
1,600 - 2,199	91,672	0.4	19.0	39.9	22.1	10.3	8.2
2,200 - 2,999	76,512	0.3	16.8	37.8	21.8	13.2	10.2
3,000 - 4,499	68,486	0	9.6	29.0	28.4	19.5	13.5
4,500 and over	66,545	0	6.6	20.2	28.6	21.3	23.4
Totals	536,628	1.2	25.9	33.3	20.1	10.8	8.6

income data frequently exceeds 10 percent of the former. Students of income distribution thus face the difficult task of allocating the "missing income" to the various income deciles according to some set of assumptions considered to be reasonable. In the second place, economic welfare may be more accurately measured by reference to the consumption of households rather than to income. Finally, household income may be an unreliable indicator of welfare if the size of households at different income levels reveals substantial variations. If size of household does indeed vary substantially, then per capita measures rather than household values might provide a more realistic basis of comparison of economic welfare within the population.

Because the 1990-91 income and expenditures study was limited to only the urban areas of El Salvador it is not possible to judge the degree to which the reported incomes fall short of the values for national income that are derivable from the national accounts. (We will return to a comparison of the survey data with the national income measurements at a later point in this paper.) However, there are grounds for inferring that substantial amounts of income were not captured by the survey. This inference can be drawn from a comparison of recorded household expenditures with reported incomes. This comparison appears for each decile in Table 9. As can be seen, recorded expenditures exceed reported income for all but the tenth decile.

Particularly striking is the gap between the two measures in households at the lower end of the income distribution. For example, households in the lowest income decile reported expenditures almost four times their income. Those in the second decile reported expenditures fully two times their reported income. The relative excess of expenditures over income becomes progressively smaller as one moves to higher income groups. However, only the

**Table 9**  
**Distribution of Income and Expenditures**  
**Among Households by Deciles<sup>1</sup>**

Deciles	Income (colones)	Percent of Total	Expenditure s (colones)	Percent of Total	Ratio of Expenditure s to Income
1	11,273,182	.99	44,326,996	3.15	3.93
2	28,281,303	2.48	59,653,626	4.24	2.11
3	41,793,729	3.66	72,863,676	5.18	1.74
4	55,391,466	4.86	81,933,730	5.82	1.48
5	70,006,698	6.14	102,646,610	7.30	1.47
6	84,852,286	7.44	114,217,913	8.12	1.35
7	104,147,18 6	9.13	139,746,565	9.93	1.34
8	131,586,40 2	11.53	159,761,138	11.36	1.21
9	179,033,09 9	15.69	207,160,756	14.72	1.16
10	434,549,47 6	38.09	424,596,338	30.18	0.977
Totals	1,140,914, 828	100.02	1,406,907,3 46	100.0	1.23

**Notes:**

1. For purposes of this table, income of the deciles 7 - 10 have been adjusted to omit the wages estimated to have been paid to live-in maids.

top income group reports income in excess of expenditures, suggesting a "savings rate" of only 2.3 percent of gross income for that decile (after adjusting household income to omit the earnings of maids) and one that is smaller than would normally be expected.<sup>5</sup> Since it is unlikely that households can actually realize consumption levels so greatly in excess of their incomes, one is led to conclude that incomes must be substantially underreported.

That they should be underreported can be attributed to various possible factors. Among lower income groups, income is less likely to be derived from a permanent employment that yields an unvarying income from one accounting period to another. The larger the number and the more irregular the sources of income, the more likely that some income will be overlooked in the reporting process. Another source of underreporting may be attributable to a lack of complete information at the disposal of the informant. If the household informants are not the actual income producers themselves the information given the interviewer may be uninformed. Among higher-income households, an additional consideration may come into play in the reporting of income. To the extent that respondents lack confidence that the information given the survey interviewers will remain confidential, the greater will be the incentive to understate income lest information regarding the household's true income find its way into the hands of the government's tax collectors. It would seem that the distribution based on incomes yields a gap between the extremes that is greater than that which is likely to exist in fact. The observation of expenditure levels almost four times the reported income in the bottom decile bespeaks of a gross understatement of income. Since actual income in the top decile cannot reasonably be thought to be four times greater than the reported

(since the top decile would then account for something on the order of an unlikely three-fifths of total urban household income), this implies a narrower gap in the incomes of the extreme deciles than the data evince.

In any case, we would hold that expenditures are likely to be a more accurate guide to the actual welfare of households. After all, it is the level and composition of consumption that provides a more realistic indicator than does reported income of the degree of deprivation undergone by a household. Thus, in Table 10 we turn to expenditures to provide us with an alternative basis of comparing economic welfare of households. As suggested above, the gap between deciles as measured by consumption is considerably narrower than the income gap. Whereas reported income in decile 10 was 38.5 times greater than that in decile 1, the ratio of aggregate expenditures of the two extreme deciles narrows to only 9.6 to 1. The share of decile 1 in total expenditures rises to 3.15 percent as opposed to its one percent share of income. The share of decile 10 falls from 38.09 percent of income to 30.18 percent of aggregated expenditures. For the bottom 40 percent of households, their share of expenditures stands at 18.39 percent of the total as against 11.99 percent of aggregate income.

Most discussions and analyses of economic welfare of a country's citizens center are based on comparisons of household incomes or expenditures. This can be expected to yield good approximations of welfare differences as long as it can be assumed that there are only small differences in the size of households across the gamut of observable incomes. However, if the size varies substantially over the various deciles, household income differences may yield either an understated or an exaggerated measure of welfare differences.

In the case of El Salvador, we reported earlier that there do appear to be

significant differences in the size of households that may distort impressions of welfare differences. Table 10 provides a startling change in the relative values as one takes account of variations in the size of households. For example, when income per capita within deciles is derived, the gap between the top and bottom deciles shrinks by almost 36 percent over that for household incomes, reflecting the smaller size of households in the first decile. The ratio of the tenth to the first decile falls from 38.5 to 24.5 to one as we shift from a per household to a per capita basis of comparison.

A glance at the columns recording expenditures provides a further narrowing of the gap. Because expenditures exceeded incomes in an amount that stood in an inverse relationship to the size of household income, we reported a narrowing in the differential between the extremes of the income structure. This is reflected in Table 10 in the ratio of expenditures per household of the tenth to the first decile of 9.58. When we further adjust for the size of household, the differences in consumption per capita shrink even further. The ratio of the top to the bottom decile falls to only 6.1 to one, a ratio much smaller than one would normally anticipate. From this observation one would be led to conclude that welfare differences among households are far narrower than is suggested by the crude household income data.

Indeed, the per capita expenditures calculations suggest that a large proportion of households reveal only modest differences. Per capita expenditures in the sixth decile are only two-thirds greater than those in the first. Only in the seventh decile do per capita expenditures barely exceed twice those of the bottom decile. The seventh and eight deciles also evince only a small difference in expenditures. Significant increases then appear as between successively higher deciles. In short, according to the recorded

**Table 10**  
**Average Household and Per Capita Monthly Income and Expenditures by Decile<sup>1</sup>**  
**(colones)**

Decile	Average Income		Average Expenditures	
	Household	Percapita	Household	Percapita
1	210	66	826	260
2	527	143	1,112	301
3	779	184	1,358	321
4	1,032	238	1,527	352
5	1,305	285	1,913	418
6	1,581	324	2,128	436
7	1,938	405	2,604	544
8	2,452	498	2,977	604
9	3,336	684	3,860	792
10	8,098	1,619	7,912	1,582
Average	2,150	478	2,622	589
Ratio of Decile 10 to Decile 1	38.5	24.5	9.58	6.09

**Notes:**

1. Incomes and expenditures of households in deciles 7 - 10 have been adjusted to omit live-in maids and their wages.

data, within over 80 percent of the urban households in El Salvador, one finds only modest degrees of inequality in per capita expenditures, and, by extension, in per capita incomes.

A comparison of the recent income and expenditures survey with that of 1977 permits a calculation of the changes in per capita incomes that have occurred as recorded by the two surveys. For purposes of this comparison, in order to maintain comparability of the two surveys, live-in maids are not excluded from the most recent survey. Table 11 records the change in per capita incomes expressed in real terms for each decile. As can be seen the latest survey would suggest that a substantial decline appears to have taken place, over 51 percent on average for the sample as a whole. Among the deciles, the range of the negative values is fairly narrow, between -59.1 and -64.1 percent. However, the negative size of the change is directly related to the level of income; the smallest loss is suffered by those with the least income.

As we noted earlier, however, reported income may not be a reliable indicator of the actual income received by a household. We noted that household expenditures exceed reported income in all but one stratum in 1990-91. Thus, it may be instructive to examine the changes in expenditures that have occurred since 1977. (See Table 12) First, however, it is noteworthy to point out the relative values of income and expenditures in the two survey years. The grouping of deciles conforms to that appearing in the published report for 1977. While expenditures outrun incomes over the bottom deciles in 1977, the margin of difference is significantly smaller in the earlier year. For the top three deciles, income exceeds expenditures in 1977, but the reverse is true in 1990-91. These observations suggest that the 1977 survey

**Table 11**  
**Real Per Capita Incomes, 1977-1990**

Decile	Income (Colones) of 1977		Percent Change
	1977	1990-91	
1	18.64	7.62	-59.1
2	34.45	16.45	-52.2
3	48.73	21.25	-56.4
4	61.63	27.48	-55.4
5	77.79	32.88	-57.7
6	97.05	37.35	-61.5
7	123.91	46.60	-62.4
8	158.36	57.03	-64.0
9	211.96	77.05	-63.6
10	480.63	172.38	-64.1
Total	112.01	54.71	-51.2

**Note:** The deflator used is the change in the consumer's price index between 1977 and April 1990 - March 1991. With 1977 = 100, the index stood at 866.46.

**Sources:**

1977: Ministerio de Planificacion, Unidad de Investigaciones Muestrales, Encuesta de Presupuestos Familiares, Agosto 1976 a Julio 1977, April 1978.

1990: Tabulations prepared by the Unidad de Investigaciones Muestrales.

**Table 12**  
**Real Per Capita Income and Expenditures**  
**1977-1990**

Deciles	Per Capita Income (1977 Colones)		Percent Change	Per Capita Expenditures (1977 Colones)		Percent Change
	1977	1990-91		1977	1990-91	
1	18.64	7.62	-59.1	34.87	30.01 <sup>c</sup>	-13.9
	Ratio of Expenditures to Income			1.87	3.94	
2 - 7	72.41	31.18	-56.9	88.49	46.23	-47.8
	Ratio of Expenditures to Income			1.22	1.48	
8 - 10	272.38	104.32	-61.7	233.99	108.84	-53.5
	Ratio of Expenditures to Income			.86	1.04	
Total				116.58	66.71	-42.8

Sources:

See Table 11

may have been more successful than the 1990 in capturing a larger share of household incomes.

The comparison of real per capita expenditures yields the expected reduction in the degree of erosion demonstrated by the income comparison. The smallest loss is reported by the bottom decile, only 14 percent. The losses become progressively larger as one moves toward the higher deciles. For all households, per capita expenditures decline almost 43 percent on average.

Regardless of which measure of the decline in per capita real income one chooses, that of income at -51.2 percent or of expenditures at -42.8 percent, one is faced with the same dilemma that we noted in our discussion of the course of wages during the 1980s. We noted that the decline in real wages of over 50 percent did not seem to be consistent with the decline in per capita GDP which official sources placed in the neighborhood of 15 percent between 1980 and 1990. According to the Central Bank's national income accounts, the 1990 per capita income figure is calculated to have declined by 22 percent since 1977, still a far cry from the decline recorded by the household surveys.

These findings, of course, beg the question of which set of data, if any, can be trusted to provide a faithful portrayal of reality. We do not pretend to be able to offer a definitive judgment regarding the surveys or the national accounts, but there are some observations that can be offered about the measures employed in both. In the section that follows, we take a closer look at these.

#### IV. An Evaluation of Survey Findings

We have held above that the income and expenditures study appears to have failed to record a substantial proportion of household incomes and that the

expenditure levels recorded are likely to reflect a closer approximation of actual household income levels. Support for this view can be found in comparisons of our household data with those deriving from the national accounts. As a first cut consider the per capita income reported by the 1990 survey as compared with per capita net national income. From national account data prepared by the Central Bank and provided to us by the Economics Office of A.I.D./El Salvador, we derive a per capita national income for 1990 of approximately 7,120 colones. This compares with an annual per capita income of only 5,736 colones as yielded by the sampled households, or only 80 percent of the former. Since urban incomes are likely to exceed the average for the whole country that includes rural incomes, it would seem that the survey understated actual incomes by an even larger margin. In 1977, the urban survey per capita income exceeded the national average by a full 58 percent. Because the relative weight of rural areas has declined since 1977 we would not expect urban incomes in 1990 to surpass the national average by so great a margin. However, if the margin were only 45 percent, as opposed to the 58 percent of 1977, this would yield an urban per capita income figure of 10,324 colones, or 80 percent greater than our survey average.

Another set of comparisons of survey findings with national income aggregates suggests the possible extent of underreporting. From the former, we can derive a per capita value of private consumption of 7,272 colones (aggregate private consumption divided by an estimated population of 5.265 million). The average per capita consumption expenditure of the ENIGF stands at 7,068 colones, or 97 percent of the national average. Since urban levels of income and expenditures would be expected to exceed by a considerable margin the national average, one is led to conclude that underreporting was

widespread. By way of comparison, in the 1976-77 survey, consumption by the surveyed urban sample, at 1,399 colones, exceeded the national average of 985 colones by 42 percent. Had the most recent survey yielded a consumption level standing in the same relationship to the national average as in 1976-77, per capita consumption would have measured approximately 10,039 colones, 300 colones less than the income figure suggested above.

At this point, we wish to enter an important caveat. The comparisons we have made between the most recent survey's data reduced to a per capita basis and the national per capita values can be considered valid only if one accepts as accurate the official estimate of the population size that underlies the latter. Since no national census has been taken in over 20 years, the precise size of the country's population will remain in doubt until the projected census is completed. It should be kept in mind, therefore, that all per capita comparisons derived from the national income accounts for a moment in time or over time may be subject to a margin of error of unknown size. However, it is difficult to believe that the aggregates and population estimates could be so distorted as to give rise to differences as great as those yielded by our comparisons above.

Thus, we are led to conclude that the 1990-91 survey has greatly understated the incomes of households. If El Salvador had suffered as sharp a decline in per capita income as is recorded for the bottom deciles, we would expect to be witnessing much greater evidences of privation and abject poverty than is readily apparent in El Salvador's urban areas. A test of this proposition might be undertaken in the following way. If the poorest income groups had suffered a sharp decline in real income it is reasonable to expect that the share of expenditures devoted to food purchases would have increased.

Yet, surprisingly, the proportion of total expenditures allocated to food, beverages, and tobacco by the first decile in 1990, at 52.2 percent is virtually identical to that of 1977, 51.7 percent. (See Table 13) The proportion of food expenditures devoted to cereal products, an important staple of poor households, actually declined from 36.2 to 22.7 percent, suggesting an increase in the variety of foods consumed by those at the bottom of the income distribution. Indicative of this is the proportion of households in the first decile purchasing a wide variety of foods. For example, 53 percent reported purchases of meat, poultry or fish, 88 percent eggs and dairy products, 75 percent fruits, 85 percent vegetables, 78 percent sugar and related products, 72 percent non-alcoholic beverages, 51 percent processed foods, while 35 percent reported consumption of food outside the home. In short, the consumption expenditures do not seem to be consistent with a decline in income of the magnitude recorded by the latest survey.

Similarly, for the other low and middle deciles, expenditure patterns are not consistent with a sharp decline in real per capita incomes. In Table 12 we record the ratio of food, beverage, and tobacco expenditures to total expenditures by decile, and the proportion of these accounted for by cereal products. As can be seen, the ratio varies within a narrow range for the first five deciles. And since the size of household is a direct function of decile ranking, this implies even narrower differences in absolute levels of food consumption among the occupants of these deciles. Comparisons with the 1977 survey reveal only small changes in the importance of these two categories of expenditures. Since the 1977 data were grouped into three sub-groups, we present the 1990 data in the same form to permit a closer comparison with the earlier pattern of consumption. There is nothing in these data that is

**Table 13**  
**Expenditure Patterns by Decile 1977 and 1990**

Food as Percent of Total Expenditures	Deciles										
	1	2	3	4	5	6	7	8	9	10	
1990	52.2	52.2	49.9	50.3	46.4	44.0	42.0	39.1	36.0	25.0	
	52.2	-----			47.5	-----			-----	33.4	-----
1977	51.7	-----			45.1	-----			-----	27.4	-----
Cereals as Percent of Total Food Expenditures											
1990	23.8	22.6	21.8	22.9	21.8	20.7	19.3	18.4	16.7	12.0	
	23.8	-----			21.6	-----			-----	15.7	-----
1977	36.2	-----			24.4	-----			-----	19.7	-----

Source:

1977: Encuesta de Presupuestos Familiares, Agosto 1976 - Julio 1977  
1990: Tabulations prepared by the Unidad de Investigaciones Muestrales

consistent with declines in per capita incomes on the order of one-half.

Nor do the households at the lowest end of the income distribution, those with incomes under 500 colones per month, appear to live in abject poverty if one is to judge by other indicators. Three-quarters of them reside in a permanent dwelling as opposed to a room or rooms in apartments, rooming houses, or in other private dwellings. Only about four percent were reportedly living in "improvised" housing, presumably self-constructed from non-durable materials.<sup>4</sup> Sixty-seven percent of the lowest-income households owned either a radio or other sound equipment or both, 37 percent owned a television set, 15 percent owned a refrigerator, and 16 percent a sewing machine.

One of the interesting findings yielded by our analysis is that a substantial part of the explanation in the relative improvement recorded by the households in the bottom deciles relative to the others lies in the very significant change in the composition of households over the deciles. In 1977, the size of household was an inverse function of the ranking of a decile; in 1990, the relationship is completely reversed as can be seen in Table 14. The size of household in decile one is almost half of that of 1977 while that of decile 10 is two-thirds larger.<sup>5</sup> The appearance of such a startling change in the structure of households in such a relatively short time interval might raise doubts regarding the accuracy of the survey. However, it is possible to offer a rationalization for such a change.

In the first place, the number of members of a household should be among the information that can most accurately be established by an interviewer since there is no real justification for families to give misinformation on this item. Furthermore, the average size household that the income and expenditures survey reports, at 4.5 members per household, is virtually

**Table 14**  
**Number of Household Members per Decile**  
**1977 and 1990 - 91**

Decile	Number of Household Members			
	Totals		Per Households	
	1977	1990 - 91	1977	1990 - 91
1	220,809	170,754	6.1	3.2
2	187,932	198,465	5.2	3.7
3	202,704	226,979	5.6	4.2
4	180,132	232,630	5.0	4.3
5	180,401	245,698	5.0	4.6
6	179,298	262,181	5.0	4.9
7	164,838	259,719	4.6	4.8
8	154,014	269,186	4.3	5.0
9	124,532	273,465	3.5	5.1
10	120,447	296,644	3.3	5.5
Total	1,715,107	2,435,715	4.7	4.5

Sources:

1977: Encuesta Presupuestos Familiares, Agosto 1976 - Julio 1977.

1990: Tabulations prepared by the Unidad de Investigaciones Muestrales

identical to the 4.4 figure of the urban household multiple purpose survey for 1990. That a virtually identical average value could have emerged had the sizes of households been badly distorted cannot be considered a likely occurrence. Finally, the disruptions of the internal conflict in El Salvador may very well have had as a consequence the consolidation of extended families as people vacated conflictive rural zones for the relative safety of cities. On the other hand, the exit of many from El Salvador to escape involvement in the conflict may have stripped households of some of their members. Since poorer households are more likely to be overrepresented in the armed forces, a shrinkage in these households, both for reasons of actual service in the army and of escape from service, may not have been an unreasonable phenomenon to encounter.

#### V. Conclusion

Our analysis of the tabulations derived from the 1990-91 household income and expenditure survey has yielded findings that are likely to come as a surprise to most observers of the Salvadoran scene. First of all, they point to the sensitivity of the conclusions to be drawn on the unit that is selected as the subject of analysis. We have shown that household income yields a far more skewed distribution in the direction of the upper-income households than does per capita income. Furthermore, we have inferred that very substantial underreporting of income, but relatively greater at the bottom end of the income distribution, characterizes the sampled households. If per capita expenditures are taken as a measure of economic welfare, differences within the sampled population decline significantly. Viewed on this latter basis one would be hard pressed to argue, on the basis of these data, that Salvadoran urban society is characterized by extreme differences in economic welfare.

(Obviously, the measure of economic welfare that is utilized here abstracts from the utility households derive from their stock of wealth, account of which is not possible given the information at our disposal.)

Nevertheless, a number of caveats must be entered that may modify this conclusion. Recall that it was based on the comparison of per capita expenditures. While it seemed to be a more realistic measure than that of reported incomes, it should be kept in mind that income differences must have been wider than those in reported consumption. In particular, the two top deciles are likely to have significantly understated income (and, we suspect, expenditures as well). Recall that only the 10th decile reported expenditures smaller than income, suggesting a "savings rate" on the order of 2 percent of gross income, an unexpectedly low proportion. The ninth decile would also be expected to be a saver rather than a dissaver as revealed by the data.<sup>6</sup> (Note that the 1977 survey reported a "savings rate" out of gross income for the top three deciles of over 14 percent.)

By how large a margin might the income and expenditures of the tenth decile be understated? I have no definitive way to estimate this, but it may be possible to assign an order of magnitude to the understatement of expenditures. For example, judging from the shares of income accruing to the top deciles of less developed countries as presented in Table 1, it would not seem unreasonable to assume that the top decile accounts for something on the order of 30 percent of aggregate private consumption expenditures. Based on the national accounts for 1990-91, that share of aggregate expenditures translates into a per capita monthly expenditure of approximately 3,499 colones, a sum that strikes me as more befitting the life style of the

highest-income decile than the 1,582 colones captured by the survey. This would increase the ratio of per capita expenditures of the tenth to the first decile from 6.1, an implausibly low ratio, to 13.5.

Alternatively, if one assigned to the bottom decile as much as four percent of aggregate consumption expenditures, an extremely generous proportion judging by international comparisons, this would yield a monthly per capita expenditure of 99 colones, a value 50 percent greater than reported per capita income in this decile but less than half the reported expenditures.

This little exercise is intended less for purposes of actually assigning "truer" values to the various deciles than for purposes of illustrating some of the factors that underlie my doubts concerning the validity of the survey results.

Furthermore, I find particularly worrisome the large decline in reported real income and expenditures between 1977 and 1990 that the survey data report. It is difficult to believe that such a massive reduction could have occurred without being reflected in a substantial change in consumption patterns. Note also the large discrepancy between the decline in per capita income recorded by the survey and that yielded by the national accounts. One possible factor that may be at the root of the latter discrepancy is the population estimates that are employed to reduce aggregates to per capita terms. If the size of the population has been substantially underestimated for the recent period, this would result in an overstatement of current income per capita and an understatement of the decline in per capita income that has occurred since 1977. Obviously this dilemma cannot be addressed until the completion of the population census.

However, even if this question could be resolved, there would still remain

the issue of the reliability of the information captured by the two income and expenditures surveys. We find it difficult to accept at face value the sharp declines in economic welfare that the findings imply. A halving of income of the poorest urban groups would be expected to be reflected in a sharp increase in infant mortality, in infectious diseases, and malnutrition. While we do not have at our disposal at the present time complete information on these indicators, available statistics on the number of children under five years of age that have been detected to be undernourished at public health clinics is reported to have declined by 48 percent between 1980 and 1988.<sup>7</sup> Mortality rates are also reported to have declined over this interval.<sup>8</sup> While, on the surface, such a decline would appear to be inconsistent with a serious decline in living standards, we are unable to vouch for the representativeness of these statistics.

Finally, we would point out that an alternative source of information regarding household incomes, the periodic multiple purpose household survey, cannot be considered to be reliable. If anything, the degree of understatement of household receipts is even greater than that of the income and expenditures study. The former is really ill-equipped to gather information as elusive and sensitive as family incomes. As we have already commented in our labor market analysis, that household survey apparently has been unable to pick up all sources of labor income, let alone receipts from other sources. Thus, it should not be relied upon to provide a continuous indicator of household economic welfare.

In short, I have concluded that El Salvador does not yet have available a basis for deriving credible conclusions regarding income distribution. I wish to emphasize that this conclusion is not intended to serve as a criticism of

the Unidad de Investigaciones Muestrales. The staff of that agency has impressed me as being seriously committed to providing the most accurate information possible. The failure to produce results that inspire greater confidence is more likely to be traceable to the same constellation of difficulties facing all developing countries that have attempted similar studies. In the case of El Salvador, there is the added difficulty of attempting this kind of survey in an environment of conflict and considerable political uncertainty, one that may not be conducive to an openness to questions regarding personal finances. Perhaps the establishment of a national climate of greater tranquility and stability will provide a more congenial context within which to undertake another income and expenditures survey.

#### Endnotes

1. Ministerio de Planificacion, Unidad de Investigaciones Muestrales, Distribucion del ingreso por deciles de familias (April 1978)
2. The estimation of the adjustments that would follow the omission of maids as household members required first an estimate of the number of maids employed by each decile and of their wages. According to the EHPM carried out at about the same time as the ENIGF, urban households employed some 47,116 maids. The ENIGF provided a measure of the total payments made to live-in maids. I then arbitrarily distributed the maids and their wages over deciles 7 through 10 in the following proportions, 5, 10, 25, and 65 percent respectively. From a manual examination of approximately 100 completed questionnaires it became evident that maids were found almost entirely in households in these deciles.
3. While the text refers to a "savings rate" of 2.3 percent it should be emphasized that this cannot be interpreted to refer to savings as usually defined. Since income cited is gross and has not been adjusted for income taxes, if any, the difference between income and expenditures cannot be assumed to be a true measure of savings.
4. However, the characterization of the quality of housing by interviewers contains a large subjective factor and, therefore, may not yield reliable information. It was suggested by GAES staff that because many of the interviewers themselves reside in very modest housing, they might tend to attribute more favorable attributes to the housing of the surveyed households.
5. In order to maintain comparability between the household size in the two survey years, live-in maids have not been subtracted from the 1990-91 survey for purposes of Table 14. Had they been subtracted, estimated household size would have changed significantly for only the top decile. The estimated size of households, omitting maids, in deciles 7 through 10 would be 4.8, 4.9, 4.9, and 5.0 respectively.
6. The difference between gross income and expenditures as recorded by the survey does not yield a savings rate as the term is generally understood. Usually a savings rate is calculated on the basis of disposable income rather than gross, or before-tax, income.
7. Ministerio de Planificacion, Indicadores economicos y sociales, Anos 1987-1989 (June 1990), p. 260.
8. ibid., p. 6.